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

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

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

It is essential to be able to follow students across time and institutions to understand, for example, the factors affecting enrolment demand at post secondary institutions. The increased emphasis on accountability for public investment means that it is also important to understand outcomes. In order to carry out such studies, Statistics Canada asks all colleges and universities to provide data on students and graduates. Institutions collect and provide to Statistics Canada student identification information (student's name, student ID number, social insurance number), student contact information (address and telephone number), student demographic characteristics, enrollment information, previous education, and labor activity.

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

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

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

Calendar Changes and Corrections
The Board of Governors and the Senate of Simon Fraser University reserve the right to make changes in this Calendar without prior notice. This Calendar is printed to provide students and others with information about Simon Fraser University. The University considers this Calendar to be accurate at the time of printing. In the event of errors, the actual courses, curricula, policies, procedures, regulations and requirements in effect will prevail over the provisions printed in the Calendar. In addition, the policies, procedures, programs, regulations and requirements are constantly being reviewed and revised. Any such revision may be made by Simon Fraser University without notice and shall take effect at the time of the revision unless a later date is specified when the revision is adopted. Simon Fraser University will endeavor to give the University community as much notice of the revision as it considers the circumstances permit, and will endeavor to incorporate the revision in the next printing of the Calendar. Revisions include additions, cancellations and deletions as well as changes.

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

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

<table>
<thead>
<tr>
<th>Each Calendar</th>
<th>With Voucher</th>
<th>Without Voucher</th>
</tr>
</thead>
<tbody>
<tr>
<td>picked up</td>
<td>0</td>
<td>$3.75</td>
</tr>
<tr>
<td>mailed within BC</td>
<td>$5.00</td>
<td>$8.75</td>
</tr>
<tr>
<td>mailed within continental North America</td>
<td>$7.50</td>
<td>$11.02</td>
</tr>
<tr>
<td>mailed internationally (airmail)</td>
<td>$20.00</td>
<td>$23.52</td>
</tr>
</tbody>
</table>

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

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

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

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

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

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

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

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

Since those early years the University has grown substantially. In September 2001 approximately 20,402 students were enrolled in courses. At the June 2002 Convocation ceremonies 2,336 degrees were conferred, while at the University’s October Convocation, 1,094 students received their degrees.

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

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table of Contents</td>
<td>3</td>
</tr>
<tr>
<td>University Telephone Numbers</td>
<td>4</td>
</tr>
<tr>
<td>Programs Offered</td>
<td>5</td>
</tr>
<tr>
<td>Academic Calendar of Events</td>
<td>7</td>
</tr>
<tr>
<td>Academic and Campus Services</td>
<td>9</td>
</tr>
<tr>
<td>Simon Fraser University at Harbour Centre</td>
<td>18</td>
</tr>
<tr>
<td>Simon Fraser University Surrey</td>
<td>20</td>
</tr>
<tr>
<td>Undergraduate Studies</td>
<td>23</td>
</tr>
<tr>
<td>General Information</td>
<td>25</td>
</tr>
<tr>
<td>Admission and Readmission</td>
<td>29</td>
</tr>
<tr>
<td>Introduction</td>
<td>29</td>
</tr>
<tr>
<td>Admission Process</td>
<td>29</td>
</tr>
<tr>
<td>Registration</td>
<td>40</td>
</tr>
<tr>
<td>General Regulations</td>
<td>43</td>
</tr>
<tr>
<td>Examinations</td>
<td>43</td>
</tr>
<tr>
<td>Grades</td>
<td>43</td>
</tr>
<tr>
<td>Credit for the Semester</td>
<td>44</td>
</tr>
<tr>
<td>Standing Required for Continuance</td>
<td>45</td>
</tr>
<tr>
<td>Student Appeals</td>
<td>45</td>
</tr>
<tr>
<td>Undergraduate Fees</td>
<td>47</td>
</tr>
<tr>
<td>Financial Assistance and Awards</td>
<td>50</td>
</tr>
<tr>
<td>Introduction</td>
<td>50</td>
</tr>
<tr>
<td>Contents</td>
<td>51</td>
</tr>
<tr>
<td>University Administered Programs</td>
<td>51</td>
</tr>
<tr>
<td>Externally Administered Programs</td>
<td>77</td>
</tr>
<tr>
<td>Government Administered Programs</td>
<td>108</td>
</tr>
<tr>
<td>For More Information</td>
<td>109</td>
</tr>
<tr>
<td>Index</td>
<td>109</td>
</tr>
<tr>
<td>Faculty of Applied Sciences</td>
<td>115</td>
</tr>
<tr>
<td>School of Communication</td>
<td>115</td>
</tr>
<tr>
<td>School of Computing Science</td>
<td>117</td>
</tr>
<tr>
<td>School of Engineering Science</td>
<td>121</td>
</tr>
<tr>
<td>General Studies Program</td>
<td>124</td>
</tr>
<tr>
<td>School of Kinesiology</td>
<td>124</td>
</tr>
<tr>
<td>Faculty of Arts</td>
<td>128</td>
</tr>
<tr>
<td>Department of Archaeology</td>
<td>132</td>
</tr>
<tr>
<td>Asia-Canada Program</td>
<td>133</td>
</tr>
<tr>
<td>Centre for Canadian Studies</td>
<td>134</td>
</tr>
<tr>
<td>Cognitive Science Program</td>
<td>136</td>
</tr>
<tr>
<td>School for the Contemporary Arts</td>
<td>137</td>
</tr>
<tr>
<td>School of Criminology</td>
<td>143</td>
</tr>
<tr>
<td>Department of Economics</td>
<td>147</td>
</tr>
<tr>
<td>Department of English</td>
<td>148</td>
</tr>
<tr>
<td>First Nations Studies Program</td>
<td>150</td>
</tr>
<tr>
<td>School of Engineering Science</td>
<td>325</td>
</tr>
<tr>
<td>School of Kinesiology</td>
<td>328</td>
</tr>
<tr>
<td>School of Resource and Environmental Management</td>
<td>330</td>
</tr>
<tr>
<td>Faculty of Arts</td>
<td>334</td>
</tr>
<tr>
<td>Department of Archaeology</td>
<td>334</td>
</tr>
<tr>
<td>School for the Contemporary Arts</td>
<td>335</td>
</tr>
<tr>
<td>School of Criminology</td>
<td>336</td>
</tr>
<tr>
<td>Department of Economics</td>
<td>338</td>
</tr>
<tr>
<td>Department of English</td>
<td>340</td>
</tr>
<tr>
<td>Department of French</td>
<td>342</td>
</tr>
<tr>
<td>Department of Geology</td>
<td>344</td>
</tr>
<tr>
<td>Department of History</td>
<td>347</td>
</tr>
<tr>
<td>Latin American Studies Program</td>
<td>348</td>
</tr>
<tr>
<td>Liberal Studies Program</td>
<td>349</td>
</tr>
<tr>
<td>Department of Linguistics</td>
<td>350</td>
</tr>
<tr>
<td>Department of Philosophy</td>
<td>351</td>
</tr>
<tr>
<td>Department of Political Science</td>
<td>352</td>
</tr>
<tr>
<td>Department of Psychology</td>
<td>354</td>
</tr>
<tr>
<td>Publishing Program</td>
<td>356</td>
</tr>
<tr>
<td>Department of Sociology and Anthropology</td>
<td>357</td>
</tr>
<tr>
<td>Department of Women’s Studies</td>
<td>359</td>
</tr>
<tr>
<td>Faculty of Business Administration</td>
<td>361</td>
</tr>
<tr>
<td>Faculty of Education</td>
<td>368</td>
</tr>
<tr>
<td>Graduate Programs</td>
<td>368</td>
</tr>
<tr>
<td>Field Programs</td>
<td>374</td>
</tr>
<tr>
<td>Faculty of Science</td>
<td>376</td>
</tr>
<tr>
<td>Department of Biological Sciences</td>
<td>376</td>
</tr>
<tr>
<td>Department of Chemistry</td>
<td>376</td>
</tr>
<tr>
<td>Department of Earth Sciences</td>
<td>379</td>
</tr>
<tr>
<td>Centre for Environmental Biology</td>
<td>380</td>
</tr>
<tr>
<td>Geography Program</td>
<td>382</td>
</tr>
<tr>
<td>Department of Mathematics</td>
<td>382</td>
</tr>
<tr>
<td>Department of Molecular Biology and Biochemistry</td>
<td>385</td>
</tr>
<tr>
<td>Department of Physics</td>
<td>386</td>
</tr>
<tr>
<td>Department of Statistics and Actuarial Science</td>
<td>387</td>
</tr>
<tr>
<td>Centres and Institutes</td>
<td>389</td>
</tr>
<tr>
<td>Governing Bodies and Faculty</td>
<td>392</td>
</tr>
<tr>
<td>Date Calendar</td>
<td>398</td>
</tr>
<tr>
<td>Index</td>
<td>401</td>
</tr>
</tbody>
</table>
# University Telephone Numbers

All numbers must be preceded by area code 604

<table>
<thead>
<tr>
<th><strong>Burnaby Mountain Campus</strong></th>
<th><strong>Phone</strong></th>
<th><strong>Fax</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bookstore</td>
<td>(604) 291-3656</td>
<td>(604) 291-3401</td>
</tr>
<tr>
<td>Campus Community Services</td>
<td>(604) 291-4170</td>
<td>(604) 291-4341</td>
</tr>
<tr>
<td>Centre for Students with Disabilities</td>
<td>(604) 291-3112</td>
<td>(604) 291-4384</td>
</tr>
<tr>
<td>Orientation (new students)</td>
<td>(604) 291-3728</td>
<td>(604) 291-4341</td>
</tr>
<tr>
<td>Campus Security</td>
<td>(604) 291-3100</td>
<td>(604) 291-3469</td>
</tr>
<tr>
<td>Parking</td>
<td>(604) 291-4577</td>
<td>(604) 291-5386</td>
</tr>
<tr>
<td>Security (24 hours)</td>
<td>(604) 291-3100</td>
<td>(604) 291-3469</td>
</tr>
<tr>
<td>Winter Road Conditions</td>
<td>(604) 444-4929</td>
<td></td>
</tr>
<tr>
<td>Childcare Centre</td>
<td>(604) 291-4569</td>
<td>(604) 291-3058</td>
</tr>
<tr>
<td>Computing Services Information</td>
<td>(604) 291-3234</td>
<td>(604) 291-4242</td>
</tr>
<tr>
<td>Continuing Studies</td>
<td>(604) 291-5100</td>
<td>(604) 291-3851</td>
</tr>
<tr>
<td>Co-operative Education</td>
<td>(604) 291-3255</td>
<td>(604) 291-5496</td>
</tr>
<tr>
<td>Counselling Services</td>
<td>(604) 291-3694</td>
<td>(604) 291-5888</td>
</tr>
<tr>
<td>Distance Education, Centre for</td>
<td>(604) 291-3524</td>
<td>(604) 291-4964</td>
</tr>
<tr>
<td>Faculty of Applied Sciences</td>
<td>(604) 291-4724</td>
<td>(604) 291-5802</td>
</tr>
<tr>
<td>Faculty of Arts</td>
<td>(604) 291-4414</td>
<td>(604) 291-3033</td>
</tr>
<tr>
<td>Faculty of Business Administration</td>
<td>(604) 291-3708</td>
<td>(604) 291-4920</td>
</tr>
<tr>
<td>Faculty of Education</td>
<td>(604) 291-3395</td>
<td>(604) 291-3203</td>
</tr>
<tr>
<td>Faculty of Science</td>
<td>(604) 291-4590</td>
<td>(604) 291-3424</td>
</tr>
<tr>
<td>First Nations Student Centre</td>
<td>(604) 291-3555</td>
<td>(604) 291-5682</td>
</tr>
<tr>
<td>Graduate Studies, Dean of</td>
<td>(604) 291-4255</td>
<td>(604) 291-3080</td>
</tr>
<tr>
<td>Harassment Resolution Office</td>
<td>(604) 291-3015</td>
<td>(604) 291-5468</td>
</tr>
<tr>
<td>Health Services</td>
<td>(604) 291-4615</td>
<td>(604) 291-5781</td>
</tr>
<tr>
<td>Library, W.A.C. Bennett</td>
<td>(604) 291-3869</td>
<td>(604) 291-3023</td>
</tr>
<tr>
<td>Media and Public Relations</td>
<td>(604) 291-3210</td>
<td>(604) 291-3039</td>
</tr>
<tr>
<td>Microcomputer Store</td>
<td>(604) 291-3098</td>
<td>(604) 291-4783</td>
</tr>
<tr>
<td>President's Office</td>
<td>(604) 291-4641</td>
<td>(604) 291-4860</td>
</tr>
<tr>
<td>Administrative Studies</td>
<td>(604) 291-4256</td>
<td>(604) 268-6599</td>
</tr>
<tr>
<td>Recreational Services and Athletics</td>
<td>(604) 291-3675</td>
<td>(604) 291-4922</td>
</tr>
<tr>
<td>Registrar, Office of the</td>
<td>(604) 291-3224</td>
<td>(604) 291-4969</td>
</tr>
<tr>
<td>Admissions</td>
<td>(604) 291-3224</td>
<td></td>
</tr>
<tr>
<td>Campus Tours</td>
<td>(604) 291-5620</td>
<td></td>
</tr>
<tr>
<td>Financial Assistance and Awards</td>
<td>(604) 291-4356</td>
<td></td>
</tr>
<tr>
<td>Graduate Studies</td>
<td>(604) 291-3188</td>
<td></td>
</tr>
<tr>
<td>Graduation</td>
<td>(604) 291-3206</td>
<td></td>
</tr>
<tr>
<td>Student Academic Resources</td>
<td>(604) 291-4356</td>
<td></td>
</tr>
<tr>
<td>Student Recruitment</td>
<td>(604) 291-3397</td>
<td></td>
</tr>
<tr>
<td>Residence and Housing</td>
<td>(604) 291-4201</td>
<td>(604) 291-5903</td>
</tr>
<tr>
<td>On campus Housing</td>
<td>(604) 291-4201</td>
<td></td>
</tr>
<tr>
<td>SFU International</td>
<td>(604) 291-4232</td>
<td>(604) 291-5880</td>
</tr>
<tr>
<td>Student Society</td>
<td>(604) 291-3870</td>
<td>(604) 291-5843</td>
</tr>
<tr>
<td>Ombuds Officers</td>
<td>(604) 291-4583</td>
<td></td>
</tr>
<tr>
<td>Switchboard</td>
<td>(604) 291-3111</td>
<td></td>
</tr>
<tr>
<td>University Advancement</td>
<td>(604) 291-4154</td>
<td>(604) 291-4958</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Harbour Centre Campus</strong></th>
<th><strong>Phone</strong></th>
<th><strong>Fax</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bookstore</td>
<td>(604) 291-5048</td>
<td>(604) 291-5219</td>
</tr>
<tr>
<td>Computing Services</td>
<td>(604) 291-5030</td>
<td>(604) 291-5167</td>
</tr>
<tr>
<td>Continuing Studies</td>
<td>(604) 291-5100</td>
<td>(604) 291-5098</td>
</tr>
<tr>
<td>Harbour Centre Administration</td>
<td>(604) 291-5010</td>
<td>(604) 291-5008</td>
</tr>
<tr>
<td>Health Services</td>
<td>(604) 291-5200</td>
<td>(604) 291-5025</td>
</tr>
<tr>
<td>Information and Registration Services</td>
<td>(604) 291-5000</td>
<td>(604) 291-5060</td>
</tr>
<tr>
<td>Library, Belzberg</td>
<td>(604) 291-5050</td>
<td>(604) 291-5052</td>
</tr>
<tr>
<td>Meeting and Event Services</td>
<td>(604) 291-5085</td>
<td>(604) 291-5060</td>
</tr>
<tr>
<td>Morris J. Wosk Centre for Dialogue</td>
<td>(604) 291-5800</td>
<td>(604) 291-5818</td>
</tr>
<tr>
<td>Public Relations</td>
<td>(604) 291-5151</td>
<td>(604) 291-5098</td>
</tr>
<tr>
<td>Security</td>
<td>(604) 291-5029</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Surrey Campus</strong></th>
<th><strong>Phone</strong></th>
<th><strong>Fax</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td>(604) 586-5225</td>
<td>(604) 586-5237</td>
</tr>
</tbody>
</table>
Programs Offered

University Degrees

Honorary Degree
Doctor of Laws Honoris Causa

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

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

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

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

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

Certificates and Diplomas

All Faculties
Post Baccalaureate Diploma

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

Faculty of Arts
Certificate in Chinese Studies
Certificate in Community Economic Development
Certificate in Criminology (General)
Certificate in Criminology (Advanced)
Certificate in Ethnic and Intercultural Relations
Certificate in Family Studies
Certificate in First Nations Language Proficiency
Certificate in French Canadian Studies
Certificate in French Language Proficiency
Certificate in Hellenic Studies
Certificate in 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 Criminal Justice
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

Faculty of Business Administration
Graduate Diploma in Business Administration

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

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

Credentials by Program

Key to abbreviations used below

BA Bachelor of Arts
BA honors Bachelor of Arts (Honors)
BASc Bachelor of Applied Science
BBA Bachelor of Business Administration
BBA honors Bachelor of Business Administration (honors)
BEd Bachelor of Education
BEd honors Bachelor of Education (Honors)
BFA Bachelor of Fine Arts
BGS Bachelor of General Studies
BSc Bachelor of Science
BSc honors Bachelor of Science (Honors)
certificate certificate
coop co-operative education program
diploma post baccalaureate diploma
EdD Doctor of Education

MA Master of Arts
MAALS Master of Arts in Liberal Studies
MASc Master of Applied Science
MBA Master of Business Administration
MEd Master of Education
MEng Master of Engineering
MET Master of Environmental Toxicology
MFA Master of Fine Arts
minor program requiring completion of specified minimum upper division courses

MPM Master of Pest Management
MPub Master of Publishing
MRM Master of Resource Management
MSc Master of Science
PhD Doctor of Philosophy

Actuarial Mathematics – certificate
Actuarial Science – BSc, honors, certificate
Advanced Professional Studies in Education – graduate diploma
Anthropology – BA, minor, extended minor, honors, co-op
Applied Human Nutrition – certificate
Applied Mathematics – BSc, honors
Applied and Computational Mathematics – MSc, PhD
Applied Physics – BSc, honors
Archaeology – BA, minor, extended minor, honors, MA, PhD, co-op
Archaeology and Anthropology – BA joint major
Art and Culture Studies – BA, minor
Art and Culture Studies and Sociology and/or Anthropology – BA joint major
Arts, General – BA, extended minor
Asia-Canada – minor
Biological Sciences – BSc, minor, honors, MSc, PhD, diploma, co-op
Business Administration – BBA, minor, honors, MBA, diploma, co-op
Business Administration and Communication – BBA joint major
Business Administration and Computing Science – BBA joint major, BSc joint major
Business Administration and Economics – BBA joint major, joint honors, BA joint major, joint honors
Business Administration and Geography – BBA joint major, BA joint major
6 Programs Offered

Business Administration and Psychology – BBA joint major, BA joint major
Canadian Studies – BA, minor, extended minor, honors
Canadian Studies and Anthropology – BA joint major, honors
Canadian Studies and Archaeology – BA joint major, honors
Canadian Studies and Business Administration – BA joint major, honors, BBA joint major, honors
Canadian Studies and Criminology – BA joint major, honors
Canadian Studies and Economics – BA joint major, honors, MA, PhD, diploma, co-op
Canadian Studies, Economics and/or 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 and/or Anthropology – BA joint major, honors
Chemical Physics – BSc, honors, MSc, PhD, co-op
Chemistry – BSc, minor, honors, MSc, PhD, co-op
Chinese Studies – certificate
Cognitive Science – BA, honors
Communication – BA, minor, extended minor, honors, MA, PhD, diploma, co-op
Community Economic Development – certificate, diploma
Computer and Electronics Design – minor
Computing Science – BSc, minor, honors, BA, MSc, PhD, diploma, co-op
Computing Studies – certificate
Counselling and Human Development – minor
Criminology – BA, minor, extended minor, honors, MA, PhD, general and advanced certificate, diploma, co-op
Criminology and Women’s Studies – BA joint major
Curriculum and Instruction – minor
Dance – BFA, extended minor
Early Childhood Education – minor
Economics – BA, minor, honors, MA, PhD, co-op
Education – BEd, honors, MEd, MA, MSc, PhD, EdD, diploma
Educational Psychology – minor
Elementary School Physical Education – minor
Engineering Science – BASc, MASc, MEng, PhD, co-op
English – BA, minor, extended minor, 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 Education – minor
Environmental Toxicology – minor, MET, diploma
Ethnic and Intercultural Relations – certificate
Family Studies – certificate
Film – BFA, extended minor
Film and Video Studies – minor
Fine and Performing Arts – minor
Fine Arts in Interdisciplinary Studies – MFA, minor
First Nations Language Proficiency – certificate
First Nations Studies – minor
French – BA, extended minor, honors, MA
French Canadian Studies – certificate
French and Education – diploma
French, History, Politics – BA joint major
French Language Proficiency – certificate
General Science – BSc
General Studies – BGS
Geography – BA, minor, extended minor, honors, MA, MSc, PhD, certificate, co-op
Geography and Economics – Environmental Specialty – BA joint major
Gerontology – minor, MA, diploma
Health and Fitness Studies – certificate
Hellenic Studies – certificate
History – BA, minor, extended minor, honors, MA, PhD, co-op
History and Humanities – BA joint major
Humanities – BA, minor, extended minor, diploma, co-op
HumaniSocial and/or Interdisciplinary Studies – BA joint major
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 and/or Anthropology – BA joint major
Latin American Studies and Sociology and/or English and Humanities – BA joint major
Mathematical Physics – BSc (honors only)
Mathematics – BA, minor, extended minor, honors, BSc, honors, MSc, PhD, co-op
Mathematics and Computing Science – BSc joint major
Molecular Biology and Biochemistry – BSc, minor, honors, MSc, PhD
Molecular Biology and Biochemistry and Business Administration – BSc joint major
Music – BFA, extended minor
Native Studies Research – certificate, co-op
Natural Resource Management and Business Administration – MRM, MBA joint
Nuclear Science – minor
Pest Management – MPM
Philosophy – BA, minor, extended minor, honors, MA, co-op
Philosophy and Humanities – BA joint major
Physical Education – minor
Physical Geography – BSc, minor, honors
Physics – BSc, honors, MSc, PhD, co-op
Physics and Physiology – BSc (honors only)
Political Science – BA, minor, extended minor, honors, MA, PhD, co-op
Political Science and Economics – BA joint major
Political Science and Women’s Studies – BA joint major
Psychology – BA, minor, extended minor, honors, MA, PhD, co-op
Psychology and 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 for – certificate
Social Policy Issues – diploma
Sociology – BA, minor, extended minor, honors, co-op
Sociology and Anthropology – BA joint major, joint honors, MA, PhD, co-op
Sociology and Anthropology and Art and Culture Studies – BA joint major
Sociology and Anthropology and Communication – BA joint major
Sociology and/or Anthropology and Criminology – BA joint major
Sociology and/or Anthropology and Linguistics – BA joint major
Sociology and/or Anthropology and Women’s Studies – BA joint major
Spanish Language Proficiency – certificate
Spatial Information Systems – certificate
Statistics – BA, minor, extended minor, honors, BSc, minor, honors, MSc, PhD, co-op
Teaching English as a Second Language – diploma
Teaching ESL Linguistics – certificate
Theatre – BFA, extended minor
Undergraduate Semester in Dialogue – Urban Studies – certificate, graduate diploma
Visual Art – BFA, extended minor
Women’s Studies – BA, minor, extended minor, MA, certificate, co-op
Academic Calendar of Events

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

**2002 Fall Semester**

**August**
- 30 Fri Last day for continuing graduate students to register and pay fees.

**September**
- 2 Mon LABOUR DAY. Offices closed.
- 3 Tues Classes commence.
- 9 Mon Deadline for undergraduate application for readmission to the fall semester.
- 12 Thurs 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.
- 16 Mon Examination period for undergraduates ends.
- 25 Wed CHRISTMAS DAY. Offices closed.
- 26 Thurs BOXING DAY. Offices closed.
- 31 Tues Last day for continuing graduate students to register and pay fees.

**2003 Spring Semester**

**January**
- 1 Wed NEW YEAR’S DAY. Offices closed.
- 2 Thurs Classes commence.
- 4 Fri Last day for students completing degree requirements during summer to cancel application to graduate in October.
- 7 Mon Examination period for undergraduates begins.
- 16 Mon Examination period for undergraduates ends.
- 17 Thurs Last day for receipt of grades and grades deferred from previous semester for graduate students.
- 21 Mon MID SEMESTER BREAK. Classes cancelled.
- 28 Fri Deadline for application for BC, Canadian and US grade 12 Early Admission students to the 2003 fall semester.

**February**
- 5 Wed Last day for undergraduates to drop courses except under special procedures applicable in extenuating circumstances.
- 19 Wed Deadline for submission of undergraduate application for graduation without a late fee, for students completing requirements by the end of the 2003 spring semester.
- 20 Thurs MID SEMESTER BREAK. Classes cancelled.
- 21 Fri MID SEMESTER BREAK. Classes cancelled.
- 28 Fri Deadline for application for undergraduate admission to the spring semester 2003.

**March**
- 7 Fri Last day for graduate students to drop courses without academic penalty except under special procedures applicable in extenuating circumstances.
- 28 Fri Last day for undergraduate application for graduation without special procedures applicable in extenuating circumstances.

**April**
- 4 Fri Classes end.
- 7 Mon Examination period for undergraduates begins.
- 10 Thurs Final deadline for submission of undergraduate application for graduation (with a late fee) for students completing requirements by the end of the 2003 spring semester.
- 17 Thurs Last day for submission of all graduate degree requirements, including completion of MA Field Examinations and submission of graduate theses to the library.

**May**
- 30 Wed Deadline for application for undergraduate admission to the fall semester 2003.
2003 Summer Semester
(including intersession, May-June and summer session, July-August)

May
2 Fri Last day for continuing graduate students to register and pay fees.
5 Mon Summer semester and intersession classes commence.
9 Fri Deadline for undergraduate application for readmission to the summer semester.
15 Thurs Deadline for submission of application to graduate in June.

June
4 Wed Spring convocation.
5 Thurs Spring convocation.
6 Fri Spring convocation.
9 Mon Last day for undergraduates to drop summer semester courses except under special procedures applicable in extenuating circumstances.

July
1 Tue CANADA DAY. All classes cancelled.
7 Mon Last day for undergraduates to drop summer session courses except under extenuating circumstances.
8 Tue Last day for graduate students to drop courses without academic penalty except under special procedures applicable in extenuating circumstances.
23 Mon Summer session classes commence for Faculty of Education courses only.
30 Mon Summer session classes commence for Faculty of Education courses only.

August
1 Fri Summer semester classes end.
2 Sat Summer session Faculty of Education courses end.
4 Mon BC DAY. Offices closed.
5 Tue Summer semester and summer session examination period for undergraduates begins.
8 Fri Final deadline for submission of undergraduate application for graduation (with a late fee) for students completing requirements by the end of the 2003 summer semester.
14 Thu Last day for receipt of grades and grades deferred from previous semester for graduate students.

Academic and Campus Services

Academic Computing Services
1001 Strand Hall, (604) 291-3234 Tel, (604) 291-4242 Fax, www.sfu.ca/acs
Academic Computing Services (ACS) provides on-campus and home access to all Internet services including electronic mail, the web, the Caucus web conferencing system, and netnews.
 ACS offers several types of accounts for various services. You may need one or more of them. You need an SFU computing account to use the microcomputer labs, connect from home, send and receive e-mail, surf the web, access the library over the web, and access many other services. CRC accounts allow you to pay for services. Novell accounts provide office microcomputers with access to departmental printers and disk space.

“How-tos” provide useful information on many topics. A 24-hour help line is available at (604) 291-3230 or send an e-mail to help@sfu.ca. Students may obtain help from the lab attendants in AG3148 or at (604) 291-3930.

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

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

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

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

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

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

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

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

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

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

The University’s archives are a multimedia 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 requests for photographs and photographic copy prints are accommodated whenever possible. Finding aids to various collections are available in hard copy and a summary description is on the Archives Web site. Information is available about archival collections at other repositories.

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

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

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

The Simon Fraser collection includes several series and individual graphics by Inuit, Native, contemporary American and Canadian artists, as well as large scale works by major Canadian painters and sculptors. Special Activities: Lectures and events are organized in collaboration with University departments. Through the loans program, individual works of art are loaned to members of the University community for installation in specific sites on campus.

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

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

Bookstore
Maggie Benston Student Services Centre, (604) 291-3856 Tel, (604) 291-3401 Fax, Harbour Centre store (604) 291-5048, www.sfu.ca/bookstore
The Simon Fraser University Bookstore, which occupies three levels in the Maggie Benston Student Services Centre, carries new and used books, stationery, clothing and giftware. Book selection includes general interest books, as well as textbooks for courses offered at the Burnaby campus and in the distance education program. General interest books are located on the upper floor and include a wide selection of reference books, study guides, literature, travel guides, cookbooks and other subjects. The bookstore also carries a extensive selection of stationery, university crest sportswear and memorabilia, and unique gift items.

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

Campus Community Services
3105 Maggie Benston Centre, (604) 291-4170 Tel, (604) 291-4341 Fax, www.sfu.ca/ccs, 8:30 am – 12 noon and 1 – 4 pm, Monday – Friday
Campus Community Services enriches the student's university experience by providing programs and services, and developing policies that support student’s educational and personal goals. Our mandate is to ease the transition of new students through orientation services, to offer a wide scope of activities, programs and services that assist students with academic and social success throughout their time at SFU, and to provide opportunities to explore career options and better prepare for life in the larger community when they leave SFU.

Campus Community Services includes: Centre for Students with Disabilities, Childcare Centre, a variety of community events, Health, Counselling and Career Services, Nightline Crisis counselling and the Peer Educators program, First Nations Student Centre, Interfaith Centre, new student orientations, Recreational Services & Athletics, Residence and Housing, and the Volunteer Resource Centre.

Student Programming Office
1150 Maggie Benston Student Services Centre, (604) 291-3728 Tel, (604) 291-5773 Fax, www.sfu.ca/ccs
New Student Orientation
www.sfu.ca/discover-sfu
Get a head start at SFU’s new student orientation, Thursday and Friday, August 29 and 30, 2002. Be ahead of the crowds to get your student card, go to the bookstore, and meet the people who will be in your classes. At orientation you will be greeted by the president, be entertained by a campus life drama, meet students from the same faculty, take a campus tour, and learn about the many services available to you. You may also attend special sessions about learning skills, academic planning, financial assistance, getting involved, and more. Orientation attendees are grouped with 15-20 other new students and one current SFU student mentor in the same area of study. Your mentor will answer questions and give advice at orientation and in your first semester.
The registration deadline is August 16, 2002. Late registrations are not accepted. Register for orientation on-line. Questions about starting school at Simon Fraser? E-mail us at orientation@sfu.ca.
Orientation is also offered in January and May for students starting classes in spring and summer semesters. Check the web site for the dates.

Volunteer Centre
www.sfu.ca/css/volunteer

Come in to see us, or check out our web site to find volunteer opportunities both on and off campus. Staff are available to answer your questions and to help you learn more about volunteering. Be sure to come to the annual volunteer fair in September in Convocation Mall.

SFU Food Bank
1349 Maggie Benston Student Services Centre
(604) 291-5446 Tel, www.sfu.ca/ccs/foodbank.html

This confidential campus service is provided in conjunction with the Simon Fraser Student Society. The food bank provides dry goods and gift certificates for supermarkets. A valid SFU student card is all that is needed to use the service. You can make a donation at the food bank or at one of the six donation boxes around campus.

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

Campus security patrol, emergency response, campus information, safe walk program, complaint investigation and referral.
(604) 291-4500 (24 hours) all emergencies or www.sfu.ca/security/current for road conditions
(604) 291-5451 lost and found
(604) 291-5448 card access

General Office
1300 Transportation Centre
(604) 291-5483 Fax
(604) 291-5450 personal security
(604) 291-3920 lockshop/keys

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

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

<table>
<thead>
<tr>
<th>Parking Lot</th>
<th>Price per semester</th>
<th>Eligible</th>
</tr>
</thead>
<tbody>
<tr>
<td>B lot search lot</td>
<td>$95.00</td>
<td>undergraduate and graduate students, faculty and staff</td>
</tr>
<tr>
<td>C lot search lot</td>
<td>$105.00</td>
<td>graduate students, faculty and staff</td>
</tr>
<tr>
<td>Convocation mall and West Mall reserved space</td>
<td>$261.00</td>
<td>undergraduate and graduate students, faculty and staff</td>
</tr>
<tr>
<td>visitor parking</td>
<td>$1.75 per hour, $9.00 per day</td>
<td>undergraduate and graduate students, faculty, staff and visitors</td>
</tr>
</tbody>
</table>

Undergraduate students may purchase a permit for B lot, Convocation Mall or West mall as follows:

B lot (search lot)
Parking Lottery
B lot parking permits are available through the parking lottery held prior to the fall and spring semesters. Available spaces are allocated at random to students who enter the lottery. Students may enter the lottery through the Parking Services web site at www.sfu.ca/security/Parking, or in person at the Parking Services office. You must have an SFU student number to enter as well as a current e-mail account.
Open Sale
There is an open sale period beginning on the first business day in April. The number of open sale permits is based on availability and is sold on a first-come, first-served basis.
Convocation Mall and West Mall (reserved space)
Undergraduate students may also purchase a permit for the Convocation and West Mall Reserved lots, when available. If available, permits are purchased through an open sale, which is held approximately two weeks prior to the beginning of each semester. Please visit the Parking Services web site for a schedule of open sale dates.
Once these permits are issued, they must be renewed each semester.
For more detailed information, visit the Parking Services web site at www.sfu.ca/security/Parking.

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

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

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

For the convenience of students in downtown Vancouver, the Information and Registration Office at the Harbour Centre campus will perform many of the functions of the Cashier's Office at the Burnaby campus.
Office hours are 9 am – 4:30 pm, Monday to Friday.

Centre for Distance Education
1300 West Mall Centre, (604) 291-3524 Tel, (604) 291-4964 Fax, toll free within BC 1-800-663-1411, www.sfu.ca/cde

Distance Education courses provide an alternative to traditional classroom learning for those who wish to continue their formal education but cannot attend scheduled classes on campus or at an off campus location. Since 1975, when Simon Fraser University introduced its first five distance education courses to 55 students, the program has grown to over 12,000 course enrollments a year in over 130 credit courses. All courses carry full university credit and run parallel to the on-campus offerings. Students may complete many certificate, diploma and degree programs entirely by distance education. Or students may take a combination of distance education, evening or day courses to fulfill their academic requirements.
Each registered student receives a complete learning package using one or more of the following delivery methods: print-based study guide, audio and/or videotapes, supplementary readings. In addition, some courses have a teleconferencing or e-mail requirement. Increasingly, instructional technologies (e.g. web based or computer conferencing) are being used to promote interaction between and amongst students and the tutor-marker.
Each course is assigned a tutor marker who is responsible for grading assignments and assisting students with course work. All have scheduled office hours for telephone and/or e-mail consultation.

Centre for Students with Disabilities

The Centre for Students with Disabilities was established to improve accessibility at Simon Fraser University by developing and updating University policies, procedures and programs. The centre is also responsible for providing direct services to students with a disability. These services include: assistance with note-taking; tutor support; access to adaptive technology; support for exam modifications; general advocacy, etc. Students requiring any of these services are expected to supply current documentation at their own expense and should contact the centre as soon as possible, preferably three months prior to the start of a semester.
The centre has an equipment lab of computers with access software (e.g. large text, voice output), a scanner, a Braille printer and a CCTV (closed circuit television for text or graphic enlargement). Computers in the lab are on adjustable tables.
The Centre for Students with Disabilities also works with other University departments to ensure appropriate services are in place. Information on accessible on campus housing and accessible parking is available.

Course materials in alternative formats are also available for students through interlibrary loans in the Bennett Library. Due to possible delays, contact the centre at least three months prior to the start of the semester.
Please contact the Centre for Students with Disabilities if you would like more information.

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

SFU Childcare Society has 11 programs offering quality childcare to children of students, staff and faculty. Our unique world-class facility provides full time and part time care to over 250 children aged 3 months to 12 years. The school aged children are transported off campus to attend two local Burnaby schools.
All childcare staff are fully qualified early childhood educators and provide children with a caring, enriched, developmentally balanced program. Parent participation through interlibrary loans in the Bennett Library. Due to possible delays, contact the centre at least three months prior to the start of the semester.
Severe delays at the centre, contact the nearest local Burnaby schools.
Childcare services 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 9 am and 5 pm at (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, funded by Simon Fraser University students. The station's mandate is to provide its listening community with programming content rarely available from the mainstream media. CJSF offers a wide variety of non-commercial music from all genres as well as special interest spoken word programming. The station airs public service announcements from campus groups about events and issues of interest to the campus and off campus community.
CJSF is currently operated by over 150 volunteers and new volunteers are always welcome. Orientations for new volunteers are held regularly. See our website at www.cjsf.bc.ca for orientation times. CJSF offers a wide variety of interesting volunteer opportunities.
You can listen to CJSF through Shaw Cable at 93.9 FM, on the internet via our website and on campus at 940 AM. CJSF will soon be moving to the FM band at 90.1 FM.
To find out more about your campus radio station, call us or drop by our offices.

School for the Contemporary Arts
(604) 291-3363 Tel, (604) 291-5907 Fax, www.sfu.ca/scra
Information on the School for the Contemporary Arts' teaching programs can be found in the relevant undergraduate and graduate Faculty of Arts sections. The school also sponsors the following services for the campus community.

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

Professional Development Offerings
Praxis Film Development Workshop, (604) 291-3100, offers a resource centre, intensive workshops, public seminars, and courses on a broad range of film-related topics.

Dining Services
Administrative Office, Academic Quadrangle 2028, (604) 291-4481 Tel, Catering (604) 291-4911
Simon Fraser University Dining provides a variety of convenient food outlets offering well-balanced, nutritional meals, fast food services, catering for groups, and convenience store shopping.
Piper Express debit cards allow students, faculty and staff to purchase meals on a prepaid account from any of the following dining locations throughout the academic year. This account can be accessed by using either the pre-programmed Piper Express card or by having your own student card encoded for this purpose. Hours of operation are reduced for holidays, semester breaks and summer semester.

East Concourse
Orient Express
Enjoy the flexibility of the Sizzling Grill. Have a little or a lot — vegetarian, meat, seafood or chicken — with an array of delicious sauces. Incredible daily features are also available.
Open Monday – Friday, 11 am – 2:15 pm.

Mountain Top Deli
For the creative at heart, choose from gourmet breads, meats, cheeses and toppings to make that perfect sandwich. Plus we also offer the ever popular panini, now available in half orders.
Open Monday – Thursday, 11 am – 3:30 pm, and Friday, 11 am – 2:30 pm

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

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

Catering Services
We cater to conferences, office groups, business meetings — whatever the occasion, give us a call. Tel (604) 291-4510, Fax (604) 291-5661 or e-mail your requests to catering@sfu.ca.

Academic Quadrangle
White Spot Triple O's
The home of the White Spot Triple O burger, thick cut onion rings, fresh cut fries, milkshakes and more.
Open Monday – Thursday, 8:15 am – 3:30 pm, Friday, 8:15 am – 3 pm.

Simon C's
Our convenience store sells sandwiches, snacks, beverages, slurpees, pretzels, groceries, health and beauty aids, newspapers, magazines and stamps.
Open Monday to Friday, 8 am – 9:30 pm, Saturday and Sunday, 10 am – 6:00 pm.

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

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

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

Diamond University Centre
The idyllic setting of the Diamond University Centre on the north slope of Burnaby Mountain, combined with its beautiful facilities, professional services and gourmet food makes it the near perfect location for gatherings of up to 250 for receptions and 140 for dinners. Open Monday – Friday, 10:30 am to 2 pm. Call (604) 291-4794 for reservations.
Health, Counselling and Career Centre
0101 Maggie Benston Student Services Centre, (604) 291-4615 Tel, (604) 291-5888 Fax, medical emergencies: (604) 291-4500, Physicians after regular hours: (604) 522-2311, 5:30 pm – 8:30 am, Monday – Friday, weekends and holidays

The Health Services division provides quality health care at both the Burnaby Mountain and the Harbour Centre campuses. We provide primary health care for students and emergency/urgent care for staff and faculty members. The clinic is staffed by a multidisciplinary team of health care providers including physicians, a psychiatrist, nurses, a health educator and support staff. We also operate a physiotherapy clinic and a BC Biomedical Laboratory on-site. Patients are seen by appointment or on a drop-in basis. Fees are covered by most provincial health plans. Don’t forget to bring your health card.

The following services are available for students: general health care, pap smears, breast exams, birth control information and counselling, STD testing and counselling, health education, immunizations and allergy shots, mental health, specialist clinics, travel medicine, and emergency response and first aid.

Physiotherapy Clinic
070 Chancellor Gymnasium Centre, (604) 291-3284 Tel, (604) 291-5888 Fax

The clinic is staffed by two physiotherapists, an athletic therapist and an office assistant. Services are provided to all campus community members. Physiotherapists address orthopedic and sports injuries, prevention, treatment and rehabilitation. Services are available by appointment. No referral is required except for WCB or ICBC. Students who qualify for Premium Assistance will be eligible for limited appointments at no charge. All other students, staff and faculty will pay all charges, which may be reimbursed through extended medical insurance.

Counselling and Learning Skills
0164 Maggie Benston Student Services Centre, (604) 291-3694 Tel, (604) 291-5888 Fax

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

Learning skills counsellors and peer educators assist SFU students with their unique learning needs at university. Workshops and short courses, drop in sessions and individual consultations are offered for reading, writing, memory, concentration, exam preparation, time management, presentation and general learning skills. The learning skills team provides outreach to classes or specialized groups. Drop by MBC 0300 to review our extensive collection of learning resources and check out the many programs available to enhance your academic success.

Career Services
0300 Maggie Benston Student Services Centre, (604) 291-3106 Tel, (604) 291-5926 Fax

Career Services provides a range of options for SFU students and recent alumni who require assistance with career development and work search. Career counsellors, advisors and peer educators provide workshops, programs, events, drop in sessions and individual appointments to assist you with the development of your own unique career plan and work search strategy.

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

We provide access to internet-based work search tools offering on-line job postings, on-line resumes and applications, employer profiles and recruitment campaigns. We also co-ordinate on campus recruiting and specialized career events. Sign on to our e-mail list (career-services@sfu.ca) to receive regular updates and information about employment opportunities, programs and services.

Mentors On-line
(604) 291-3106 Tel, (604) 291-5888 Fax

Did you know that SFU graduates employed in your field of interest are ready and willing to help you with your career development? Mentors On-line is an automated, user driven program that allows you to search for mentors by faculty, career, age, salary and gender. Find detailed information on hundreds of careers, participate in information interviews and get assistance with career planning and work search. Contact Career Services to register your user name and password.

Outreach Services
(604) 291-3878/3879 Tel, (604) 291-5888 Fax

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

Peer Educators
(604) 291-5362 Tel, (604) 291-5888 Fax

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

New student volunteers are welcome in all of our peer programs. Applications are available in MBC 0300 and are accepted February to July each year.

Extensive training is provided each year in late August.

SFU Nightline
(604) 688-5198 evenings, weekends and holidays

SFU Nightline offers a telephone crisis intervention service, providing peer counselling and support, information and referrals after regular HCCC office hours. Student volunteers undergo extensive training using a crisis-intervention model. When you call Nightline, an answering service will answer and patch you through to a student volunteer within 10 minutes. For more information, visit our web site at www.sfu.ca/hccc.

Learning and Instructional Development Centre
7560 Education Building, (604) 291-3910 Tel, (604) 291-4900 Fax, www.idc.sfu.ca, Monday to Friday, 8 am – 4:30 pm

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

Classroom Technology Assistance
P9301 Shrum Science Centre, (604) 291-4828 Tel, (604) 291-4816 Fax, Monday to Thursday, 8 am – 10 pm, Friday 8 am – 4:30 pm
2622 West Mall Centre, (604) 291-5538 Tel, Monday to Thursday, 8 am – 8 pm, Friday 8 am – 4:30 pm

The Classroom Technology Assistance Centre has two locations.

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

Instructional Development
7560 Education Building, (604) 268-6727, (604) 291-4900

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

Media Production Group
7560 Education Building, (604) 291-4648 Tel, (604) 291-4900 Fax, www.sfu.ca/idc

Our function and purpose is to provide leadership and service in media and communications technology for the advancement of teaching and learning at Simon Fraser University. Our production staff provides comprehensive media capability in both conventional and digital formats using the most current technology. We find creative solutions to your problems, we offer guidance and support through consultation and are always pleased to assist you with your projects. Visit our web site to see what we can do for you.
Media Resources
7560 Education Building, (604) 291-4300/5959 Tel, (604) 291-4900 Fax
Media resources provide assistance to locate and acquire films and video tapes from distributors and other institutions. The film and video tape library consists of over 3000 titles available for preview or classroom use (preview facilities available).

Teaching Enhancement Program
7560 Education Building, (604) 291-6570 Tel, (604) 291-3851 Fax, www.lib.sfu.ca/tdc/teaching, Monday to Friday, 9 am – 4:30 pm
Teaching Enhancement Program staff are responsible for the co-ordination and organization of instructional development and educational technology programs (workshops, seminars, lecture series, symposia and conferences) and services (consultations, publications, and resource library) for SFU's academic community to enhance the quality of teaching and learning at the University. Some programs include:

- Certificate Program in University Teaching and Learning
- annual fall and spring semester TA/TM Days
- Instructional Skills Workshop
- ISW Facilitator Development Workshop
- Diversity Awareness Workshop
- Voice Projection Workshop
- Teaching and Learning with Technology

Technical Services
7528 Education Building, (604) 291-4755 Tel, (604) 291-3199 Fax
This technical group provides support to keep SFU's classrooms as contemporary as possible. Expertise in research, design, installation, and service is offered as well as advice to staff, faculty, students and special interest groups about lecture theatre operations. Other services include sales of audio visual materials, the dissemination of Shaw and satellite over the in-house CATV system, and video conferencing. A broad range of experience is offered to those wishing to purchase or evaluate equipment, plan system installations, or learn about new technologies.

Interfaith/Chaplaincy Centre
1470 Maggie Benston Student Services Centre, (604) 291-3180 Tel, www.sfu.ca/student-services/chaplaincy.html
The University is served by an ecumenical and interfaith chaplaincy comprising six chaplains representing the Christianity faith and other religions. They provide a wide spectrum of social and spiritual services, and they are prepared to help anyone including students, staff and faculty.

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

W.A.C. Bennett Library

Collections
The library has over 1,300,000 bound volumes and over 16,000 current 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-HS on the 4th; HT-QE on the 5th; and QH-Z on the 6th. Periodicals are housed on the 6th floor, with current journals and newspapers in a separate reading room. Designated quiet study carrels are located on the fourth, fifth and sixth floors, with a silent study room on the fifth floor. Group study rooms are located on the 2nd floor and may be reserved through the library website.

Strong collections are available to the undergraduate student in all disciplines taught at SFU. The graduate student will also find a growing corpus of research literature. The library web site provides access to our collections for SFU researchers on or off campus, through the library catalogue, indexes to journals, electronic journals, and other digital resources. Special collections include the contemporary literature collection, of interest to the student of avant-garde poetry, the finest William Wordsworth collection in Canada, the Canadian editorial cartoon collection, the Wosk-McDonald Aldine collection and significant manuscript and archival collections. The curriculum collection contains copies of curriculum guides and suggested readings prescribed by the Department of Education for use in BC schools. A growing collection of sound recordings, scores, slides and films is available for use in the fine arts room. The maps/gis/unit on the 7th floor provides access to computer-readable files of statistical and other data, such as survey, census and GIS files, as well as over 80,000 sheets of maps.

Services
Facilities offered by the library include microform readers and printers, tape listening facilities, and photocopying machines. The WordStation on the 2nd floor is an Academic computing Services lab with PC and Mac computers, laser printers, an image scanner and application software for student assignments. The library, in consultation with the SFU Centre for Students with Disabilities, provides assistance to students with disabilities through facilities such as reserved study rooms and adaptive technology.

Information
Librarians are available to assist users at the 3rd floor reference desk, Monday to Thursday from 9 am to 8 pm, Friday 9 am to 6 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 Research Skills classes are offered at the start of each semester to provide a hands-on introduction to effective research techniques. Liaison librarians provide customized, course-specific research instruction at the request of faculty.

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

Faculty and graduate students are also eligible for a free library card from the University of British Columbia and other university libraries in Western Canada. Interlibrary loan services provide access to materials not held at SFU through agreements with BC and other post secondary libraries.

Hours
Monday to Thursday 8 am – 11:45 pm; Friday 8 am – 6 pm; Saturday and Sunday 12 noon – 10 pm.

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

Samuel and Frances Belzberg Library
Simon Fraser University at Harbour Centre, (604) 291-5050 Tel, (604) 291-5052 Fax, www.harbour.sfu.ca/belzberg/belzberg.htm
The Belzberg Library has been in operation since January 1989 as a branch library serving the students and faculty of Simon Fraser University at Harbour Centre. The library provides a full range of services including reference, loan of library materials, access to course reserve items and requests for materials from the main W.A.C. Bennett Library. On-line 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 supports the courses and programs offered downtown. It currently consists of over 8,000 books and several hundred journal titles as well as microfilm and fiche collections.

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

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

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 University News and the operation of a speakers bureau. News and story ideas are always welcome.

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

The Microcomputer Store sells educationally-priced computer hardware, software, supplies and accessories to current SFU students, staff and faculty. Educational discounts are available on a wide range of software, including products from Adobe, Borland, Corel, FileMaker, Macromedia, Microsoft and Symantec. Apple, Epson, IBM, Lexmark, Panasonic and others offer educational discounts on computer hardware products. We can help you choose the right products to get your university work done. Our store staff are not on a commission basis, so we can offer unbiased advice to our customers.

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

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

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 First Nations of British Columbia, especially the Northwest coast. Virtual exhibits on a wide variety of topics can be found at the above Internet address.

Ombuds Office
2205 Maggie Benston Student Services Centre, (604) 291-4563 Tel, (604) 291-3899 Fax, ombudsoffice@sfu.ca E-mail
Established in 1965, the Simon Fraser Student Society Ombuds Office is dedicated to promoting fairness for members of the University community. The Ombudspersons provide information about existing review or appeal procedures. The Ombudspersons advise on and assist with informal complaint resolution and problem solving processes. The Ombudspersons may also inquire into the administration of University practices, procedures, processes and policies.

The Peak Newspaper
2901 Maggie Benston Student Services Centre, (604) 291-4560, www.peak.sfu.ca
Published weekly each semester, The Peak is Simon Fraser University's independent student newspaper. Students may place free personal classified ads, sit on the Board of Directors, meet with the editor or write a letter to share opinions with the university community. In addition to being a valuable source of information, The Peak provides jobs and experience for other SFU students, maintains an archive, darkroom and web site, and is a member of Canadian University Press.

Recreational Services and Athletics
Recreational Services & Athletics provides the campus community with a variety of physical activities from recreational to competitive levels.
Chancellors Gymnasium complex includes a fitness centre (Piper's Gym), weight room (The Bog), six lane 25 metre pool, diving pool, combative room, squash/racquetball courts, outdoor tennis courts, outdoor climbing wall, 400 metre outdoor track, a multipurpose field, two grass fields, saunas, locker facilities, two gymnasia and a physiotherapy clinic.
A valid gym identification tag ($10 deposit) in addition to a gym membership, is required to use all facilities. Students receive a free membership as part of their student fees.

Athletics
Since its 1965 inception, SFU's athletics program enriches Canada with a winning tradition second to none. The Clan demonstrated its excellence in the 2001-2002 season by securing a sixth consecutive Sears Director's Cup. The cup is awarded to the top athletic program in the National Association of Intercollegiate Athletics (NAIA).
Simon Fraser University, one of the few Canadian programs to compete in the NAIA and the CIS, offers athletic financial awards to its student athletes along with excellent competitive opportunities.
Simon Fraser University Varsity sports programs for women include basketball, field hockey, soccer, softball, wrestling, swimming and diving, track and field, and volleyball. For men, our Varsity sports include golf, basketball, soccer, football, swimming and diving, track and field, and wrestling.

Recreational Programming
The Recreational Services programming is designed to meet all levels of aspiration and enhance skill development. Brochures are published, distributed and posted semestery outside the Recreational Services Office, located on the first floor of Chancellor's Gymnasium Complex (room 110).
Aquatics — on-going courses are offered in children's Red Cross lessons, adult learn-to-swim lessons, lap swimming, deep-water running, and advanced leadership courses.
Fitness — multi-level classes cater to a wide variety of individual needs and include specialty classes such as aquafit, hi-low, step and personal training consultations. Instruction is also offered for CPR, first aid and instructor training.
Non-credit instruction — classes offer sequential instruction of up to 12 weeks in a large number of activities suited to varying levels of skill and fitness. Offerings include instruction in combatives, dance, racquet sports, scuba, yoga and several outdoor recreational activities.
Intramural sport — intramural activities are offered to all individuals with a valid gym membership. Participation varies from involvement in regular league schedules to special events and tournaments. Student sport clubs — a variety of clubs are sponsored by Recreational Services & Athletics. Competitive clubs compete in local leagues and tournaments (some at an elite level) and non-competitive clubs are available for groups with common interests.

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

International Students
SFU International provides support and assistance with cultural adaptation and responds to a wide range of enquiries from international students, including clarification of Canadian immigration requirements for study and employment. Drop by for advice, for assistance, or just for a visit.
The office also offers support to graduate and undergraduate visa students and their families. Services presently include:
- contact with Canada Immigration to clarify regulations and procedures
- advice on coping skills for adaptation to a new academic and cultural environment
- information on appropriate medical coverage
- assistance with identifying housing options, tenant rights and group sharing
- information and advice on income tax issues
- temporary mail facilities for new students
- liaison with academic departments and units in support of international student issues

All new undergraduate and graduate international students will be contacted by SFU International shortly after admission to Simon Fraser University has been confirmed.
Orientation is offered at the beginning of each semester. In addition to being a resource to all international students during their period of study, SFU International provides support in students’ adjustment to Canadian university life. New students especially are encouraged to visit our centre where the staff will be pleased to outline the wide range of services available on campus.

Study Abroad
International Exchange Programs
Students in their third and fourth years at Simon Fraser University have access to unique education opportunities by becoming involved in a student exchange. With planning, courses taken outside of SFU may be used toward your Simon Fraser University degree and need not extend your period of study. Simon Fraser University has exchange relationships in many countries around the world and in Canada.
A student approved for participation in a formal exchange program may, with the approval of his/her major department(s), undertake a maximum of 30 lower or upper division exchange credit hours while participating in the program. Students who have transferred to SFU are allowed to count the additional 30 exchange credits in addition to any transfer credit the student may have been previously awarded.
Students participating in formal exchange programs may receive exchange credit for courses completed at the host university with a passing grade.
Transfer credit for exchange programs should be arranged before departure.
See www.reg.sfu.ca/calendar for information about international program fees.

Bilateral Canadian Exchanges
Université Laval
University of Ottawa
Université de Montréal
Université de Waterloo

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

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

Information Sessions
Information meetings for students interested in North American or international exchanges will be held as follows (times subject to change). Plan to attend one of these meetings.
Field Schools
Field schools are discipline-specific one-semester study abroad programs for groups of students. Accompanied by a professor of Simon Fraser University, participants will spend one semester abroad earning SFU credit. The following field schools are planned for the 2002/2003 academic year:

Communication Studies (spring 2003)
Sponsored by the School of Communication, the field school will spend eight weeks in the Philippines – one month at the University of the Philippines in Diliman and one month at the University of the Philippines campus in Los Baños – studying the dynamic role of the media and communications in the Philippines. Application deadline: to be announced.

Chinese Studies (summer 2003)
Sponsored by the Asia Canada program, the field school will spend one week at Simon Fraser University followed by seven weeks in China – one week in Beijing and six weeks in Jilin – studying intensive Chinese language as well as Chinese culture. Application deadline: February 7, 2003.

French (summer 2003)
Sponsored by the Department of French, the field school will take place in Tours, in the Loire Valley of France. Students will spend eight weeks studying French culture, language and literature at the Université de Tours (all instruction in French). Application deadline: February 7, 2003.

Hellenic Studies (summer 2003)
Sponsored by the Hellenic Studies program, the field school will spend one week at Simon Fraser University followed by seven weeks of study in Kephallonia, Greece with field trips to surrounding areas. Application deadline: February 7, 2003.

Humanities in the Czech Republic (summer 2003)
Sponsored by the Faculty of Arts, the field school will spend eight weeks in Prague studying modern Czech Humanities in the Czech Republic (summer 2003)

Field School Information Sessions
To find out more about the summer 2003 field schools, attend an information session, as shown below.

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tues., November 5</td>
<td>11:30 - 12:20 MBC 1300</td>
<td></td>
</tr>
<tr>
<td>Tues., November 13</td>
<td>4:30 - 5:20 MBC 1200</td>
<td></td>
</tr>
<tr>
<td>Thurs., January 15</td>
<td>5:30 - 7:00 Harbour Centre</td>
<td></td>
</tr>
</tbody>
</table>

Independent Study Abroad
Students may study at institutions in virtually any country and may receive SFU credit. Students arrange these programs individually, and must also organize transfer credit using a Letter of Permission. Finance, tuition, academic and language requirements of the host institution must be met by the student.

Application deadlines for fall 2003 is January 24, 2003 and in spring 2004 is May 24, 2003.

Residence and Housing Office

There are several residences on campus.

- Madge Hogarth House, a women's traditional residence which accommodates 66 students
- Shell House, a traditional co-ed residence which accommodates 142 students
- McTaggart-Cowan Hall, a traditional co-ed residence which accommodates 200 students. In traditional residences, accommodations are fully furnished and are equipped with refrigerators. Students share common kitchens.
- Hamilton Hall, a co-ed residence which accommodates 104 graduate students in single, fully furnished studio suites

A townhouse complex which accommodates 396 single students in four bedroom fully furnished townhouses

Louis Riel House, a family apartment building containing 209 one and two bedroom units. Units are furnished with a stove and refrigerator. Apartments are reserved for couples, families with children, and single parent families.

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

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

Information for on campus residences may be obtained from the Summit brochure, the Internet address shown above, or the Residence Office, 226 Shell House. Applications for Louis Riel House are...
departmental committees, provide opportunities for graduate caucuses — the grassroots constituencies support for departmental student unions and The Society provides funding and administrative students elect representatives from each department body of the Society called Forum. Every spring, basis composed of departmental student unions attending SFU. The Society operates on a democratic The Student Society is comprised of every student of Students, the SFSS works for accessible public across the country through the Canadian Federation works to improve student life at SFU and to fight for over 55 student unions across the country. The SFSS Student Society (SFSS) and the Canadian Federation (SF PIRG) is a non-partisan, student-funded and organize around issues of public interest, such as the environment and social justice.

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

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

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

Structure and Representation
The Student Society is comprised of every student attending SFU. The Society operates on a democratic basis composed of departmental student unions which appoint a representative to the decision-making body of the Society called Forum. Every spring, students elect representatives from each department as well as six executive officers who are responsible for the day to day management of the Society. The Society provides funding and administrative support for departmental student unions and graduate caucuses — the grassroots constituencies of the Student Society. Student unions and grad caucuses elect student representatives to departmental committees, provide opportunities for students to socialize, and organize projects. Working with a student union or grad caucus, students have a vote on vital issues ranging from course offerings to government funding of education.

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

<table>
<thead>
<tr>
<th>Membership Dues</th>
<th>Full Time</th>
<th>Part Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simon Fraser Student Society</td>
<td>$24.35</td>
<td>$12.18</td>
</tr>
<tr>
<td>(operations, governance and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>administration of the society</td>
<td></td>
<td></td>
</tr>
<tr>
<td>including clubs, student unions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and graduate caucuses)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student refugee/WUSC fund</td>
<td>$0.50</td>
<td>$0.25</td>
</tr>
<tr>
<td>Building Fund</td>
<td>$15.00</td>
<td>$7.50</td>
</tr>
<tr>
<td>CJSF radio station</td>
<td>$3.00</td>
<td>$1.50</td>
</tr>
<tr>
<td>SFU Public Research Interest Group</td>
<td>$3.00</td>
<td>$1.50</td>
</tr>
<tr>
<td>(SF PIRG)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak Newspaper</td>
<td>$3.90</td>
<td>$1.95</td>
</tr>
<tr>
<td>Canadian Federation of Students</td>
<td>$6.76</td>
<td>$3.38</td>
</tr>
</tbody>
</table>

The remainder of the student activity fee is collected by the University and disbursed to the following campus organizations: CJSF Radio; Simon Fraser Public Interest Research Group (SF PIRG); and the Peak.

Note: Students ratified a seventy five cent fee increase for full-time students in order to support the First Nations Student Association. The increase is effective starting the fall semester, 2002. The Canadian Federation of Students’ membership dues will be adjusted to the consumer price index in September 2002.

Advocacy
The SFSS works on a number of important issues including: fighting university budget cuts to the SFU tutorial system; lobbying the provincial and federal governments to restore funding to education; improving transit service to SFU; ensuring a student voice in development plans for Burnaby Mountain; and fighting to maintain affordable education.

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

Photocopying
The SFSS Copy Centre, located MBC 2260, is a flexible, friendly environment which provides students with fast, cheap copying and printing services. The Copy Centre maintains many self-serve copiers across campus.

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

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

Ombuds Office
The Ombuds Office is funded by students through the SFSS. The role of the Ombuds Office is to ensure that all members of the University community receive fair and equitable treatment. The Ombuds Office is located at MBC 2205, or you can call (604) 291-4583/5524; E-mail: ombudsoffice@sfu.ca.

Quad Books
Located at MBC 2260, your student-owned Quad Books carries school supplies at low prices, together with Express Post, transit tickets and passes, and a fax service. Quad Books also operates the popular “Book BuyBack” during the second week of exams where you can sell and buy used textbooks to save money.

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

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

Student Work Abroad Program
Administered by the Canadian Federation of Students, SWAP allows students to work and live in another country for up to two years. SWAP brochures are available at the Travel CUTS office at MBC 2270.

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

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

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

Highland Pub
The SFSS Pub is a favourite with students and the sooner you check out this great location the better. In addition to quenching your thirst the Pub offers great meals for very reasonable prices. You can even relax with a drink on the outdoor patio and take in one of the best views of the Lower Mainland.
Simon Fraser UniverCity
Community Corporation
3100 Bennett Library, (604) 291-3220 Tel,
(604) 291-3189 Fax, www.sfu.ca/bmcp
The Burnaby Mountain Community Corporation is responsible for overseeing the planning and development of a new community on approximately 200 acres of land within the University's ring road.

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

Statistical Consulting Service
K10557 Shrum Science Centre, (604) 291-4670 Tel,
www.stat.sfu.ca
The service, a component of the Department of Statistics and Actuarial Science, provides advice and assistance in the design of experiments, surveys, and analysis of all manner of data to university and community clients. Launched in 1980, the service draws on the expertise of mathematics and statistics faculty and graduate students. The SCS has a full time director who is a qualified statistical consultant.
Simon Fraser University at Harbour Centre

Associate Vice-President
W.G. Gill BA, MA, PhD (Br Col)
Simon Fraser University is committed to the renewal of individuals and organizations through programs of advanced learning.

The Harbour Centre campus in downtown Vancouver provides continuity between work and study within an environment created specifically for advanced learning. Built largely through private sector funding, it offers a range of programs and services directed to mid-career intellectual and professional growth.

With over 200,000 square feet of instructional resources, the campus currently serves over 60,000 people annually. Each semester 2,000 undergraduates and 400 graduate students take 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.

The Harbour Centre campus opened in 1989, the result of a close collaboration of the University and the business, professional and cultural communities, the City of Vancouver and the Province of British Columbia. This association has grown as the University continues to seek the advice and participation of the downtown community in the development of Harbour Centre’s mission and programs.

Evidence of that continuing partnership is the Morris J. Wosk Centre for Dialogue and the Entrepreneurship (TIME) Centre which supports the development of Harbour Centre’s mission and programs. Evidence of that continuing partnership is the Morris J. Wosk Centre for Dialogue and the Entrepreneurship (TIME) Centre which supports the advanced education and research needs of the high technology sector.

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

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

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

Information and Registration Services
(604) 291-5000 Tel, (604) 291-5060 Fax, 9 am – 7:30 pm Monday to Thursday, 9 am – 5 pm Friday,
(reduced hours in effect during semester breaks), www.harbour.sfu.ca/general-info/inforeg.html
Director
R.B. MacLeod BComm (Mt All)
The office provides a wide range of services for all Harbour Centre students and prospective students including, but not limited to:

- information on all programs at Harbour Centre
- information on courses, programs and services at the Burnaby Mountain campus
- information on graduate programs
- assistance and information on admission to, and registration in, undergraduate and credit-free courses
- information on distance education courses and programs
- course changes
- fee payments

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

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

For further information about undergraduate or graduate entrance to Simon Fraser University, please see the appropriate sections of this Calendar.

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

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

Samuel and Frances Belzberg Library
(604) 291-5050 Tel, (604) 291-5052 Fax, 10 am – 9 pm Monday to Thursday, 10 am – 7 pm Friday, 10 am – 5 pm Saturday (reduced hours are in effect during semester breaks), www.harbour.sfu.ca/belzberg/belzberg.htm
Head
K.V. Marotz BA (S Fraser), MLS (Br Col)
Belzberg Library serves students, staff and faculty of Simon Fraser University at Harbour Centre with a range of library services including reference assistance, loan of library material, access to course reserve items and requests for materials from the W.A.C. Bennett Library at the Burnaby campus and other academic libraries. On-line services form an essential element of this electronic library. A web-based catalogue, searches of commercial and public databases, electronic journals, and access to library files on the campus network are all available.

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

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

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

Academic Computing Services

Royal Bank Instructional Computing Facility
(604) 291-5030 Tel, 10 am – 10 pm Monday to Thursday, 10 am – 7 pm Friday, 10 am – 12 noon, 1 pm – 5 pm Saturday, closed Sunday, www.harbour.sfu.ca/ucs/Default.html
Senior Systems Consultant
M. Jutras
The Royal Bank Instructional Computing Facility at the Harbour Centre campus has four well equipped teaching labs and a drop-in centre that may be used by students, faculty and Simon Fraser University staff in support of the academic and professional development programs offered at the downtown campus. When the teaching labs are not being used for scheduled classes or tutorials they are available for drop-in use. All users must be part of the University community and are required to have a valid student card or an authorized provisional use card.

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

IBM Lab: Equipped with 16 AST Pentium 200 microcomputers for students and an additional machine connected to an overhead LCD 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.
Post Baccalaureate Diploma in Communication
Certificate in Urban Studies
Certificate for Senior Citizens
Certificate in Native Studies Research
Certificate in Literacy Instruction
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

Lectures, Exhibitions and Special Events
(604) 291-5100 Tel, cs_hc@sfu.ca
Simon Fraser's campus community and the general public are invited to attend the many public lectures and special events held at Harbour Centre. These events include the Leon and Thea Koerner Foundation lectures in the liberal arts, city program lectures and others. Public events are free, but seating is limited. In most cases reservations are recommended. Please contact us to add your name to the mailing list.

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

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

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

Certificate in Actuarial Mathematics
Certificate in Applied Human Nutrition
Certificate in Chinese Studies
Certificate in Computing Studies
Certificate in Criminology (general and advanced)
Certificate in Family Studies
Certificate in First Nations Language Proficiency
Certificate in French Canadian Studies
Certificate in French Language Proficiency
Certificate in Health and Fitness Studies
Certificate in Liberal Arts
Certificate in Literacy Instruction
Certificate in Native Studies Research
Certificate in Public History
Certificate for Senior Citizens
Certificate in Spanish Language Proficiency
Certificate in Spatial Information Systems
Certificate in Teaching ESL Linguistics
Certificate in Urban Studies
Certificate in Women's Studies
Post Baccalaureate Diploma in 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
Graduate Diploma in Business Administration (on-line)

Additional undergraduate courses are also offered on a regular basis in business administration, international communication and other disciplines. For current offerings telephone (604) 291-5000.

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

Continuing Studies
(604) 291-5100 Tel, (604) 291-5098 Fax, www.sfu.ca/cstudies
Dean
C. Yerbury BEd, MA, PhD (S Fraser)
Associate Dean
A. Cowan BA (Tor), MA (Carleton)

Programs are held during the day, evening and on weekends. They are taught by faculty from the University, business, professional and cultural communities.

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 contact 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
Canadian Centre for Studies in Publishing
Canadian Institute for Advanced Research
Centre for Research on Violence Against Women and Children
Gerontology Research Centre
David See-Chai Lam Centre for International Communication
Centre for Experimental and Constructive Mathematics
Geraldine and Tong Louie Centre for Rehabilitation, Ergonomics and Human Performance
Pacific Institute for the Mathematical Sciences
Council for North American Business Studies
Centre for Policy Research on Science and Technology
Scotiabank Resource Centre for Women Entrepreneurs
7th Floor Media
Simon Fraser University/University of British Columbia Centre for the Study of Government and Business
TeleLearning Network of Centres of Excellence
W.J. VanDusen BC Business Studies Institute

TIME Centre
(604) 291-4984 Tel, www.sfu.ca/time
The Technology, Innovation, Management and Entrepreneurship (TIME) Centre is a Simon Fraser University initiative to support technological enterprise in BC. Comprising the entire seventh floor of the Spencer Building at Harbour Centre, its anchor participants are the Faculties of Business Administration and Applied Sciences. In addition it houses the Centre for Experimental and Computational Mathematics, Poly Lab, 7th Floor Media, TeleLearning Network of Centres of Excellence, the TIME Business Centre and TIME Ventures and a university-industry liaison office.

Harbour Centre Services
Health, Counselling and Career Centre – Harbour Centre
300 Harbour Centre, (604) 291-5200 Tel
The Harbour Centre Health Services is open from 8:30 am to 5 pm, Monday through Thursday, and 8:30 to 11:30 am Friday.

Health Services provides a full range of medical care for students, faculty and staff. Physicians provide medical care in the same manner as a family doctor. Referrals are made for special health problems, surgical procedures, X-rays or special lab tests.

Medical files are maintained in the strictest confidence.

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

Simon Fraser University at Surrey, 2400 Surrey Place, 10153 King George Highway, Surrey, BC V3T 2W1, (604) 586-5225 Tel, (604) 586-5237 Fax, www.sfu.ca/surrey

Director
(to be determined)

Simon Fraser University has assumed responsibility for the academic programs previously offered at the Technical University of British Columbia (TechBC) and will continue to offer the innovative Information Technology (IT) and Interactive Arts (IA) programs at this Surrey campus.

At the time of printing, all 400 level courses were in the final approval stages and are not listed below.

At a meeting held on July 8, 2002, Senate approved and is recommending to the Board of Governors the following degree names:
Bachelor of Science (Information Technology, TechBC)
Bachelor of Science (Interactive Arts, TechBC)

Updated information will be available on the website www.sfu.ca/surrey

Major Program

A bachelor's degree with a major in either Information Technology (IT) or Interactive Arts (IA) is offered. This degree is currently under the joint administration of the Faculties of Applied Sciences, Arts and Business Administration.

This degree program provides skills and flexibility that tomorrow's careers require. Students learn in the classroom, in the real world, and in the virtual world, with the latest in computer hardware and technology. The team-based approach to teaching and learning means that students will be ready for the emerging economy, an economy where technology, new media, arts and business intersect.

TechOne

Every student, regardless of the chosen major, completes the TechOne foundation program in the first year of study. TechOne explores the principles and perspectives that drive both the Information Technology (IT) and Interactive Arts (IA) programs.

The program is comprised of a series of five week, one credit courses that provide a broad understanding of the systems, processes and cultures of a world enabled by new technologies (see below).

As well, special process elements courses in communication, team dynamics, and learning and information run throughout each semester. Process elements courses teach the skills needed to be immediately successful in the workplace. Process elements courses and the other courses students complete are integrated through interdisciplinary content, collaborative projects, and a complete synthesis between theory and practice.

The following are completed by a cohort of students in the 2002 fall semester:
- 2D Visual Representation
- 3D Visual Representation
- Interactive Visual Representation
- Contemporary Business Environment
- Social Behavior in Real and Virtual Contexts
- Business Trends and Challenges
- Algebra

TechOne Courses

Effective Communication I
Effective Communication II
Communication I
Communication II

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

Program Specialization

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

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

Information Technology

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

Computer and Communications Systems

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

Interactive Arts

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

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

Interaction Design

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

Performance and Media Art

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

Co-operative Education

Participation in co-operative education is also an option. See "Co-operative Education" on page 216.

Courses

TechOne Courses

TECH 104-1Process Elements: Effective Communication I
TECH 105-1Process Elements: Team Dynamics I
TECH 106-1Process Elements: Learning & Information I
TECH 107-1Process Elements: Effective Communication II
TECH 108-1Process Elements: Team Dynamics II
TECH 109-1Process Elements: Learning & Information II
TECH 110-1Technologies of Writing
TECH 111-1Technologies of Visualizing
TECH 112-1Technologies of Computing
TECH 118-12D Visual Representation
TECH 119-13D Visual Representation
TECH 120-1Interactive Visual Representation
TECH 121-1New Media: The Computer Image
TECH 122-1New Media: Non-Linearity & the Procedural Image
TECH 123-1New Media: Designing a Network
TECH 128-1Contemporary Business Environment
TECH 129-1Social Behaviour in Real & Virtual Contexts
TECH 130-1Business Trends and Challenges
TECH 131-1Entrepreneurship & Business Planning
TECH 132-1Marketing and Financial Planning
TECH 133-1Global Economy: Executing a Business Plan
TECH 137-1Fundamentals of Mathematics: Algebra
TECH 138-1Fundamentals of Mathematics: Trigonometry
TECH 139-1Fundamentals of Mathematics: Discrete Mathematics
TECH 145-1Linear Algebra & Calculus: Vectors and Matrices
TECH 146-1Linear Algebra & Calculus: Derivatives
TECH 147-1Linear Algebra & Calculus: Integrals
TECH 151-1Fundamentals of Programming with Objects
TECH 152-1The Nuts and Bolts of Programming
TECH 153-1Advanced Programming Topics
TECH 154-1Fundamentals of Information Technology
TECH 155-1Microcomputer Systems
TECH 156-11Problem Solving Systems
TECH 157-1Probability
TECH 158-1Descriptive Statistics and Estimation
TECH 159-11Inferential Statistics

EDUCATIONAL TECHNOLOGY AND LEARNING COURSES

ETEC 601-1 Problem Based Learning

INTERACTIVE ARTS COURSES

IART 206-1Programming Multimedia: Encoded Interactivity
IART 207-1Scripting in the Network Environment
IART 208-1Authoring Multi-user Environments
IART 210-1Cultural Icons: Historical Perspectives
IART 211-1The Evolution of Low-Brow: Modern Popular Arts
IART 212-1AI Mixed Up: Culture in the Age of Electronics
IART 213-1Digital Design Process, Language & Vocabulary
IART 214-1Digital Graphics & Visual Communication
IART 215-1Digital Environmental & Event Design
IART 216-1Drawing: Forms and Languages
IART 217-1Drawing: Anatomy and Gesture
IART 218-1Drawing: Picturing Time
IART 219-1Animation: Modeling Identities & Forms
IART 220-1Animating & Structuring Narrative
IART 221-1Animation: Rendering Fictive Spaces
IART 222-1The Movement Image
IART 223-1Moving Images: The Camera & the Eye
IART 224-1Moving Images: Interaction, Interface, Installation
IART 243-1Sound Interaction: Significant Sound
IART 244-1Composing Audible-Visual Images
IART 245-1The Audible Open World
IART 310-1Context for Cultural Production
IART 311-1Practices of Interactivity
IART 312-1Reception, Experience and Use
IART 313-1Thought Machines
IART 314-1The Interactive Sensorium
IART 315-1Syn(Aesthetic) Images
IART 319-1Electronic Theatre: Doubling in Performance
IART 320-1Electronic Theatre: Virtual Performance
IART 321-1Electronic Theatre: Telematics in Performance
IART 322-1Arts Project: Processes & Authoring
IART 323-1Arts Project: Production & Distribution
IART 324-1Arts Project: Interface & Reception
IART 325-1Fundamental Narrative Concepts
IART 326-1Multi-linear Narrative Structures
IART 327-1Networked Narrative Environments
IART 328-1Kinesthetic Space: Experience Space
IART 329-1Kinesthetic Space: Interpretive Space
IART 330-1Kinesthetic Space: In/Exterior Spaces
IART 331-1Sensing Body: Senses & Systems
IART 332-1Emerging Body: Cyborgs & Cybernatics
IART 333-1Improvisational Body: Design & Intent
IART 600-1Performance in Media Practice and Theory
IART 601-1The Body: Practice and Theory
IART 602-1Non-linear Narrative
IART 603-1Interface and Navigation
IART 604-1Electronic Culture
IART 605-1Authoring Methodologies
IART 606-1Multimedia Programming
IART 607-1Designing Virtuality
IART 608-1Experience Design
IART 609-1Design and Creative Methodologies
IART 611-1Reception Analysis
IART 612-1Multimedia Applications
IART 613-1Kinesthetic and Active Space
IART 614-1History of Art and Technology
IART 691-1,2,3 Directed Studies
IART 692-1,2,3 Directed Studies
IART 693-1,2,3 Directed Studies
IART 694-1,2,3 Directed Studies
IART 695-1,2,3 Directed Studies
IART 696-1,2,3 Directed Studies
IART 697-1,2,3 Directed Studies
IART 698-1,2,3 Directed Studies
IART 699-1,2,3 Directed Studies
IART 898 MASt Project/Research Paper
IART 899 PhD Thesis

INTERDISCIPLINARY COURSES

INTD 201-1Visualizing Project Management
INTD 211-1Planning and Directing Projects
INTD 212-1Managing and Implementing Projects
INTD 213-1Critical Awareness and Analysis
INTD 214-1Creative & Critical Thinking: Being Creative
INTD 215-1Creative & Critical Thinking: Being Critical
INTD 305-1Design: The Need for Community
INTD 306-1Digital Interactive Community Operation
INTD 307-1Digital Interactive Community Practicum
INTD 310-1Emerging Technologies and Planning
INTD 311-1Emerging Technologies for Implementation
INTD 312-1Project Control and Acceptance
INTD 600-1Research Methods: Problem Formulation
INTD 601-1Research Methods: Research Methodologies and Tools
INTD 602-1Research Methods: Anatomy of a Research Area
INTD 603-1Graduate Seminar
INTD 604-1Graduate Seminar

INFORMATION TECHNOLOGY COURSES

ITEC 210-1Applied Math: Laplace Transforms
ITEC 211-1Applied Math: Random Variables, Stochastic Processes
ITEC 213-1Applied Math: Transform Theory
ITEC 214-1Applied Math: Advanced Topics in Linear Algebra
ITEC 216-1Electronic Circuits: Circuit Principles
ITEC 217-1Electronic Circuits: Electronics
ITEC 218-1Electrical Circuits: Circuits
ITEC 220-1Introduction to Digital Systems/VHDL
ITEC 221-1Design of COMBINATIONAL Circuits
ITEC 223-1Introduction to Information Theory
ITEC 224-1Integrated Data Structures and Networks
ITEC 237-1Signal Analysis in Time Domain
ITEC 238-1Signal Analysis in Frequency Domain
ITEC 239-1Filter Design and Analog Communications
ITEC 240-1Data Structures: Linear Data Structures
ITEC 241-1Tables, Trees and Recursion
ITEC 242-1Applied Algorithms and Data Structures
ITEC 251-1Managing the Personal Software Process
ITEC 252-1Software Engineering: Product Engineering
ITEC 260-1Principles of User Interface Design
ITEC 261-1Designing User Interfaces
ITEC 271-1Introduction to Computer Graphics
ITEC 272-1Computer Graphics: 2D & 3D Transforms & Curves
ITEC 273-1Computer Graphics: Rendering Techniques
ITEC 310-1Applied Math: Logic, Sets, Functions
ITEC 311-1Applied Math: Relations & Graphs
ITEC 313-1Fundamentals of Systems Engineering
ITEC 314-1Systems Development Methods
ITEC 316-1Microcontroller Architecture
ITEC 317-1Microcontroller Applications
ITEC 319-1Baseband and Bandpass Communications
ITEC 320-1Digital Communications: Channel Coding
ITEC 321-1Synchronization and Spread Spectrum
ITEC 322-1Introduction to Computer Animation
ITEC 323-1Advanced Computer Animation Methods
ITEC 325-1Object-Oriented Analysis
ITEC 326-1Object-Oriented Design
ITEC 327-1Object-Oriented Analysis & Design Project
ITEC 328-1Introduction to Operating Systems
ITEC 329-1Operating Systems: Concurrency & Processor Scheduling
ITEC 330-1Memory Management, I/O and File Systems
ITEC 331-1Network Architecture & Infrastructures
ITEC 332-1Network Applications
ITEC 333-1Network Protocols
ITEC 334-1DSP Systems Design: Signal Processing
ITEC 335-1DSP Systems Design: Digital Filters
ITEC 336-1DSP Systems Design: DSP Applications
ITEC 337-1Introduction to Databases
ITEC 338-1Designing Database Applications
ITEC 339-1Database Implementation Project
ITEC 600-1Advanced Database Systems
ITEC 601-1Computer Graphics
ITEC 602-1Software Engineering Processes
ITEC 603-1Distributed Operating Systems
ITEC 604-1Stochastic Signal Processing
ITEC 605-1Adaptive Filtering and Estimation
ITEC 606-1Network Security and Cryptography
ITEC 607-1Intelligent Interfaces
ITEC 608-1E-Commerce Technology
ITEC 609-1Advanced Networking Protocols
ITEC 610-1Wireless Communications
ITEC 611-1Image Processing
ITEC 614-13D Computer Animation
ITEC 615-1Virtual Reality
ITEC 691-1,2,3 Directed Studies
ITEC 692-1,2,3 Directed Studies
ITEC 693-1,2,3 Directed Studies
ITEC 694-1,2,3 Directed Studies
ITEC 695-1,2,3 Directed Studies
ITEC 696-1,2,3 Directed Studies
ITEC 697-1,2,3 Directed Studies
ITEC 698-1,2,3 Directed Studies
ITEC 898 MASc Project/Research Paper
ITEC 899 PhD Thesis

MANAGEMENT OF TECHNOLOGY COURSES

MTEC 210-1Fundamental Accounting Principles
MTEC 212-1Managerial Accounting
MTEC 216-1Information Economics: Introduction to Economics
MTEC 217-1Information Economics: Macroeconomics
MTEC 218-1Economics of Information
MTEC 220-1Background and Context for E-Commerce
MTEC 221-1Cases in E-Commerce
MTEC 222-1Issues and Implications of E-Commerce
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTEC 223-1</td>
<td>Strategic Management in the New Economy</td>
</tr>
<tr>
<td>MTEC 224-1</td>
<td>Strategic Management: Value Chain &amp; Core Competencies</td>
</tr>
<tr>
<td>MTEC 225-1</td>
<td>Strategic Management: Strategy Simulation</td>
</tr>
<tr>
<td>MTEC 230-1</td>
<td>Marketing in High-Tech: The New Marketing Era</td>
</tr>
<tr>
<td>MTEC 231-1</td>
<td>Marketing in High-Tech: Buyer Behaviour, Positioning, Branding</td>
</tr>
<tr>
<td>MTEC 232-1</td>
<td>Marketing in High-Tech: Effective Marketing Mix Strategies</td>
</tr>
<tr>
<td>MTEC 242-1</td>
<td>Designing Operations: Work Flow</td>
</tr>
<tr>
<td>MTEC 243-1</td>
<td>Designing Operations: Business Information Systems</td>
</tr>
<tr>
<td>MTEC 251-1</td>
<td>Organizational Behaviour</td>
</tr>
<tr>
<td>MTEC 252-1</td>
<td>Leadership and Team Building</td>
</tr>
<tr>
<td>MTEC 253-1</td>
<td>Negotiations and Decision-Making</td>
</tr>
<tr>
<td>MTEC 253-1E</td>
<td>HR: Strategic and Environmental Issues</td>
</tr>
<tr>
<td>MTEC 311-1</td>
<td>Tech Professionals: Recruitment, Compensation, Retention</td>
</tr>
<tr>
<td>MTEC 312-1</td>
<td>Tech Professionals: E-learning &amp; Development</td>
</tr>
<tr>
<td>MTEC 316-1</td>
<td>Competitive Intelligence: A Primer</td>
</tr>
<tr>
<td>MTEC 317-1</td>
<td>Competitive Intelligence in Action</td>
</tr>
<tr>
<td>MTEC 318-1</td>
<td>Introduction to Data Mining</td>
</tr>
<tr>
<td>MTEC 319-1</td>
<td>Venture Development: Managing Emerging Tech</td>
</tr>
<tr>
<td>MTEC 320-1</td>
<td>Strategic Venture Planning</td>
</tr>
<tr>
<td>MTEC 321-1</td>
<td>New Venture Business Implementation</td>
</tr>
<tr>
<td>MTEC 322-1E</td>
<td>Business Functions and Intermediaries</td>
</tr>
<tr>
<td>MTEC 323-1</td>
<td>High Tech Connectivity: E-Marketing</td>
</tr>
<tr>
<td>MTEC 324-1</td>
<td>Advanced Strategy in E-Business</td>
</tr>
<tr>
<td>MTEC 600-1</td>
<td>Services Management</td>
</tr>
<tr>
<td>MTEC 601-1</td>
<td>Technology and Supply Chain Management</td>
</tr>
<tr>
<td>MTEC 602-1</td>
<td>Developing New Products</td>
</tr>
<tr>
<td>MTEC 603-1</td>
<td>Branding</td>
</tr>
<tr>
<td>MTEC 604-1</td>
<td>Internet Advertising</td>
</tr>
<tr>
<td>MTEC 605-1</td>
<td>Management of High Tech Professionals</td>
</tr>
<tr>
<td>MTEC 606-1</td>
<td>Global Business in Technology Industries</td>
</tr>
<tr>
<td>MTEC 607-1</td>
<td>Strategic Management of Innovation</td>
</tr>
<tr>
<td>MTEC 608-1</td>
<td>High Tech Entrepreneurship</td>
</tr>
<tr>
<td>MTEC 609-1</td>
<td>E-Customer Relationship Management</td>
</tr>
<tr>
<td>MTEC 610-1</td>
<td>The Social Context of E-Business</td>
</tr>
<tr>
<td>MTEC 611-1</td>
<td>Knowledge Management Tools and Technologies</td>
</tr>
<tr>
<td>MTEC 613-1</td>
<td>E-Business Strategy and Models</td>
</tr>
</tbody>
</table>
Undergraduate Studies
Student Academic Resources
3200 Maggie Benston Student Services Centre, 9 am – 7:30 pm Monday to Thursday, 9 am – 4:30 pm Friday, (604) 291-4356 Tel, (604) 291-4969 Fax, acadvice@sfu.ca E-mail, www.reg.sfu.ca

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

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

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

Student documents
official and unofficial transcripts of academic record letters of confirmation of registration letters of permission to take courses at another institution
ID/Library cards
Changes to personal student data
changes of address and/or telephone numbers changes to names changes to immigration status
Course outlines for lower division courses (all credit courses numbered 001 to 299) and for all evening courses are available for pick up on the lower level of the Maggie Benston Student Services Centre, 0100.

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

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

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

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

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

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

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

Double Major Program
A general degree may include completion of two major programs. The student must complete the following:
• the lower division requirements for each of the major subjects selected
• at least 28 hours of upper division courses as specified in each of the two subjects in which the majors are to be claimed
• any other requirements of the particular departments concerned
• the requirements of the faculty in which the student will receive the degree

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

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

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

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

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

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

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

Degree Requirements
Students are cautioned to refer carefully to overall requirements of the faculties for degree requirements, as the requirements on a particular area 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 concerned have been fulfilled. Notification of such changes must be filed with the departments concerned and the Office of the Registrar.

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

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

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

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

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

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

**Certificate Program**
A certificate program 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” on page 216.

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

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

**Undeclared**
This category will be used for any student who, prior to the successful completion of the 61st credit hour, has not recorded an intended specialization or who has not been granted conditionally approved or approved entry to a specialization. ‘Undeclared’ will not be recorded for any student who has successfully completed 61 or more credit hours.

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

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

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

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

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

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

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

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

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

Academic advising for undecided students designated under option B with degree/diploma 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 deadlines and how to initiate the graduation process are contained in the Course Timetable and Exam Schedule published each semester. (See also the requirements as noted in the individual faculty sections.)

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

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

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

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

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

Individual faculties and departments may, with senate approval, maintain their own supplementary graduation requirements; therefore, students are advised to check individual faculty and departmental listings in case these have 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. For specific dates, “Academic Calendar of Events” on page 7.

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 “Academic Calendar of Events” on page 7 for deadlines to apply for or to cancel applications to graduate.

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

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

Definitions
Students
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, “Financial Assistance and Awards” on page 50.

Qualifying Student
See “Graduate General Regulations” on page 299.

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; “Continuing Studies” on page 214 for complete information.

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 see “Admission and Readmission” on page 29.

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 reapply 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 2002
Semester 1
spring, January to April, spring 2002 (2002-1)
Semester 2
summer, May to August, summer 2002 (2002-2)
Semester 3
fall, September to December, fall 2002 (2002-3)

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

The following illustrates an academic year at SFU.

fall semester: September – December
spring semester: January – April
summer semester: May – August
intersession: May – June
summer session: July – August

Levels
Undergraduates in Canada are traditionally classified as first year (Freshman), second year (Sophomore), third year (Junior), or fourth year (Senior) students. Since ‘year’ does not apply to the trimester system, the student's 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.

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

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

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

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

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

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

**Lectures, Tutorials and Laboratories**

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

**Credit Courses**

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

**Credit Hours**

Credit hours are assigned to each course; most courses have three credit hours. A normal course load for a student in full attendance in a semester is 15 credit hours. Credit hours are also called semester hours, credits, hours or credit hours of credit.

Requirements for credentials (e.g., degrees, diplomas and certificates) are partially expressed as credit hours of credit. The credit hour weight is shown for each course as follows.

Subject: Mathematics (MATH)
Course Number: 232
Credit hours: 3

**Credit-Free Courses**

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

**Distance Education Courses**

Many courses are available as distance education courses. The majority of these are print-based. Some may also have audio and/or video support. Increasingly, educational technologies (e.g., computer conferencing) are being incorporated as courses are developed and revised. The program parallels the campus semester system of the University, with the same sixteen week period for course completion.

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

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

Acting Director of Admissions
D. Whiteley BA (Northeastern), MA (S Fraser), PhD (Br Col)

Director, Student Recruitment
J. Macnab BA (Trent), BEd (Qu)

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

Associate Director, Recruitment Services
P. Godman BA (S Fraser)

Admission Recruiters
E. Bernoth BSc (S Fraser)
C. Di Francesco BA (Br Col)
H. Roberts BAdmin (BC Open University)
K. Wong BSW (Br Col)

Student Recruiters
T. Bell BA (S Fraser)
M. Black MA (Royal Roads)
H. Gawenda BA (S Fraser)
L. Walker BA (S Fraser)

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

Readmission information is given later in this section. Direct all admission related enquiries to director of admissions, Office of the Registrar, Simon Fraser University, Burnaby, BC, V5A 1S6, (604) 291-3697 Tel, (604) 291-4969 Fax, www.reg.sfu.ca

Aiding 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.

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

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

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

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

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

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

Admission Process
Those who have previously attended Simon Fraser University but who fit into any of the following categories must apply for readmission ("Readmission and Re-registration" on page 39).<ref>
- students who have not registered in courses at the University during the previous three semesters; or
- students who completed a degree or diploma program at the University and wish to take further courses; or
- students who were admitted for a single semester only, e.g. concurrent studies students

In all other cases students may register directly in courses.

How to Apply
Students may apply for admission in one of two ways: over the Web and by paper form.

Over the Web
Go to our website at www.reg.sfu.ca, which will link you to the Post-secondary Application Service of BC (PASBC). There, you can begin your application by entering basic academic and biographical data. From PASBC, you’ll move to the Simon Fraser part of the web application, and tell us about your intended program of studies. You can also apply for Residence on this form. You can pay all application fees and document fees (if any) by credit card. If you’re a BC grade 12 applicant, you can also self-report your grades.

For fees, document requirements, etc., see the following sections. However, application and document evaluation fees may be sent at the time application is made or later, after the form has been submitted electronically. If payment is made later, please quote the reference number that is given to the applicant when the submission is acknowledged by the University.

Paper Application Form
Applications for admission must be made on the forms provided by the Office of the Registrar or on a form downloaded and printed from our web site (see above). The following supporting official documents must also be submitted from the issuing institution before any application will be considered.

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

All documents must be originals. Uncertified photocopies are not acceptable. Replaceable documents submitted with an application become the property of the University and will not be returned. Irreplaceable documents will be returned to the applicant if requested at the time of application.

Official translations, certified by an educational or embassy official, or made by a certified translator are required for records not in English or French. Applicants should submit application forms and any available documents as early as possible but not more than twelve months before the semester they

Contents
Introduction 29
Admission Process 29
How to Apply 29
Application Deadlines 30
Fees Payable upon Application 30
Offers of Admission 30
All Applicants 31
English Language Requirements 31
Diverse Qualifications Admission Policy 31
Programs for Mid-Career Adults 31
British Columbia and Yukon Applicants 32
Admission from British Columbia and Yukon Secondary Schools 32
Admission from BC and Yukon Community and University Colleges 33
BC University Transfer 34

BC University Degree Holders 34
Special Categories 34
Applicants from Other Canadian Provinces 35
Canadian High School Requirements 35
Applicants from Canadian Colleges/CEGEP 36
Canadian University Transfer 36
Canadian University Degree Holders 36
International Applicants 36
Academic Documents 36
Requirements by Country 36
International University or College Transfer 37
International University Degree Holders 37
Advanced Placement Program and International Baccalaureate 38
Readmission and Re-registration 39
Holders of Simon Fraser University Bachelor's Degrees 39
intend to begin studies. The deadlines for receipt of applications and documents are given below and in the Academic Calendar of Events (“Academic Calendar of Events” on page 7). Applications received after the published deadline may be evaluated selectively at the discretion of the director of admissions.

Application Deadlines

<table>
<thead>
<tr>
<th>Semester</th>
<th>Application Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 2003</td>
<td>September 30, 2002</td>
</tr>
<tr>
<td>Summer 2003</td>
<td>January 31, 2003</td>
</tr>
<tr>
<td>Intersession 2003</td>
<td>January 31, 2003</td>
</tr>
<tr>
<td>Summer Session 2003</td>
<td>January 31, 2003</td>
</tr>
<tr>
<td>Fall 2003</td>
<td>April 30, 2003</td>
</tr>
<tr>
<td>Spring 2004</td>
<td>September 30, 2003</td>
</tr>
<tr>
<td>Summer 2004</td>
<td>February 2, 2004</td>
</tr>
<tr>
<td>Intersession 2004</td>
<td>February 2, 2004</td>
</tr>
<tr>
<td>Summer Session 2004</td>
<td>February 2, 2004</td>
</tr>
</tbody>
</table>

Fees Payable upon Application

All applicants must pay an application fee. A document evaluation fee may also apply.

Application Fee

Each time an applicant applies for admission or readmission, a $35 application fee is required. This fee, non-refundable and not applicable to tuition fees, must accompany the application for admission or be paid soon after making an application.

Document Evaluation Fee

A document evaluation fee of $50 is assessed for all applicants whose academic records, in whole or in part, originate outside of British Columbia and the fee will be assessed to students making a second or subsequent application for admission or an application for readmission if such application includes either secondary school documents from outside Canada or post-secondary documents from an institution outside B.C. if these documents have not been evaluated previously. This fee is non-refundable and not applicable to tuition fees. This fee is waived if the documents originate from a secondary school located in Canada, or if the applicant is participating in a recognized exchange program between SFU and another institution.

Offers of Admission

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

Transfer Credit

Transfer credits are granted on admission on the basis of work at another recognized institution; transfer credits reduce the total required credits for an SFU degree, diploma or certificate. Transfer credit should not be confused with advanced standing. Transfer credit is often given without any concomitant advanced standing; the reverse may also be true.

Regulations

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

Transfer credit is not used in the CGPA calculation.

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

Transfer credit is not granted for credit assessed by other institutions, for knowledge acquired outside formal instruction, but course challenge credit may be obtained at Simon Fraser University for such work or knowledge.

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

- work taken after initial registration must be passed with a grade of C (2.0 or 60%) or higher to receive transfer credit;
- and students wishing to complete transfer credit after initial registration must obtain permission in advance, using the form available from the Office of the Registrar.

Please “Courses at Other Institutions/Letters of Permission” on page 40 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 note that each program has its own specific requirements. Consult the appropriate sections in the Calendar for those limitations.

Special transfer credit regulations apply to the bachelor of general studies degree, the bachelor of education degree, the bachelor of applied science degree in engineering science and to students attending other universities on formal exchange programs. Refer to the Faculty of Arts, Faculty of Education, and Faculty of Applied Sciences sections respectively and “Study Abroad” on page 14.

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

The applicant should not assume that he/she will complete the degree with a number of credit hours equal to the difference between total hours required for the degree and transferred hours. Although this calculation will usually be correct for a student who remains within a field of study, it will not necessarily be correct for a student who changes fields.

Transfer credit is designated as type one, two, or three. Type one is assigned credit, used for an SFU equivalent. Type two is unassigned credit in a subject area, used for courses without SFU equivalent, but which are acceptable to a department as fulfilling subject requirements for a general or honors degree in that department. For example, ‘BISC (3)’ means that three semester 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 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.

Advanced Standing

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

Program Approval

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

Enrolment Limitations

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

<table>
<thead>
<tr>
<th>Basis of Admission</th>
<th>Limit</th>
<th>Resulting Minimum Acceptance Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC grade 12 graduation</td>
<td>1825</td>
<td>78%</td>
</tr>
<tr>
<td>grade 12 graduates from other provinces</td>
<td>125</td>
<td>78%</td>
</tr>
<tr>
<td>BC college transfer</td>
<td>665</td>
<td>3.00</td>
</tr>
<tr>
<td>degree holders and transfers from universities</td>
<td>370</td>
<td>2.90</td>
</tr>
<tr>
<td>other</td>
<td>150</td>
<td>n/a</td>
</tr>
<tr>
<td>Total</td>
<td>3135</td>
<td></td>
</tr>
</tbody>
</table>

Student enrolment limits for any semester are subject to revision without notice.

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

Admission and Approval into a Faculty and Credential

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

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

For example, a student’s first choice may be the Faculty of Business Administration (intended degree BBA). Due to insufficient space, this is not approved. The student’s second choice is the Faculty of Science (intended degree BSc). Due to the lack of a required course, this is not approved either. The University might choose to offer the applicant admission to a faculty that he or she did not choose. In this example, the student is offered entry to the Faculty of Arts (intended degree BA). The student may register in courses, and in a subsequent semester, may proceed to seek entry to either the Faculty of Business Administration, Faculty of Science, or may complete a BA in the Faculty of Arts.

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

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

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

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

Admission requirements for Information Technology and Interactive Arts Bachelor's degree programs that are offered at our Surrey site were not available at press time.

English Language Requirements

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

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

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

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

- achieve an interim or final grade of 85% (A) or higher on a senior secondary school (grade 12) English or English literature course in a Canadian province other than Quebec;
- achieve a final grade of B or better on a post secondary course taken at a BC institution which transfers to Simon Fraser University as three or more English credits;
- graduate from a bachelor's or higher degree program at a recognized university in which the language of instruction and examination is English.
- resident for at least four years in an English speaking environment

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

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:

- APIEL (Advanced Placement International English Language) with a minimum score of 4 or
- IELTS (International English Language Testing System) with a minimum score of 6.5 on the Academic Modules, or
- TOEFL CBT (Test of English as a Foreign language computer based test) with a minimum score of 230 including a minimum essay score of 4.5, or
- TOEFL CBT with a minimum score of 250, or
- APIEL (Advanced Placement International English Language) with a minimum score of 3 and satisfactory completion of Simon Fraser University's English Bridge Program
- TOEFL CBT with a minimum score of 207 and satisfactory completion of Simon Fraser University's English Bridge Program.

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

English Bridge Program

This ten week intensive English program is offered by Simon Fraser University's Language Training Institute in the Faculty of Arts, on the main Burnaby campus. Emphasizing the English language skills needed in the academic setting, the program is designed for students who are otherwise fully admissible to the University but who do not completely meet the English language requirements. For applicants who are given conditional university admission, successful completion of the English Bridge Program leads to automatic admission to an undergraduate program in the following semester.

For more information, contact SFU International: fax (604) 291-5880; sfu_international@sfu.ca; www.sfu.ca/international

Diverse Qualifications Admission Policy

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

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

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

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

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

Personal Information Profile

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

- a description of your special accomplishments, special situation, hardships or difficulties, community service, etc. Be as detailed and explicit as possible; 150 words maximum.
- a clear description of your educational goals and the connection between your proposed program at Simon Fraser University and the attainment of those goals. Be as detailed and explicit as possible; 150 words maximum.
- a list and description of any awards, honors, or recognition you’ve received for either academic work or other activities.
- the name and address of your primary referee.
- the name and address of your secondary referee.
- a copy of the following statement, signed and dated by you: “I certify that all information I have provided is true and complete and was prepared entirely by me. I consent to the disclosure of information I have given to the referees that I have named, when necessary to verify my statements. I understand that any misrepresentation may result in cancellation of my admission or registration status.”

Programs for Mid-Career Adults

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

Mature applicants with a minimum of 5-8 years of work experience, and support of their employer to complete an undergraduate degree, are encouraged to contact the program director, Integrated Studies Programs, at (604) 291-5072, for information about currently available programs (“Integrated Studies Program” on page 130).
### British Columbia and Yukon Applicants

Applicants from BC or Yukon may be admitted from:
- secondary school (see below)
- community or university college (see “Admission from BC and Yukon Community and University Colleges” on page 33)
- another university (see “BC University Transfer” on page 34)

Several special categories of admission also exist for BC applicants (see “Special Categories” on page 34).

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

All applicants (except as noted) must graduate from secondary school before entering SFU. Applicants must have:
- one course from list 1
- two from list 2

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

### Grade 11 requirements

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>English 11 or Français premiere langue 11</td>
<td>English 11 or Français premiere langue 11</td>
<td>English 11 or Français premiere langue 11</td>
<td>English 11 or Français premiere langue 11</td>
<td>English 11 or Français premiere langue 11</td>
<td>English 11 or Français premiere langue 11</td>
<td>English 11 or Français premiere langue 11</td>
</tr>
<tr>
<td>language 11 principles of mathematics 11 (or applications of mathematics 11 and 12) science 11*</td>
<td>language 11 principles of mathematics 11 science 11*</td>
<td>language 11 principles of mathematics 11 science 11*</td>
<td>language 11 principles of mathematics 11 (or applications of mathematics 11 and 12) science 11*</td>
<td>language 11 principles of mathematics 11 science 11*</td>
<td>language 11 principles of mathematics 11 science 11*</td>
<td>language 11 principles of mathematics 11 science 11*</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>List 1</td>
<td>one course from list 1</td>
<td>one course from list 1</td>
<td>one course from list 1</td>
<td>one course from list 1</td>
<td>one course from list 1</td>
<td>one course from list 1</td>
</tr>
<tr>
<td>List 2</td>
<td>two courses from list 2</td>
<td>principles of mathematics 12</td>
<td>principles of mathematics 12</td>
<td>two courses from list 2</td>
<td>principles of mathematics 12</td>
<td>principles of mathematics 12</td>
</tr>
<tr>
<td>List 3</td>
<td>two additional courses from list 2 or list 3 (as below)</td>
<td>two of biology 12, chemistry 12, geography 12, geology 12, physics 12</td>
<td>one additional course from list 2</td>
<td>two additional courses from list 2 or list 3 (as below)</td>
<td>one of biology 12, chemistry 12, principles of physics 12</td>
<td>chemistry 12</td>
</tr>
<tr>
<td>(if both courses are from list 3 they must be different groups)</td>
<td>(if both courses are from list 3 they must be different groups)</td>
<td>(if both courses are from list 3 they must be different groups)</td>
<td>one of comparative civilizations 12, IB theory of knowledge 12, or any list 3 social science course</td>
<td>one additional science course from list 2 or 3</td>
<td>principles of physics 12</td>
<td>principles of physics 12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>one of geography 12 or history 12 or</td>
<td>biology 12</td>
</tr>
</tbody>
</table>

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

### Course Lists

<table>
<thead>
<tr>
<th>List</th>
<th>Arts/French 12</th>
<th>Business</th>
<th>Communication</th>
<th>Computing Science</th>
<th>Engineering Science</th>
<th>Kinesiology</th>
</tr>
</thead>
<tbody>
<tr>
<td>List 1</td>
<td>English 12, Français premiere langue 12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>List 2</td>
<td>biology 12, chemistry 12, English 12, Français communication et littérature 12</td>
<td>geography 12, geography 12, history 12, principles of mathematics 12, principles of physics 12</td>
<td>AP calculus AB/BC 12, AP computer science A/AB 12, AP environmental science 12, AP statistics 12, IB computer science/studies 12</td>
<td>IB environmental systems 12, IB further mathematics 12, IB mathematics with calculus A/B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>List 3</td>
<td>Fine and Performing Arts Group acting 12, arts 12, dance choreography 12, dance performance 12, directing and scriptwriting 12, drama film and TV 12, music composition 12, music composition and technology 12, stagecraft 12, visual arts 2D 12, visual arts 3D 12, visual arts media arts 12, writing 12</td>
<td>Humanities Group comparative civilizations 12 IB theory of knowledge (philosophy) 12 Languages: Arabic 12, French 12 or 12A, or Français langue seconde 12*, German 12, Italian 12, Japanese 12, Latin 12, Mandarin 12, Okanagan 12, Punjabi 12, Russian 12, Secwepemctsin 12, Spanish 12, Upper St’át’imcets 12</td>
<td>Sciences Group calculus 12, forests 12, information technology 12</td>
<td>Social Sciences Group economics 12, journalism/media 12, law 12, AP comparative government and politics 12, AP psychology 12, AP US government and politics 12, IB business and organization 12, IB psychology, IB social anthropology 12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Minimum Admission Requirements
The minimum admission average will vary depending on the number of applications received, and on spaces available. For information on the grades achieved by recent successful applicants, please refer to www.reg.sfu.ca/adm/

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

Advanced Placement or International Baccalaureate Exams
BC secondary school students taking these programs should see “Advanced Placement Program and International Baccalaureate” on page 38.

BC Adult Graduation Diploma
This program is available to adults who take courses to complete graduation through a secondary school, adult education centre or a community college. Applicants who have completed the diploma and who are at least 19 years of age may be admitted if they have completed:

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

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

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

BC Calculus Examination Certificate
The Calculus Challenge Examination offers students who learn differential calculus in high school a way to demonstrate their mastery of the subject and claim credit at a BC university. It is recognized by UBC, SFU, UVic, UNBC and the Ministry of Education. The paper is prepared by University faculty; based on the provincial Calculus 12 curriculum.

Eligibility
All students who have completed or are currently registered in a calculus course in secondary school are eligible to write the exam. Only one attempt is permitted. Students who have already started college or university may not participate.

Benefits
Students who pass this examination will be awarded a UBC - SFU - UVic - UNBC Calculus Examination Certificate. Students who go on to register at UBC, SFU, UVic, or UNBC may present their certificates and claim transfer credit and exemption from the first semester of university calculus. (This option is also open to students with high scores in Advanced Placement Calculus AB or IB Calculus.) However, students may also have their Challenge Examination score recorded on their University transcript, where it can contribute to the calculation of their grade point average. This option is not available to students following the AP and IB routes.

Administration
Application to take the exam must be made to the mathematics department hosting the examination in a given year (SFU for 2002, UBC for 2003). After registering in a university degree program, a student may apply to the mathematics department at their university to receive credit for MATH 100 at UBC, UVic or UNBC or MATH 151 at SFU.

Upgrading BC Grade 12 Grades
Applications who wish to improve their grades in BC grade 12 courses may do so in accordance with Ministry of Education policies, except that the final grade in a provincially-examinable course may not be increased by taking a equivalent college course. For example, an applicant who has achieved a mark of 66% in principles of mathematics 12 may not count in her/his admission average a subsequent, higher grade (say ‘B’ or 73%) in a college ABE provincial level mathematics course taken through a college.

Admission from BC and Yukon Community and University Colleges
BC community college students may apply for general admission (Faculty of Arts requirements) or for direct entry to a number of programs:

• Arts, Faculty of (General Admission); all departments and schools (“Arts, Faculty of” on page 33)

or for direct entry to the following programs:

• Business Administration, Faculty of (“Business Administration, Faculty of” on page 33)
• Communication, School of (Faculty of Applied Sciences) (“Communication, School of” on page 33)
• Computing Science, School of (Faculty of Applied Sciences) (“Computing Science, School of” on page 33)
• Engineering Science, School of (Faculty of Applied Sciences) (“Engineering Science, School of” on page 33)
• Kinesiology, School of (Faculty of Applied Sciences) (“Kinesiology, School of” on page 33)
• Science, Faculty of; all departments and schools (“Science, Faculty of” on page 34)

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

Applicants who met the University’s admission requirements after completing grade 12 may be admitted on the basis of those requirements, provided that they have attempted fewer than 30 semester 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%.

The admission target for fall semester 2002 is approximately 580 new students.

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

BUC 223-3
BUS 257-3, 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, 102-3, 103-3, 104-3, 105-3, 199-3, PHIL 001-3, 100-3, 120-3.

Admission is highly competitive. Most transfer students enter the University’s Faculty of Arts before they are approved into the Faculty of Business Administration (“Faculty of Business Administration” on page 180). The admission target for fall 2002 is approximately 25 new students.

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

The admission target for fall semester 2002 is approximately 15 new students.

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

For direct entry from college to spring semester 2002 and subsequent semesters, students must complete at least 30 credit hours of transferable credit including seven courses that receive the following transfer credit.

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

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

Engineering Science, School of
Students planning to enter the BASc degree program must include at least 30 credit hours in transferable science or engineering courses.

Admission is highly competitive. Students must apply directly to the School of Engineering Science as well as to the University.

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

Admission is competitive. A total of approximately 120 students are approved into the kinesiology major program per year. Most students who wish to be kinesiology majors are typically admitted to the Faculty of Arts, or to the Faculty of Science first, and then they apply to kinesiology after achieving a criterion grade point average in a specified set of courses. Please see “Internal Transfer” on page 125 for details.

However, a small number of students may be admitted directly to the kinesiology major program based on excellent grades in courses which transfer to SFU as:

BISC 101-4
MBB 221-3
CHEM 121-4, 122-2, 281-4
KIN 142-3
MATH 151-3, (or 154-3), 152-3 (or 155-3)
PHYS 101-3, (or 120-3), 102-3, (or 121-3), 130-2, (or 131-2)
A student who either has not completed all of these courses at a college or has not achieved the criterion
grade point average in these courses at college may be admitted to Simon Fraser University as an intended kinesiology major in another faculty.

Science, Faculty of

Admission is competitive. Students planning to enter the BSc degree program must fulfill the Faculty of Arts requirements, plus have these secondary school courses or college transfer credit courses:

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

SFU accepts a C minimum grade if the student’s college credit transfers to the equivalent grade 12 course (e.g. PHYS 120 transfer credit is equal to physics 12).

The admission target for fall semester 2002 is approximately 50 new students.

Transfer Credit Guide

A transfer guide listing all first and second year (lower division) transferable courses and the SFU equivalents is accessible through www.bccat.bc.ca

Associate of Arts/Science Degree Holders

Graduates with AA or ASc degrees from BC or Yukon community colleges will be offered first priority in admission to the faculties of arts and science respectively, subject to a minimum 2.0 admission GPA. Transfer credit will be given for all individually transferable courses. When the individually assigned credit from all sources totals less than 60 credit hours, additional general elective credit will be assigned to bring the transfer credit total to 60 hours.

BC University Transfer

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

- studies must have been at a fully accredited institution granting baccalaureate or higher degrees
- the studies presented for transfer credit must be acceptable to a leading university in the home country toward a program similar to the one to which admission is sought
- applicants who have been required to withdraw from the transferring institution or whose status, if they were attending Simon Fraser University, would be on Academic Probation will be admitted only if they have completed a further year (30 credits) or more of transferable work, with at least a 3.00 GPA.
- Simon Fraser University supports the ‘Pan-Canadian Protocol’ on transferability of first and second year courses from any recognized Canadian university
- maximum transfer credit allowed is normally 60 credit hours.

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

Visiting Students

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

BC University Degree Holders

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

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

Special Categories

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

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

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

Mature Student Entry

Applicants aged 23 or older who have attempted less than one year of post-secondary transferable course work, and who do not meet regular admission requirements, may be given consideration as mature students. In addition to normal documents, mature applicants must submit a personal information profile or equivalent letter of intent and at least one letter of reference (‘Diverse Qualifications Admission Policy’ on page 31). Applicants who have successfully completed some post-secondary work, usually three to four transferable academic courses (nine to twelve credit hours), and ensured that they have no background deficiencies in essay writing, mathematics, etc. will receive preference.

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

Early Entry

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

Concurrent Studies

Students with superior academic records may apply for limited admission to take one or two university courses while still attending secondary school. Admission is limited to one semester, with a maximum of two courses in the semester. Credit for these courses may be applied to academic degrees if the student is subsequently admitted to a regular program at the University.

Applications should be supported by a letter of recommendation from the school principal or designate, and an official copy of the academic record. Admission under this category is at the discretion of the director of admissions and the respective faculty dean. Inquiries should be directed to the director of admissions.

Irregular Admission (Education)

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

Canadian applicants may be admitted from:
- secondary school (see below)
- college or university (see “Applicants from Canadian Colleges/CEGEPs” on page 36)

BC applicants should see “British Columbia and Yukon Applicants” on page 32.

Information concerning the International Baccalaureate Program and the Advanced Placement program can be found on page 38.

### Canadian High School Requirements

#### General Admission Requirements

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

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

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

**Direct Entry**

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

**Business Administration**
- one grade 12 or equivalent mathematics course

**Communication**
- no change from chart requirements

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

**Engineering Science**
- grade 12 or equivalent courses in mathematics, chemistry, physics and computer science

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

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

### Minimum Admission Average

See “Minimum Admission Requirements” on page 33.

---

<table>
<thead>
<tr>
<th>Province</th>
<th>List 1</th>
<th>List 2</th>
<th>List 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>includes AP and IB acceptable courses</td>
<td>see AP and IB transfer credit tables for acceptable courses</td>
<td>see AP and IB transfer credit tables for acceptable courses</td>
</tr>
<tr>
<td>Alberta, Nunavut, Northwest Territories</td>
<td>English, Français</td>
<td>biology, chemistry, world geography, western world history, mathematics 1A, pure mathematics, physics, science, social studies</td>
<td>art 31, art (general), general music, drama, social studies, languages 36/G1, cultural and physical anthropology, philosophies of man, international politics, experimental psychology, applied sociology</td>
</tr>
<tr>
<td>Manitoba</td>
<td>English – literature, English – transaction, English – language and literary forms, English – language and transactional forms, Français</td>
<td>biology, chemistry, English or French courses not used in List 1, world geography: a human perspective, world issues, advanced mathematics, pre-calculus mathematics, introduction to calculus 45A, statistics and probability 45A, physics</td>
<td>economics, law, computer science, languages, western civilization, physical science, drama, music</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>English A and B</td>
<td>biology, chemistry, history; Canadian studies, mathematics A, B or C, calculus, physics</td>
<td>arts education, native studies: Canadian studies, social studies, language, computer science, dance, drama, theatre arts, visual art, information processing, law, psychology, forestry</td>
</tr>
<tr>
<td>Ontario</td>
<td>core English, core Français</td>
<td>biology, chemistry, studies in literature, Canadian and world issues: a geographic analysis, world geography: human patterns and interaction, Cana history: identity-culture, world history: the West and the world, geometry and discrete mathematics, advanced functions and introductory calculus, mathematics of data management, physics</td>
<td>visual arts, dance, music, dramatic arts, the writer’s craft, analysing current econ issues, environment and resource mgmt, Canadian and international law, Canadian and world politics, aboriginal governance: emerging directions, issues of indigenous peoples in a global context, individuals and families in a diverse society, challenge and change in society, issues in human growth and development, computer engineering, science, geomatics, computer and information science, exercise science, earth and space science, food and nutrition science, communications technology, languages, classical civilization, philosophy; questions and theories</td>
</tr>
<tr>
<td>Quebec</td>
<td>English, Français, AP English language and composition, IB English language A</td>
<td>at least two additional university preparatory grade 12 courses selected from mathematics, sciences, languages, literature, social sciences, history, geography</td>
<td>at least two academic courses required for graduation</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>English, Français</td>
<td>biology, chemistry 121/2, Canadian literature, environmental science 122/3, Canadian geography, world issues, Canadian history 121/2, mathematics 121-3, advanced mathematics, calculus, physics 121/2</td>
<td>visual arts, media studies, music 122, theatre arts, economics, journalism, political science, computer science, languages, law, native studies</td>
</tr>
<tr>
<td>Prince Edward Island</td>
<td>English, Français</td>
<td>biology, chemistry, geography, global studies, history, algebra, advanced mathematics, physics, PEI history</td>
<td>intro economics, advanced politics, individuals in society, oceanography, animal science, computer studies, geometry, music, law</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>English, Français</td>
<td>biology, chemistry, Canadian literature, geography, global geography, Canadian geology, history, global history, mathematics, advanced mathematics, pre-calculus mathematics, physics</td>
<td>art, music, economics, law, political science, computer related studies, languages</td>
</tr>
<tr>
<td>Newfoundland and Labrador</td>
<td>English language 3101, Français 3220</td>
<td>biology, chemistry, thematic literature, literary heritage, environmental science, world geography, global issue, geology, world history, mathematics, advanced mathematics, calculus readiness 3105, statistics 3104, physics</td>
<td>art and society 3222, art/design, video/film arts 3220, theatre arts 3220, advanced writing 3103, global economics 3103, computer technology, languages, folk literature, earth systems 3209</td>
</tr>
</tbody>
</table>
International Applicants

International applicants may be admitted from secondary school, from a college, or from a university, or applicants may already hold a university degree. Refer to those sections that follow. A partial list of admission requirements for first year entry only follows.

Admission to Simon Fraser is extremely competitive so the following requirements are the minimum that are required for application.

Due to enrollment limitations, a high standing (equivalent to 3.5, B+ or 85%, or higher) is required for admission. Some schools offer programs that comply with international rather than national rules (i.e. International Baccalaureate, European Baccalaureate, etc.). Students from these schools will be evaluated by international standards. See “Advanced Placement Program and International Baccalaureate” on page 38.

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

Academic Documents

Students must arrange to send official transcripts of academic records from all schools and colleges attended to Simon Fraser University. Replaceable documents will not be returned to the student; other documents will be returned by mail or to the student personally, on request. In some cases, an application can be processed using an unofficial copy of the student’s records, provided the student delivers an official copy to SFU at the time of course registration. If the student's documents are not in either English or French, SFU requires an official translation, certified by an educational official of the student's country, an official of a Canadian Education Centre, or a Canadian consular or embassy official. Translations made by the student, relatives or friends will not be accepted.

Requirements by Country

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

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

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

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

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

China
See People’s Republic of China.

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

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

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

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

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

<table>
<thead>
<tr>
<th>Grade</th>
<th>Level</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>A</td>
<td>10</td>
</tr>
<tr>
<td>B</td>
<td>A</td>
<td>8</td>
</tr>
<tr>
<td>C</td>
<td>A</td>
<td>6</td>
</tr>
<tr>
<td>D</td>
<td>A</td>
<td>4</td>
</tr>
<tr>
<td>E</td>
<td>A</td>
<td>2</td>
</tr>
<tr>
<td>O</td>
<td>A</td>
<td>0</td>
</tr>
<tr>
<td>F</td>
<td>A</td>
<td>0</td>
</tr>
</tbody>
</table>

India
Admission is based on the Indian state in which the academic program was offered; the type of academic institution that offered the program (e.g. private, public, national or international, etc.); and when the program was completed. Twelve years of academic preparation is required. One of Indian Senior School Certificate (SSC), Intermediate Certificate, Higher School Certificate, Higher Secondary School Certificate (HSSC) or All India Senior School Certificate awarded after Standard XII with a minimum Second Division/Class Standing, but normally a First Division/Class Standing is required AND a Statement of Marks with a minimum of 60%, but normally 70% is required.

Indonesia
Sekolah Menengah Atas (SMA) or Sekolah Menengah Umum (SMU) and the results of the EBTANAS with a minimum score of 7/10 but normally 8/10 is required.
Iran
Diplom (National High School Diplom) and pre-university year (concours) with a minimum score of 14/20 but normally require 17/20.

Japan
Kotogakko Sotsugyou Shomeisho (Upper Secondary School Leaving Certificate) with a minimum grade of 3.5/5, but normally 4/5 is required.

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

Korea (Republic of)
Immungye Kodung Haikyo (Academic High School Diploma) with a minimum average of 67% (C+), but normally 85% (B+) is required. Require either the Scholastic Achievement Examination for College Entrance (SAECE) or the Academic Aptitude Test (AAT).
Note: Students who have completed the Junior College Diploma will be evaluated on an individual basis.

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

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

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

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

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

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

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

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

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

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

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

South Africa
Senior Certificate with Matriculation exemption. Four of the mandatory six subjects must be on higher grade (H6) subjects, with a minimum average of C (60%) but normally require a higher average.

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

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

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

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

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

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

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

South Africa
Senior Certificate with Matriculation exemption. Four of the mandatory six subjects must be on higher grade (H6) subjects, with a minimum average of C (60%) but normally require a higher average.

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

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

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

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

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

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

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

United States
Students who will graduate from US secondary schools may be considered for admission if they have, or are predicted to have, a GPA of 3.2 or higher based on a combination of grade 11 and 12 academic courses and above, test scores (typically SAT V+M ≥ 1200 or ACT ≥ 26). Other factors will be considered, such as honors, rank in class, and advanced academic courses (e.g. international baccalaureate, advanced placement program).

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

International University or College Transfer
See “BC University Transfer” on page 34.

International University Degree Holders
See “BC University Degree Holders” on page 34.
Advanced Placement Program and International Baccalaureate

Advanced Placement (APP) and International Baccalaureate (IB) courses may be used in place of equivalent provincially-approved grade 12 courses. The chart on the right shows how APP and IB exam grades will be converted for the purpose of determining a student’s admission.

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

Transfer credit and/or advanced standing will be granted to students who complete APP examinations, in certain transferable subjects, with grades of 4 or 5. Students with an incomplete or partial IB program will be considered for admission on the basis of other secondary school graduation, and will be granted transfer credit for those higher level subjects with a grade of 5 or higher. A student who has completed the IB diploma will typically be admitted subject to a minimum overall score of 30. The minimum overall score is 24. Simon Fraser University grants transfer credit for some higher level subjects with a grade of 4 or higher, to a maximum of 30 credit hours. We do not grant transfer credit for subsidiary level subjects.

<table>
<thead>
<tr>
<th>IB Examination</th>
<th>Level</th>
<th>SFU Recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td>biology: general</td>
<td>HL</td>
<td>BISC 101 (4), 102 (4)</td>
</tr>
<tr>
<td>business and management</td>
<td>HL</td>
<td>individual assessment</td>
</tr>
<tr>
<td>chemistry</td>
<td>HL</td>
<td>CHEM 121 (4), 122 (2)</td>
</tr>
<tr>
<td>classical languages</td>
<td>HL</td>
<td>individual assessment</td>
</tr>
<tr>
<td>computer science</td>
<td>HL</td>
<td>CMPT 101 (4), CMPT (2)</td>
</tr>
<tr>
<td>design and technology</td>
<td>HL</td>
<td>(to be announced)</td>
</tr>
<tr>
<td>economics</td>
<td>HL</td>
<td>individual assessment</td>
</tr>
<tr>
<td>English (language A)</td>
<td>HL</td>
<td>ENGL (3)</td>
</tr>
<tr>
<td>environmental systems</td>
<td>SL</td>
<td>no credit</td>
</tr>
<tr>
<td>geography</td>
<td>HL</td>
<td>GEOG 100 (3), 111 (3)</td>
</tr>
<tr>
<td>history</td>
<td>HL</td>
<td>HIST 225 (3), HIST (3)</td>
</tr>
<tr>
<td>history: Islamic</td>
<td>HL</td>
<td>HIST (3)</td>
</tr>
<tr>
<td>information technology</td>
<td>SL</td>
<td>no credit</td>
</tr>
<tr>
<td>language A (various)</td>
<td>HL</td>
<td>GE (6) Name of Language A except for English language A = ENGL (3) or French language A = FREN (3) or German language A = GERM (3) or Italian language A = ITAL 100 (3) 101 (3)</td>
</tr>
<tr>
<td>language B (various)</td>
<td>HL</td>
<td>GE (6) Name of Language B except for English language B = no credit French language B = FREN (3) or Italian language B = ITAL 100 (3) 101 (3)</td>
</tr>
<tr>
<td>mathematical methods</td>
<td>SL</td>
<td>no credit</td>
</tr>
<tr>
<td>mathematical studies</td>
<td>SL</td>
<td>no credit</td>
</tr>
<tr>
<td>mathematics, further</td>
<td>HL</td>
<td>MATH 151 (3) and 152 (3) with a score of 6 or 7</td>
</tr>
<tr>
<td>music</td>
<td>HL</td>
<td>individual assessment</td>
</tr>
<tr>
<td>philosophy</td>
<td>HL</td>
<td>PHIL (6)</td>
</tr>
<tr>
<td>physical science</td>
<td>HL</td>
<td>no credit</td>
</tr>
<tr>
<td>physics</td>
<td>HL</td>
<td>PHYS 101 (3), 102 (3)</td>
</tr>
<tr>
<td>psychology</td>
<td>HL</td>
<td>PSYC 100 (3), 102 (3)</td>
</tr>
<tr>
<td>social and cultural anthropology</td>
<td>HL</td>
<td>no credit</td>
</tr>
<tr>
<td>theatre arts</td>
<td>HL</td>
<td>FPA (3) theatre, FPA 150 (3)</td>
</tr>
<tr>
<td>visual art</td>
<td>HL</td>
<td>individual assessment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AP Exam Grade</th>
<th>IB Exam Grade</th>
<th>Equivalent Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>7</td>
<td>96</td>
</tr>
<tr>
<td>–</td>
<td>6</td>
<td>90</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>86</td>
</tr>
<tr>
<td>3</td>
<td>–</td>
<td>80</td>
</tr>
<tr>
<td>–</td>
<td>4</td>
<td>76</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>70</td>
</tr>
</tbody>
</table>

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

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

Advanced Placement Program Transfer Credit

<table>
<thead>
<tr>
<th>APP Examination</th>
<th>SFU Recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td>art: history of art</td>
<td>FPA VSAR HIST (3), FPA 167 (3)</td>
</tr>
<tr>
<td>art: studio – drawing portfolio</td>
<td>FPA (6) VSAR studio</td>
</tr>
<tr>
<td>art: studio – general portfolio</td>
<td>FPA (6) VSAR studio</td>
</tr>
<tr>
<td>biology</td>
<td>transfer credit: BISC 101 (4), 102 (4)</td>
</tr>
<tr>
<td>calculus AB</td>
<td>transfer credit: MATH 151 (3)</td>
</tr>
<tr>
<td>calculus BC</td>
<td>transfer credit: MATH 151 (3), 152 (3)</td>
</tr>
<tr>
<td>chemistry</td>
<td>advanced standing in CHEM 120, 122</td>
</tr>
<tr>
<td>computer science A</td>
<td>transfer credit: CMPT 101 (4)</td>
</tr>
<tr>
<td>computer science AB</td>
<td>transfer credit: CMPT 101 (4)</td>
</tr>
<tr>
<td>economics – macro</td>
<td>contact the economics department for a 12 credit hour prerequisite waiver for ECON 103 or ECON 105</td>
</tr>
<tr>
<td>economics – micro</td>
<td>contact the economics department for a 12 credit hour prerequisite waiver for ECON 103 or ECON 105</td>
</tr>
<tr>
<td>English language and composition</td>
<td>transfer credit: ENGL (3)</td>
</tr>
<tr>
<td>English literature and composition</td>
<td>transfer credit: ENGL (3)</td>
</tr>
<tr>
<td>environmental science</td>
<td>transfer credit: BISC (3)</td>
</tr>
<tr>
<td>French</td>
<td>transfer credit: FREN (3) or (6) depending on placement test</td>
</tr>
<tr>
<td>German</td>
<td>transfer credit: GERM 102 (4) with a score of 4, or GERM 102 (4), 103 (4) with a score of 5</td>
</tr>
<tr>
<td>government and politics – comparative</td>
<td>transfer credit: POL 100 (3)</td>
</tr>
<tr>
<td>government and politics – United States</td>
<td>transfer credit: POL 232 (3)</td>
</tr>
<tr>
<td>history: United States</td>
<td>transfer credit: HIST (3), group 2</td>
</tr>
<tr>
<td>history: European</td>
<td>transfer credit: HIST 106 (3)</td>
</tr>
<tr>
<td>history: world</td>
<td>transfer credit: HIST (3), group 3</td>
</tr>
<tr>
<td>Latin: literature</td>
<td>transfer credit: HUM 162 (3)</td>
</tr>
<tr>
<td>Latin: Vergil</td>
<td>transfer credit: HUM 161 (3)</td>
</tr>
<tr>
<td>music: theory</td>
<td>transfer credit: FPA 104 (3), FPA (3) musical studio</td>
</tr>
<tr>
<td>physics B</td>
<td>transfer credit: PHYS 101, 102 (3)</td>
</tr>
<tr>
<td>physics C – electricity and magnetism</td>
<td>transfer credit: PHYS 121 (3) see note below</td>
</tr>
<tr>
<td>physics C – mechanics</td>
<td>transfer credit: PHYS 120 (3) see note below</td>
</tr>
<tr>
<td>psychology</td>
<td>transfer credit: PSYC 100, 102 (3)</td>
</tr>
<tr>
<td>Spanish language</td>
<td>advanced standing in SPAN 303</td>
</tr>
<tr>
<td>Spanish literature</td>
<td>advanced standing in SPAN 240, SPAN 103</td>
</tr>
<tr>
<td>statistics</td>
<td>STAT 101 (3)</td>
</tr>
</tbody>
</table>

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

Students who have previously attended, who have completed at least one full semester at Simon Fraser University and who fall into any of the following four categories must apply for readmission or re-registration by completing the application for readmission form available from the Office of the Registrar. Please see www.reg.sfu.ca/calendar for information about fees.

The following conditions will require re-admission before registering in further courses:

- absence from the University for three or more consecutive semesters. A student who does not register in at least one of three consecutive semesters is considered to have withdrawn. These applicants will be asked to state educational and other relevant activities since the last semester attended, and to submit official transcripts from any post-secondary educational institution(s) attended during their absence.
- voluntary withdrawal from first semester of attendance. New students who withdraw before completing any course work are required to apply for readmission if they wish to register in a subsequent semester, unless they withdrew under extenuating circumstances.
- completion of academic goals. Students who complete a credential (bachelor's degree, diploma, or professional development program if already a graduate,) in any semester must apply for readmission to enrol in additional courses at the University in a subsequent semester. This requirement also applies to those students who have submitted formal application for graduation and who wish to continue their studies in a semester following the one in which degree requirements were met.
- completion of a semester by a concurrent studies student who wishes to continue at the University previously attended as a visiting or exchange student and who wishes to complete a Simon Fraser University credential

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

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

- re-registration: the student has completed no academic work during the time away from Simon Fraser University, and is in academic good standing.
- readmission: the student has either completed a credential, such as a degree, or has taken course work elsewhere, or was required to withdraw from Simon Fraser University.

Holders of Simon Fraser University Bachelor's Degrees

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

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

Registration is the process of formally assigning and recording the enrolment of a student in a course or courses. Registration is open only to those who have 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 (“General Information” on page 25).

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 “Continuing Studies” on page 214.

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 (“General Regulations” on page 43), will be advised of registration procedures and deadlines well in advance of each semester.

Former Students

Under certain conditions, former students must submit formal application for readmission in order to continue academic studies at the University (see “Admission and Readmission” on page 214).

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 – 16 hours of lower division courses, or 18 hours of upper division courses
- Arts – 16 hours of lower division courses, or 18 hours of upper division courses
- 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 Hours</th>
<th>Course Load Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCH 371-5 (if taken in summer semester)</td>
<td>5 equals</td>
<td>5</td>
</tr>
<tr>
<td>ARCH 372-5 (if taken in eight week intersession or summer session)</td>
<td>5 equals</td>
<td>10</td>
</tr>
<tr>
<td>Total Course Load</td>
<td>10 equals</td>
<td>15</td>
</tr>
</tbody>
</table>

Course Overloads

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

In the Faculty of Applied Sciences, approved majors who wish to register in an overload require permission of the director of their school. Other 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. See “Load Levels” on page 128

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. Courses taken at Simon Fraser University for which a student has already received transfer credit from another institution will count within the current limit of five duplications. This limit may be extended by the dean of the faculty. Students attempting a course for the first time shall be given the opportunity to register prior to any students who are presently registered in the course or who have passed the course with a C- or better.

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

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

Duplicate Transfer Credit

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

If a student registers for a duplicate course, and completes the course with a passing grade, the transfer credit will remain on the academic record as a duplicate, with a zero credit value. If the course is completed with a failing grade, or is dropped, the transfer credit will remain on the academic record. A department may permit credit to count for both a transfer course and a Simon Fraser University course, if the course content is judged to be sufficiently different.

Current limits on course duplication will apply to duplicate transfer courses. The implementation of this policy will not affect the method of calculating grade point averages.

See also “Credit for the Semester” on page 44.

Courses at Other Institutions/ Letters of Permission

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

Except as noted below, total transfer and course challenge credits may not exceed 60 credit hours and not more than 15 credit hours of transfer credit may count toward upper division requirements. Each diploma and certificate program has its own specific limit, and students should consult the appropriate section of this Calendar for such restrictions. Within these limits and limits on duplication of courses and duplicate transfer credit, credit may be transferred for all courses passed with a grade of ‘C’ (2.0 or 60%) or higher, and which are acceptable under Simon Fraser University’s transfer policies. Transfer credit is not
used in the calculation of the cumulative grade point average. Students should “Admission and Readmission” on page 29 for transfer credit information.

For information concerning maximum transfer credit pertaining to Education (EDUC) 401/402, 405, see “Transfer Credit” on page 185.

For students working toward a bachelor of general studies degree, special regulations provide more hours of transfer credit from a degree granting institution recognized by Simon Fraser University. Please see “Transfer” on page 130.

Students who are pursuing a bachelor of applied science degree in engineering science should see “School of Engineering Science” on page 121.

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

Course Challenge

Course challenge is a method by which a student may obtain credit for course material learned elsewhere (i.e. outside Simon Fraser University). A maximum of 60 credit hours 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 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. Minimaly, these requirements should comprise regular attendance at class meetings, completion of readings and participation in class activities. Audited courses will not count towards degree requirements.

During the normal course change period a student may change registration in course audit from one course to another, or to regular enrolment in the course, or from regular enrolment to course audit. Normally, no further registration in course audit will be permitted after the extended course change period has ended. For information on fees assessed for course audit, “Undergraduate Fees” on page 47.

Note: Course audit and special audit are for different categories of students. Those interested in gaining entry as special audit students should “Special Audit Student” on page 215.

Medical Requirements

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

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

Questions regarding hospital or medical insurance should be directed to the Medical Services Plan of BC, or any other plan, government or private, that is which is provided under the Medical Services Plan of BC, telephone (604) 683-7151 (toll free).

Students who are not citizens or permanent residents of Canada should contact a private insurance company for coverage during the waiting period to obtain the Medical Services Plan coverage. For information on available private medical plans, contact SFU International, telephone (604) 291-4223.

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 and penalties for dropping courses very carefully to avoid, or minimize, financial penalty for dropping courses for which you register. Details of the policy, and deadlines, appear in the Undergraduate Fees section of the Calendar and, also in the Course Timetable and Exam Schedule. 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 changed 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 challenge is not available by telephone registration; registration and course changes must be done in person at the department offering the course.

Extended Course Change Period

Regular Semester – Class Days 6-15

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

Course Drop Period

Regular Semester – Class Days 16-25

No courses can be added or changed to audit status after the fifteenth day of classes.

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

During the sixth to twelfth week of classes a course may be dropped only in extenuating circumstances. There will be a notation WE on the student’s academic record for specific courses dropped. These drops require the approval of the instructor and the chair. Normally, no courses may be dropped after the twelfth week of classes unless approved by the appropriate faculty.

**Note:** Extenuating circumstances are defined as unusual circumstances beyond the student’s control which make it impossible for the student to complete the course. If a course drop is being considered after the 12th week of classes, it is imperative that students seek advice from Academic Resources.

**Withdrawals from the University**

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

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

**Library/Identification Cards**

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

**Student Responsibility**

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

**Class Interruption**

Simon Fraser University makes reasonable efforts to ensure that its classes and courses of instruction proceed on a regular basis 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 the interruption or termination of any class or course of instruction which results from fire, riot, labor disruption or any other event which occurs despite the University’s efforts, or for failure to give notice of the interruption or termination.
General Regulations

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

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

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

The University code of academic honesty is contained in policy T10.01 available in the Library or any departmental office, on the World Wide Web via www.sfu.ca/policies/teaching/index.htm.

Penalties for Acts of Academic Dishonesty
Penalties imposed by the University for academic dishonesty may include one or more of the following: a 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, on the World Wide Web via www.sfu.ca/policies/teaching/index.htm.

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 and the senate committee on disciplinary appeals (policy T10.03). This policy is available in the Library or any departmental office, or on the World Wide Web via www.sfu.ca/policies/teaching/index.htm.

Examinations
Final examinations will normally be held during the last two weeks of each semester. Examination period dates are outlined in the Academic Calendar of Events, and in the Course Timetable and Exam Schedule mailed each semester to students eligible to register. Students must check the exam schedule when planning course selections. Students are reminded that final examinations may be scheduled at any time during the examination period and that students should avoid making travel or employment arrangements for this period. The student is not allowed to register in courses with conflicting examination times.

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

Students who miss examinations because of illness or for compassionate reasons are required to obtain a physician's certificate or other supporting documents in order to obtain consideration in the course. Such documents must be filed with the Department chair or registrar within four days of the date on which the examination was to have been written.

A student may not rewrite (or write, in the case of receiving an N grade) a paper unless he/she re-registers for the course and participates in the course as required by the instructor.

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

Grades

<table>
<thead>
<tr>
<th>Letter grade</th>
<th>Definition</th>
<th>Numerical equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>Excellent performance</td>
<td>4.33</td>
</tr>
<tr>
<td>A-</td>
<td>Good performance</td>
<td>3.00</td>
</tr>
<tr>
<td>B+</td>
<td>Satisfactory performance</td>
<td>2.67</td>
</tr>
<tr>
<td>B-</td>
<td>Unsatisfactory performance (fail)</td>
<td>0.00</td>
</tr>
<tr>
<td>C+</td>
<td>Aegrotat standing, compassionate pass</td>
<td>No equivalent</td>
</tr>
<tr>
<td>C-</td>
<td>Audit</td>
<td>No equivalent</td>
</tr>
<tr>
<td>D</td>
<td>Course Challenge</td>
<td>No equivalent</td>
</tr>
<tr>
<td>E</td>
<td>Credit without grade</td>
<td>No equivalent</td>
</tr>
<tr>
<td>F</td>
<td>Deferred grade</td>
<td>0.00</td>
</tr>
<tr>
<td>G</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, B-, C+, C, C-, P, D, CC, AE, CR. No credit is granted for F, N, DE, W, AU.

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

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

Explanation of Grades/Notations

AE Grades
Aegrotat standing (AE) in an incomplete course may be awarded on medical or compassionate grounds by the registrar acting on the recommendation of the instructor or chair of the department concerned when written evidence is submitted to substantiate a request for such standing and when the course requirements for credit have been substantially fulfilled. This evidence normally must be received by the registrar or department within 96 hours of a scheduled final examination or within 96 hours of the last day of lectures of the semester for which such standing is requested. Courses for which aegrotat standing is awarded are not included in the calculation of grade point average.
AU Notation
Audit will be recorded as AU on a student transcript if the student fulfills the requirements agreed to by the student and the department at the time of registration. Minimally, these requirements should comprise regular attendance at class meetings, completion of readings and participation in class activities. Audited courses will not count towards degree requirements.

CC Grades
A student who has been registered for a course challenge is subject to an assessment equivalent to the final examination for the course plus an interview which may include an oral and/or practical examination, all to be arranged and approved by the chair of the department concerned. Departments are free to hold course challenge examinations at any time during the semester after the formal period of registration for course challenge. A performance equivalent to a grade of C or higher in the course is required for a successful course challenge. The department concerned must submit a report to the registrar on or before the last day for submission of regular grades in the course for that semester indicating the final disposition for the course challenge in the semester. There is no provision for extension or deferral. Results will be recorded by departments as successful, unsuccessful or unattempted. Successful results will appear on transcripts of academic record and statements of standing with the entry CC in the grade column and with credit shown. At the end of semester, unsuccessful or unattempted results will not appear on transcripts of academic record or statements of standing but will be held by the Office of the registrar in internal records.

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

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

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

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

N Grades
The letter grade N is given when a student has registered for a course, but did not write the final examination or otherwise failed to complete the course work, and did not withdraw before the deadline date. An N is considered an F for purposes of scholastic standing. A student receiving grade N must re-register for the course and participate in the course again, as required by the instructor, in order to achieve a different evaluation for the course.

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

WD and WE Notations
The notations WD and WE are not grades and do not affect either the GPA or CGPA. The notation WD identifies a course freely dropped by the student during weeks 4 and 5 of a semester. The notation WE identifies a course dropped by the student under extenuating circumstances normally during week 6 through to the end of week 12 of a semester. Extenuating circumstances are defined as unusual circumstances beyond the student's control which make it impossible for the student to complete the course. Different time periods are in effect for intersession and summer session. (For more complete details refer to “Registration” on page 40.) 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. Credit for the semester 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.

See “Duplicate Transfer Credit” on page 40.

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 inform the student of this decision. All course grade changes require the approval and initial of the department chair before being submitted to the registrar.

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

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

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

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

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Letter Grade</th>
<th>Numeric Value</th>
<th>Semester Hours</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course 1</td>
<td>A</td>
<td>4.00</td>
<td>3</td>
<td>12.00</td>
</tr>
<tr>
<td>Course 2</td>
<td>A+</td>
<td>4.33</td>
<td>3</td>
<td>12.99</td>
</tr>
<tr>
<td>Course 3</td>
<td>B-</td>
<td>2.67</td>
<td>3</td>
<td>8.01</td>
</tr>
<tr>
<td>Course 4</td>
<td>C</td>
<td>2.00</td>
<td>3</td>
<td>6.00</td>
</tr>
<tr>
<td>Course 5</td>
<td>F</td>
<td>0.00</td>
<td>4</td>
<td>0.00</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>16</td>
<td>39.00</td>
</tr>
</tbody>
</table>

Semester grade point average: 39/16 = 2.44

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

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

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

Standing Required for Continuance

Students are expected to maintain acceptable standards of scholarship. Specifically, they must maintain a minimum 2.00 CGPA. A student who does not do so will be considered to be performing unsatisfactorily in his/her studies. Regulations are applied to obtain reasonable 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 of registration will be ineligible to re-register.

Ineligible to Re-register

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

Academic Probation

A student who has received assigned grades for at least nine Simon Fraser University credit hours will be placed on academic probation if the CGPA average earned is lower than 2.00. During the probation period, the student must complete a minimum of nine Simon Fraser University credit hours of assigned grades before reassessment 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 less than 2.00, the student will continue on academic probation

• 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 (GPA) in academic course work completed after the student last registered at Simon Fraser University.

Required to Withdraw or Ineligible to Re-register Students

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

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

*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.

Extended Withdrawal Students

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

• 24-35 credit hours with a minimum 3.50 GPA
• 36-47 credit hours with a minimum 3.00 GPA
• 49-59 credit hours with a minimum 2.75 GPA or with the acceptance GPA, whichever is higher
• 60 or more credit hours with the acceptance GPA*
• a completed two year technical diploma with a 70% minimum average and at least 24 credit hours of transferable course work with a minimum 2.75 GPA. (The transferable work may be within the diploma program or supplementary to it.)

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

Ineligible to Re-register Students

Former students who are ineligible to re-register (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.

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

See "1.16 Graduate Student Appeals" on page 305 for graduate student appeals.

Grades

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

Course Drops

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

Admission and Readmission

Appeals for admission and readmission may be considered by the committee to review university admissions. See Committee to Review University Admissions below.
Assignment of Transfer Credit
Decisions may be reviewed by the committee to review university admissions.
Appeals for revision to transfer credit may be considered by the committee to review university admissions. See Committee to Review University Admissions below.

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

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

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

Committee to Review University Admissions
Secretary: Director, Student Academic Resources, Office of the Registrar
The committee to review university admissions considers cases in which an individual feels aggrieved by the decision of the registrar to apply a particular admission, readmission or transfer credit policy in his or her specific case when special circumstances are present. An applicant, student or former student who wishes to appeal a decision of the Office of the Registrar must submit the appeal in writing specifying the special circumstances to be considered (see Grounds for Appeal listed under Senate Appeals Board). Applicants may also appear in person before the committee. The committee will consider all evidence presented, both written and oral. Students who have questions regarding the processing of their application for admission or readmission or regarding the assessment of transfer credit should first contact the Office of Admissions.

Senate Appeals Board
Secretary: Michael Dinning, Director, Campus Community Services

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

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

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

Stage 1 – Written Submissions Considered
All appeals which go forward to the board will be reviewed in two stages. In stage 1, the written documentation will be reviewed. The board will decide cases in which
   • the appellant requests a written appeal only
   • the appellant requests an in-person hearing appeal but the senate appeals board considers that the written material presented is sufficient for a positive decision.
All other cases will be deferred until a later meeting for a stage 2 hearing.

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

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

Registration Appeals Committee
Director, Records and Registration, Office of the Registrar

University Board on Student Discipline (T10.03)
Secretary to the University Board on Student Discipline, Office of the Registrar

Senate Committee on Disciplinary Appeals (T10.04)
Secretary to the Senate Committee on Disciplinary Appeals, Office of the Registrar
Undergraduate Fees

Special Notice Regarding Fees, Fall 2002-3 and 2003-1
The following fees are proposed at the time of printing of this Calendar and were subject to approval by the Board of Governors on May 23, 2002.

The final approved fee schedule will be available on this website immediately following that meeting: www.reg.sfu.ca

Tuition Fee Schedule
Simon Fraser University assesses undergraduate tuition fees in accordance with a schedule of fees based primarily on the number of credit hours in which the student enrols.

Various special fees may be assessed by the University in certain circumstances or for specific purposes.

<table>
<thead>
<tr>
<th>Basic tuition fee</th>
<th>Differential tuition fee for international students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal credit (per credit hour)</td>
<td>$95.10</td>
</tr>
<tr>
<td>200, 300 and 400 level BUS, CMPT and ENSC courses (per credit hour)</td>
<td>$126.80</td>
</tr>
<tr>
<td>Course challenge (per credit hour)</td>
<td>$95.10</td>
</tr>
<tr>
<td>Audit (per credit hour)</td>
<td>$47.55</td>
</tr>
<tr>
<td>Co-op practicum (per semester)</td>
<td>$403.00</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, he or she is either a citizen of Canada or has the status of a permanent resident of Canada.

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

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

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

5. Persons aged sixty years or more at the commencement of the semester, and who are Canadian citizens or who hold Permanent Resident status in Canada, are exempt from undergraduate tuition fees except in the case of field schools. All participants in field schools will be assessed all fees established for that field school.

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

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

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

<table>
<thead>
<tr>
<th>SSF</th>
<th>RAF</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 or fewer credit hours</td>
<td>$23.40</td>
<td>$19.50</td>
</tr>
<tr>
<td>Intersession only</td>
<td>$23.40</td>
<td>$19.50</td>
</tr>
<tr>
<td>Summer session only</td>
<td>$23.40</td>
<td>$19.50</td>
</tr>
<tr>
<td>4 or more credit hours</td>
<td>$23.40</td>
<td>$39.00</td>
</tr>
</tbody>
</table>

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

Student Activity Fee Schedule
The student activity fee will be $56.51 for students registered for credit courses except for students registered in:

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

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

Special Fees
- application fee: $35.00
- documents evaluation fee: $50.00

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

- Formal Exchange Programs: $150.00
- International Field School: $100.00
- International Program Fee: $150.00

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
### Undergraduate Fees

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.)
- basic library facilities, including one library card and access to collections
- basic microcomputer laboratory use
- materials or services required as a result of the method of instruction such as audio visual equipment, course outlines, study rooms and films and video tapes that are integral to the instruction and do not become property of the student.

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

**Archaeology**

<table>
<thead>
<tr>
<th>Course</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCH 433, 434, 435, 436</td>
<td>$400</td>
</tr>
</tbody>
</table>

**Biological Sciences**

<table>
<thead>
<tr>
<th>Course</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>BISC 306, 326, 416</td>
<td>$78</td>
</tr>
<tr>
<td>BISC 310, 404</td>
<td>$60</td>
</tr>
</tbody>
</table>

**Contemporary Arts**

<table>
<thead>
<tr>
<th>Course</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPA 130, 131, 290, 390</td>
<td>$75</td>
</tr>
<tr>
<td>FPA 170, 370</td>
<td>$35</td>
</tr>
<tr>
<td>FPA 292, 363</td>
<td>$20</td>
</tr>
<tr>
<td>FPA 261, 393</td>
<td>$30</td>
</tr>
<tr>
<td>FPA 371</td>
<td>$25</td>
</tr>
<tr>
<td>FPA 230, 231, 430, 432</td>
<td>$100</td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>Course</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>EASC 100, 403</td>
<td>$50</td>
</tr>
<tr>
<td>EASC 101</td>
<td>$20</td>
</tr>
<tr>
<td>EASC 102</td>
<td>$10</td>
</tr>
<tr>
<td>EASC 204, 401, 409, 410</td>
<td>$30</td>
</tr>
<tr>
<td>EASC 206</td>
<td>$200</td>
</tr>
<tr>
<td>EASC 301, 303, 404</td>
<td>up to $100</td>
</tr>
<tr>
<td>EASC 304</td>
<td>$40</td>
</tr>
<tr>
<td>EASC 305</td>
<td>$80</td>
</tr>
<tr>
<td>EASC 306</td>
<td>up to $400</td>
</tr>
<tr>
<td>EASC 309, 313, 413, 418, 419</td>
<td>up to $30</td>
</tr>
<tr>
<td>EASC 402</td>
<td>up to $150</td>
</tr>
<tr>
<td>EASC 404</td>
<td>up to $100</td>
</tr>
<tr>
<td>EASC 406</td>
<td>up to $550</td>
</tr>
<tr>
<td>EASC 408</td>
<td>up to $250</td>
</tr>
<tr>
<td>EASC 411</td>
<td>$100</td>
</tr>
<tr>
<td>EASC 416</td>
<td>up to $50</td>
</tr>
</tbody>
</table>

**Education**

<table>
<thead>
<tr>
<th>Course</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 330, 428, 430, 476, 477, 489, 495</td>
<td>$20</td>
</tr>
<tr>
<td>EDUC 452</td>
<td>$46</td>
</tr>
<tr>
<td>300 and 400 level EDPR courses</td>
<td>up to $20</td>
</tr>
</tbody>
</table>

**Education Professional**

<table>
<thead>
<tr>
<th>Course</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDPR all 300 and 400 level courses</td>
<td>$20</td>
</tr>
</tbody>
</table>

**Environmental Science**

<table>
<thead>
<tr>
<th>Course</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVSC 491</td>
<td>$200</td>
</tr>
</tbody>
</table>

**Geography**

<table>
<thead>
<tr>
<th>Course</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG 213</td>
<td>up to $32.50</td>
</tr>
<tr>
<td>GEOG 253, 323, 386, 417</td>
<td>$15</td>
</tr>
<tr>
<td>GEOG 264, 441</td>
<td>up to $10</td>
</tr>
<tr>
<td>GEOG 313</td>
<td>$40</td>
</tr>
<tr>
<td>GEOG 353, 416</td>
<td>$35</td>
</tr>
<tr>
<td>GEOG 324</td>
<td>$20</td>
</tr>
<tr>
<td>GEOG 412</td>
<td>$65</td>
</tr>
<tr>
<td>GEOG 426</td>
<td>up to $50</td>
</tr>
<tr>
<td>GEOG 427</td>
<td>$50</td>
</tr>
<tr>
<td>GEOG 453</td>
<td>$100</td>
</tr>
<tr>
<td>GEOG 497</td>
<td>$2,500 to $3,000</td>
</tr>
</tbody>
</table>

**Marine Science**

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

**Sociology and Anthropology**

<table>
<thead>
<tr>
<th>Course</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA 371</td>
<td>$100 per semester</td>
</tr>
</tbody>
</table>

### Fee Appeals

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

### Account Balance

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

There are several methods to obtain your account balance.

**Telephone Registration System**

(604) 294-1700

**Registrar's Information System**

(604) 294-8600

**Website**

www.my.sfu.ca

### Payment of Fees

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

There are several methods to pay your fees.

**Bank of Montreal**

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

**Internet Banking**

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

**Telephone Banking**

To initiate this method of fee payment, make enquiries at your financial institution.

**In-Person**

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

**Burnaby Campus Drop Box**

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

**Canada Post Mail**

Of course, you can simply mail us a cheque or money order. However, the University does not accept responsibility for payments that are lost in the mail. Please do not mail cash.

### Payment of the Confirmation Deposit for New Students

New students must pay a non-refundable confirmation deposit of $100 to confirm acceptance of the offer of admission to undergraduate studies given by the University. Students aged sixty years or more are not required to pay this deposit.

The deposit will be applied to the cost of tuition; it is not an additional charge to the tuition fee assessment.

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

### Payment of the Registration Tuition Deposit for Continuing Students

Continuing students registering for their second or subsequent semester are required to pay a registration tuition deposit of $100. Payment must be received at the Cashier's Office before a student will be given access to the 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.

Payment of the deposit is submitted as payment of the registration tuition deposit.

Students eligible for tuition fee waivers or holders of Faculty of Education tuition fee certificates must submit to the Cashier's Office the properly completed forms and payment for the total amount of the student activity fee, athletic fee and student services fee.

### Payment of Balance of Assessed Fees

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

### Cancellation of Registration

To cancel your entire registration, you must use the telephone registration system to drop each of your courses.
To avoid financial penalties, you must drop all courses by the deadlines given in the Course Timetable and Exam Schedule publication.

Non-payment of outstanding fees does not constitute cancellation of registration and grades based on incomplete or no work completed will be assigned.

Refunds

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

Tuition Refund Policy and Course Drop Penalties

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

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

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

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

Overdue Accounts

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

Delinquent accounts will be forwarded to a collection agency for appropriate action.

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

Graduation Fee and Award of Certificate or Diploma Fee

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

Tuition Fee Certificates (T2202A)

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

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

Introduction
Students are eligible for a variety of financial assistance programs including entrance or continuing scholarships, bursaries, awards, and loans.

Scholarships recognize outstanding academic achievements; bursaries are awarded on the basis of financial need; awards generally acknowledge outstanding achievements or contributions to the community. Government student loans are awarded on the basis of financial need by the student’s province of residence. Emergency loans are available from Simon Fraser University to students in short term financial crisis.

These programs are administered by one of three agencies: Simon Fraser University (University administered), an external organization (Externally administered), or a government (Government administered).

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

Students re-entering Simon Fraser University may apply for:
• Scholarships for continuing students
• Bursaries
• Awards for the University community
• Canada Student Loans/BC Student Loan and Assistance Program

Deadlines
Unless an award specifies a particular date, the deadlines are as follows.

University administered programs
Entrance Scholarships
• February 28
Scholarships for continuing students
• end of week 2 of classes
Bursaries
• end of week 2 of classes

Externally administered programs
• see the specific award for deadlines.

Government administered programs
Student assistance programs
• at least 8 weeks before semester

General Information and Regulations
The following regulations apply generally to all financial assistance administered by the University.

• All scholarships, awards and bursaries are given on the recommendation of the senate undergraduate awards adjudication committee. Committee decisions, when announced, are final.
• The University does not guarantee the payment of any scholarships, awards or bursaries listed in the Calendar other than those provided directly from funds of the University. If invested funds do not provide the necessary income for an endowed scholarship, award or bursary payment of the award may be reduced or the award withheld. The University reserves the right to withhold awards donated by individuals or organizations where the funds required have not actually been received.
• The University reserves the right to refrain from making an award if, in its opinion, none of the applicants meets the terms specified.
• The individual student is responsible for knowing the deadlines, proper completion of the application forms and supplying all appropriate documentation for the various scholarships, awards and bursaries. Incomplete applications may be rejected.

Externally administered programs
The senate policy committee on scholarships, awards and bursaries ensures that all scholarships, awards and bursaries administered by the University or listed in its Calendar, are in the best interests of the University as an academic institution. The terms of reference for scholarships, awards and bursaries should not include restrictive criteria unrelated to academic merit or financial need such as race, creed, colour, sex, or national origin, when the committee determines these criteria are improper or irrelevant.
• The senate undergraduate awards adjudication committee has the right to give special consideration to course load requirements on scholarships, awards or bursaries for persons with disabilities who are unable to meet the course load requirements due to their disability. Supporting documentation may be required.
• Students who misrepresent themselves on application forms for scholarships, awards or bursaries will be subject to disciplinary action.
• Any regulations which apply to a specific category of financial assistance are given within that particular subsection.

Contents
Introduction 50
Eligibility 50
Deadlines 50
General Information and Regulations 50
University Administered Programs 51
University Administered Entrance Scholarships 51
For Canadian Secondary and High School Students; Application Required 51
For Canadian Secondary and High School Students; Application Required 51
For BC college students; Application Required 51
For BC college students; Application Required 51
Other Entrance Scholarships 51

Scholarships for Continuing Students 52
Open Undergraduate Scholarship Program 52
Scholarships for All Students 52
Scholarships for Applied Sciences Students 52
Scholarships for Arts Students 54
Scholarships for Business Administration students 55
Scholarships for Education Students 56
Scholarships for Science Students 56
Scholarships for Student Athletes 57
Bursaries 57
Bursaries for All Students 58
Bursaries for Applied Sciences Students 62
Bursaries for Arts Students 62
Bursaries for Business Administration Students 64
Bursaries for Education Students 65
Bursaries for Science Students 66
Bursaries for Student Athletes 66
Awards for the University Community 66
Awards for All Students 67
Awards for Applied Sciences Students 68
Awards for Arts Students 69
Awards for Business Administration Students 71
Awards for Education Students 72
Awards for Science Students 72
Awards for Student Athletes 73
University Administered Loans 77
Student Emergency Loan Fund 77

Index 109
University Administered Programs

University Administered Entrance Scholarships

Student Recruitment, Office of the Registrar, Maggie Benston Student Services Centre, Tel (604) 291-4970
general enquiries, Fax (604) 291-4722, www.reg.sfu.ca

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

The scholarships described below reflect our program as it currently exists. For complete descriptions and information applicable to students entering the University in the fall of 2002, please refer to the entrance scholarship brochure and application material, available in late fall 2002.

All scholarship applicants should have high academic standing — a minimum 90% grade average is required. Please read carefully the application requirements sections in the scholarship brochure, as not all scholarships require application.

Applicants must be Canadian citizens or Permanent Residents to qualify for all entrance scholarships, except for international awards including the International Summit and 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 Canadian Secondary and High School Students; Application Required

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

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

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

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

The following scholarships consist of $3,500 distributed over two semesters. Students may qualify for the Open Scholarship, following the end of the scholarship disbursements. For more information, contact Student Recruitment.

$7,000 Dean’s Scholarships
Dean’s Scholarships are awarded within each of the faculties of Applied Sciences, Arts, Business Administration, Education, and Science, to recognize academic achievement and potential in a particular area of study. Distributed over four semesters. Students may qualify for the Open Scholarship, following the end of the scholarship disbursements.

For Canadian Secondary and High School Students; No Application Required

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

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

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

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

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

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

For BC college students; Application Required

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

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

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

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

For International Scholarships; Application Required

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

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

Other Entrance Scholarships

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 University by May 30th.

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

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

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


Contact: Paul Godman, Student Recruitment, Simon Fraser University, Burnaby, BC V5A 1S6, Canada. Tel (604) 291-4970; e-mail paul.godman@sfu.ca

Rotary Club of Vancouver Sunrise Entrance Scholarship
The Rotary Club of Vancouver Sunrise provides an annual entrance scholarship from the interest earned on the endowment. The scholarship will be based on academic merit with preference for an entering student from King George Secondary School. The recipient of the scholarship will be invited to make a presentation at a meeting of the Rotary Club of Vancouver Sunrise.
Scholarships for Continuing Students

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

- A minimum 3.50 CGPA is required to be eligible for a scholarship.
- The student must be registered in a minimum of nine 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 normally graded courses at the University to be considered for most private and endowed scholarships.
- A student holding an ongoing Simon Fraser University entrance scholarship is not eligible for private scholarships until the entrance scholarship is fully paid out.
- Funds will be credited to the successful student's account with the University. Outstanding debts to the University will be deducted from the scholarship funds before a cheque for the credit balance is issued.
- The 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.

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 he/she has completed 132 credit hours.)

To qualify, a student must have
- successfully completed at least 24 credits at Simon Fraser University
- a minimum Simon Fraser University cumulative grade point average of at least 3.60, with the eligible CGPA set according to the availability of funds. The threshold CGPA set as low as permitted by the availability of funds. (The minimum CGPA requirement for eligibility has been set at 3.70 in recent semesters.)

- a minimum semester GPA of 3.5 in the last semester of registration
- been registered in one of the last three semesters
- completed at least 24 credit hours of normally graded courses over their last three semesters of registration in such courses. For students who fail short of the 24 credit hour requirement because one semester's registration was in a single course of five credits or less, the last four semesters will be considered, and that semester of one course will be set aside in determining credit hour and semester GPA eligibility.

All eligibility requirements must be met.

Monetary Value
The value of the scholarship is set each year by the University as a portion of the actual tuition costs accrued by those eligible. International undergraduate students are eligible on the same basis as other students.

PDP students in EDUC 401/402 or 405 will be notified by the Office of Awards Adjudication Committee on the nomination of

Scholarships for All Students

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

Alumni Association of SFU Annual Scholarship
Program code: UPSO-288
Value: $500
Awarded: Spring
Terms of reference: The Alumni Association of SFU Scholarship provides an annual scholarship of $500 in the Spring semester to five students, one in each of the five faculties (Applied Sciences, Arts, Business Administration, Education and Science) and a $500 scholarship to a student athlete. The scholarship is based on academic merit.

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

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

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

Joseph and Rosalie Segal Scholarship
Program code: UESO-254
Value: $1000
Awarded: Fall
Terms of reference: Students with good academic records, and demonstrated service to the University or the community. The awards will be open to students in any faculty who have completed at least 60 credit hours of study.

Sulzer Pumps Inc. Undergraduate Scholarship
Program code: UPSO-298
Value: $1000
Awarded: Spring
Terms of reference: Granted to an undergraduate student in any faculty based on academic merit. Preference will be given to applicants who are Sulzer Bingham employees; sons, daughters or legal dependents of Sulzer Bingham Pumps Inc. employees; or residents of Burnaby.

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

University Women's Club of Vancouver Scholarship
Program code: UESO-526
Value: $1100
Awarded: Spring
Terms of reference: Awarded to an undergraduate student in any faculty based on scholastic merit.

Vancouver Korean Canadian Scholarship Foundation Scholarship
Program code: UPSO-294
Value: $1000
Awarded: Summer
Terms of reference: Granted to an undergraduate student in any faculty based on academic excellence.

Scholarships for Applied Sciences Students

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

**Paul Coté Endowment Scholarship in Engineering**  
Program code: UESO-213  
Value: $675  
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: $1000  
Awarded: Spring  
Terms of reference: To Engineering Science students in the Faculty of Applied Science, who have successfully completed at least one year. Students will require a nomination from the Faculty, who will give consideration to academic standing as well as talent and interest expressed by the student in electo-optics, precision mechanics or instrumentation.

**Harold Hancheroff Memorial Scholarship in Sports Education**  
Program code: UESO-523  
Value: $750  
Awarded: Spring  
Terms of reference: To a full time student in the School of Kinesiology, who is pursuing an honors degree in sports education. The scholarship is also based upon academic merit.

**Ken and Su Jang Scholarship for Women in Science**  
Program code: UESO-276  
Value: $1800  
Awarded: Fall  
Terms of reference: An undergraduate female student in the Faculty of Applied Sciences or the Faculty of Science. The award will be based on academic merit.

**JDS Uniphase Undergraduate Scholarship in Optics and Photonics**  
Program code: UPSO-293  
Value: $5000  
Awarded: Fall  
Terms of reference: To a student entering second year of engineering physics or physics programs on the basis of academic excellence and potential for a successful industrial career in optics and/or photonics. The successful candidate will be a Canadian citizen or permanent resident of Canada. The recipients of the JDS Uniphase Undergraduate Scholarship may be eligible for a summer work term or internship position with JDS Uniphase. The scholarship will be renewable for a maximum of two additional years for a total of $15,000 per student. To be eligible for renewal, students must maintain scholarship eligibility and continue to demonstrate career interest in optics and/or photonics. Candidates must submit a letter outlining their career goals and progress along with a resume to Financial Assistance, Simon Fraser University, to apply for renewal.

**Elma Krbarac Undergraduate Scholarship in Computing Science**  
Program code: UESO-322  
Value: $300  
Awarded: Fall  
Terms of reference: To an undergraduate student in Computing Science based on high academic standing and demonstrated volunteer involvement. Candidates should demonstrate their involvement in volunteer activities by providing such details in a resume and cover letter with their application.

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

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

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

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

**Ravinder Purewal Memorial Scholarship in Computing Science**  
Program code: UPSO-291  
Value: $500  
Awarded: Summer  
Terms of reference: Awarded annually to a second, third or fourth year student in the School of Computing Science.

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

**J. Newton Robinson Memorial Scholarship**  
Program code: UESO-242  
Value: $230  
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 Scholarship**  
Program code: UESO-239  
Value: $500  
Awarded: Spring  
Terms of reference: Fourth year engineering students whose studies include high frequency electronics and related disciplines. High academic achievement and a nomination from the applicable department is required.

**ScotiaBank Student Scholar in the Faculty of Applied Sciences Award**  
Program code: UESO-311  
Value: $2000  
Awarded: Summer  
Terms of reference: Award will be granted to a Faculty of Applied Sciences student with at least 90 credit hours who exemplifies the aspects of a well-rounded student scholar; academic excellence and community involvement. Academic excellence is based on academic merit as determined by cumulative grade point average (GPA). Community involvement may be service to the university community or the community at large.

**Silent Witness Scholarship in Computing Science**  
Program code: UPSO-295  
Value: $1500  
Awarded: Summer  
Terms of reference: To a fourth year student in Computing Science based on academic excellence.

**Trans Canada PipeLines Limited Scholarship in Communication**  
Program code: UPSO-298  
Value: $2500  
Awarded: Fall  
Terms of reference: To a full-time undergraduate student who is entering their graduating year of study in the School of Communication on the basis of academic achievement. To be considered eligible, candidates should demonstrate their commitment to their community through involvement in volunteer activities by providing documentation of such activities and a covering letter.

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

**University Women’s Club of Vancouver Women in Science Scholarship**  
Program code: UESO-260  
Value: $1100  
Awarded: Fall  
Terms of reference: A female student enrolled in the Faculty of Science. The award is open to third or fourth year students majoring in Science or Applied Science programs. A recommendation from the Dean of Science and/or the Dean of Applied Science is required.
Scholarships for Arts Students

Father Michael Bach Memorial Scholarship
Program code: UESO-256
Value: $900
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: $1250
Awarded: Spring
Terms of reference: A student in the Psychology major or honors program. Selection by the Psychology Department will be based upon academic achievement and extracurricular involvement. Applicants must have completed at least 60 credit hours, of which 30 hours are of Simon Fraser University course work, and must also include a resume with their applications.

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

BOMA Undergraduate Scholarship in Urban Studies
Program code: UESO-306
Value: $1400
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: $1200
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: $650
Awarded: Fall
Terms of reference: An undergraduate student in the Faculty of Business Administration, or in the Faculty of Arts, preferably in Political Science. The Scholarship will be granted on the basis of outstanding academic performance. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the recommendation of the Dean of Arts or the Dean of Business Administration.

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

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

Hadassah-WIZO Scholarship in Women’s Studies
Program code: UPSO-292
Value: $200
Awarded: Summer
Terms of reference: One scholarship of $200 based on academic merit will be awarded to a full-time student in the Department of Women’s Studies.

Dr. Alfredo E. Hurtado Memorial Scholarship
Program code: UESO-274
Value: $950
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 three 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: $300
Awarded: Summer
Terms of reference: The undergraduate or graduate Psychology student who, in the previous year, has best exemplified Dr. Kendall’s approach to Psychology. Nominations for the award will be made by faculty members of the Psychology Department. The recipient will be selected by the Chair of the Department, after consultation with the Chair of the Undergraduate and Graduate Studies Committees.

Evelyn Lott 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 diploma and/or joint major programs. Preference will be given to those students who have contributed to the department and/or to women’s issues on campus or in the community. Please submit a letter outlining your contribution along with the application.

Liberal and Business Studies Program Scholarship
Program code: UPSO-297
Value: $1500
Awarded: Spring
Terms of reference: Granted on the basis of academic performance, to a student whose tuition fees are not being subsidized by an employer. Candidate will be nominated by the Academic Director of the Liberal and Business Studies Program in consultation with the Liberal and Business Studies Academic Steering Committee.

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

Margaret J. Menzel Memorial Scholarship
Program code: UPSO-235
Value: $750
Awarded: Spring
Terms of reference: A single parent enrolled in the Women Studies program, on the basis of academic achievement. The Women’s Studies Co-ordinator will forward nomination(s) to Financial Assistance.

Robbie Robertson Scholarship
Program code: UPSO-273
Value: $1000
Awarded: Fall
Terms of reference: The Prince George branch of the Royal Canadian Legion will provide a scholarship to be awarded to a student registered in the Gerontology diploma program who has an academic record of merit. Preference will be given, when possible, to a student from Prince George or surrounding areas. Students should apply on a Simon Fraser University Private Scholarship application form to be sent to the Gerontology Diploma Program, Simon Fraser University at Harbour Centre, 555 West Hastings Street, Vancouver, BC, V6B 5K3.

Mr. and Mrs. Erwin Sommer Scholarship in Geography
Program code: UESO-308
Value: $725
Awarded: Summer
Terms of reference: Available to students in their second, third or fourth year of undergraduate study. One scholarship is available to a student majoring in Geography who has completed at least 90 undergraduate credits including 12 upper division credits in geography.

John Stell Sykes Scholarship
Program code: UESO-245
Value: $170
Awarded: Spring
Terms of reference: A third or fourth year student who is a French major in a degree program. The scholarship will be adjudicated on the basis of proficiency in French and academic standing.

Vancouver Port Authority Undergraduate Scholarship in Geography
Program code: UPSO-284
Value: $2500
Awarded: Fall
Terms of reference: Based on academic merit, will be given to a Geography student entering the fourth year of studies. In order to receive the second disbursement, the student must maintain academic standards.
Scholarships for Business Administration students

**Accenture Scholarship in Business Administration**
Program code: UESO-323
Value: $1000
Awarded: Spring
Terms of reference: To a full-time undergraduate student who is in their third year of study in the Faculty of Business Administration. To be considered eligible, candidates should have completed one 300 level Management Information Systems course, demonstrate their involvement in extracurricular or volunteer activities and interest in information technology by providing their resume and cover letter specific to these interests, and include a letter of recommendation from a Management Information Systems or Computing Science faculty member with their application.

**Bank of Montreal Undergraduate Scholarship in Business Administration**
Program code: UPSO-283
Value: $1000
Awarded: Fall, Spring
Terms of reference: To a full-time undergraduate student in the Faculty of Business Administration who is majoring in Business Administration co-op student.

**Keith and Betty Beedie Scholarship**
Program code: UESO-520
Value: $1200
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 Burnaby secondary school or Magee Secondary School. The scholarship will be granted on the basis of outstanding academic performance.

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

**Faculty of Business Administration Alumni Scholarships**
Program code: UESO-316
Value: $500
Awarded: Summer
Terms of reference: Scholarships will be granted on the basis of academic performance to students in the Faculty of Business Administration.

**Certified Management Accountants Society of BC – William C.C. Easton Scholarship**
Program code: UPSO-244
Value: $1500
Awarded: Spring
Terms of reference: To a graduating student attaining the highest mark in Business Administration courses 254 and 424. This scholarship has been established in appreciation of Mr. Easton’s contribution to the society, to the profession and to the community.

**Chevron Canada Ltd Scholarship**
Program code: UESO-282
Value: $1500
Awarded: Fall
Terms of reference: A student in their final year of an undergraduate program who intends to pursue a career in business. Preference will be given to a

---

**Scholarships for Business Administration students**

**Chen’s Cultural Foundation Scholarship**
Program code: UESO-521
Value: $650
Awarded: Fall
Terms of reference: An undergraduate student in the Faculty of Business Administration, or in the Faculty of Arts, preferably in Political Science. The Scholarship will be granted on the basis of outstanding academic performance. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the recommendation of the Dean of Arts or the Dean of Business Administration.

**Cloverdale Paint Incorporated Scholarship**
Program code: UESO-272
Value: $600
Awarded: Spring
Terms of reference: Undergraduate, upper level students in the Faculty of Business Administration, whose area of study is marketing. The award will be based on academic merit. Preference will be given to Cloverdale Paint employees or their children.

**Deloitte & Touche Scholarship in Accounting**
Program code: UPSO-247
Value: $1000
Awarded: Fall, Spring
Terms of reference: Granted to a third year Faculty of Business Administration student in the Accounting concentration who has the highest cumulative grade point average (CGPA).

**Financial Executives Institute Scholarship**
Program code: UPSO-219
Value: $1500
Awarded: Fall
Terms of reference: An undergraduate third or fourth year student in the Faculty of Business Administration concentrating in the area of finance. The scholarship is based on academic merit.

**Great-West Life Scholarship in Business Administration**
Program code: UESO-324
Value: $1000
Awarded: Fall
Terms of reference: The award will be made to a full-time undergraduate student who is in their fourth year of study in the Faculty of Business Administration on the basis of academic performance and demonstrated volunteer involvement. To be considered eligible, candidates should demonstrate their involvement in volunteer activities by providing their resume and cover letter specific to these interests.

**Honourable William M. Hamilton Memorial Scholarship**
Program code: UESO-305
Value: $2000
Awarded: Fall, Spring
Terms of reference: An undergraduate student who is entering the Faculty of Business Administration upon completion of 30 credit hours. The scholarship is based on academic merit.

**Bruce Howe Memorial Scholarship in International Business**
Program code: UESO-310
Value: $650
Awarded: Spring
Terms of reference: Valued at a portion of the income, based on academic merit, will be given to the top student in the Faculty in Business Administration in the international business concentration. The applicant should be a Canadian citizen or a permanent resident of Canada and have completed at least 90 credit hours.

**Human Resources Management Association of BC Scholarship**
Program code: UPSO-226
Value: $1000
Awarded: Fall
Terms of reference: The Scholarship will be granted to a Faculty of Business Administration student with an approved concentration in Human Resources Management who has completed at least two Human Resources Management courses at the three hundred level.

**ICABC Business Administration Co-Op Education Scholarship**
Program code: UPBO-562
Value: $2000
Awarded: Spring
Terms of reference: To a full-time undergraduate student in the Faculty of Business Administration Co-operative Education Program (CA stream). Candidates should have completed at least one practicum work semester after being accepted into the Co-operative Education program before eligibility is determined. The scholarship will be granted on the basis of academic performance, with consideration given to improved academic performance, and reports of practicum work performance. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of candidates by the Co-ordinator, Business Administration Co-operative Education Accounting Program.

**ICABC Desmond O’Brien Memorial Scholarship**
Program code: UPSO-227
Value: $2000
Awarded: Spring
Terms of reference: To a full-time undergraduate student in the Faculty of Business Administration. The student will have completed 75 to 105 semester credit hours inclusive, including the semester of application, and must have at least nine hours of accounting courses. The scholarship will be granted on the basis of academic performance.

**Maria Kuchar Accounting Scholarship**
Program code: UESO-263
Value: $3000
Awarded: Fall
Terms of reference: A third or fourth year student who is majoring in Business Administration. When possible, preference will be given to a female student.

**Robert H. Lee Scholarship in Business Administration**
Program code: UPSO-271
Value: $1500
Awarded: Fall
Terms of reference: To a third or fourth year student who is majoring in Business Administration. The award is also based upon academic achievement.

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

**Gil Moser Scholarship**  
Program code: UESO-238  
Value: $1500  
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.

**Mr. Sub Scholarship in Business Administration**  
Program code: UPSO-296  
Value: $500  
Awarded: Summer  
Terms of reference: To a full-time student in the Faculty of Business Administration based on academic performance and demonstrated community volunteer involvement. Applications should include supporting document(s) describing such involvement.

**Phillips, Hager & North Ltd Scholarship**  
Program code: UPSO-282  
Value: $2000  
Awarded: Fall  
Terms of reference: An undergraduate third or fourth year student within the Faculty of Business Administration with a Finance concentration. This scholarship is based on academic merit.

**Robert Rogow Scholarship**  
Program code: UESO-527  
Value: $1500  
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.

**Scotiabank Student Scholar in the Faculty of Business Administration Award**  
Program code: UESO-313  
Value: $2000  
Awarded: Summer  
Terms of reference: Award will be granted to a Faculty of Business Administration student with at least 90 credit hours who exemplifies the aspects of a well-rounded student scholar; academic excellence and community involvement. Academic excellence is based on academic merit as determined by cumulative grade point average (CGPA). Community involvement may be service to the university community or the community at large.

**Shell Canada Limited Scholarship in Business Administration**  
Program code: UESO-264  
Value: $1200  
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: $550  
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: $675  
Awarded: Fall  
Terms of reference: Granted to an undergraduate student in the Faculty of Business Administration with a concentration in marketing, who is in third or fourth year. The award will be based on academic merit. Preference will be given to a female student who is a Canadian citizen or landed immigrant.

**Westminster Savings Barry Butler Memorial Scholarship**  
Program code: UPSO-299  
Value: $2500  
Awarded: Fall  
Terms of reference: The scholarship will be awarded in the fall semester to an outstanding third or fourth year undergraduate student in the Faculty of Business Administration on the basis of academic performance.

**Grant Wilson Memorial Scholarship**  
Program code: UESO-268  
Value: $3200  
Awarded: Fall  
Terms of reference: An endowment fund has been established in memory of Grant Wilson by Stanley Pharmaceuticals Limited of North Vancouver, BC.

**Lorraine Wintrup Memorial Endowment Scholarship**  
Program code: 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: $1500  
Awarded: Fall, Spring, Summer  
Terms of reference: An undergraduate student in Business Administration who shows a significant improvement in academic studies.

**Wolfe Chevrolet Oldsmobile Scholarship in Marketing**  
Program code: UPSO-258  
Value: $600  
Awarded: Fall  
Terms of reference: A fourth year student with a high academic standing concentrating on Marketing in the Faculty of Business administration. The scholarship will be granted by the Senate Undergraduate Adjudication Awards Committee on the recommendation of the Dean of Business Administration.

**Scholarships for Education Students**

**Carol Chapman Memorial Education Scholarship**  
Program code: UESO-518  
Value: $2500  
Awarded: Summer  
Terms of reference: To a full-time student in the Faculty of Education’s Professional Development Program based on academic merit and overall performance during the completion of the PDP practica. The award will be made by the Senate Undergraduate Awards Adjudication Committee on Scholarships, Awards and Bursaries on the nomination of the Dean, Faculty of Education.

**Madge Hogarth Scholarships in Education**  
Program code: UESO-224  
Value: $350  
Awarded: Summer  
Terms of reference: Two awards will be made to the most promising students based on academic standing prior to entry into the Professional Development Program (PDP), although teaching performance may be considered. One scholarship will be awarded to a student who enters the PDP in the fall semester and one to a student who enters PDP in the spring semester. The awards will be made by the Senate Undergraduate Awards Adjudication Committee on the recommendation of the Faculty of Education.

**Ethel Barbara Tuck Undergraduate Scholarship in Education**  
Program code: UESO-321  
Value: $1500  
Awarded: Fall, Spring, Summer  
Terms of reference: Granted on the basis of outstanding academic performance to undergraduate upper division students who intend to pursue careers teaching children or youth and wish to develop skills in aiding pupils who have reading difficulties. The application should include a discussion of the student’s interest in teaching remedial reading.

**Scholarships for Science Students**

**R. Bruce Coles Memorial Scholarship**  
Program code: UESO-283  
Value: $600  
Awarded: Fall, Spring  
Terms of reference: To support scholarship awards in memory of its founding Partner, the Coles Group has established, along with the family of the late R. Bruce Coles, an endowment. Two awards will be given each year. The award is based on scholastic merit and will be awarded to a full-time third or fourth year undergraduate student in the Actuarial Science Program in the Department of Mathematics and Statistics.

**Goel Memorial Scholarship**  
Program code: UPSO-223  
Value: $350  
Awarded: Fall  
Terms of reference: A student who has demonstrated overall excellence in the Department of Mathematics and Statistics. Nomination required from the Chair of Mathematics. This scholarship has been established by Dr. and Mrs. D.P. Goel in memory of Mrs. Shakuntala Goel.

**Ken and Su Jang Scholarship for Women in Science**  
Program code: UESO-276  
Value: $1800  
Awarded: Fall  
Terms of reference: An undergraduate female student in the Faculty of Applied Sciences or the Faculty of Science. The award will be based on academic merit.

**JDS Uniphase Undergraduate Scholarship in Optics and Photonics**  
Program code: UPSO-293  
Value: $5000  
Awarded: Fall  
Terms of reference: To a student entering second year of engineering physics or physics programs on the basis of academic excellence and potential for a successful industrial career in optics and/or photonics. The successful candidate will be a Canadian citizen or permanent resident of Canada. The recipients of the JDS Uniphase Undergraduate Scholarship may be eligible for a summer work term or internship position with JDS Uniphase. The scholarship will be renewable for a maximum of two additional years for a total of $15,000 per student. To be eligible for renewal, students must maintain scholarship eligibility and continue to demonstrate career interest in optics and/or photonics. Candidates must submit a letter outlining their career goals and progress along with a resume to Financial Assistance, Simon Fraser University, to apply for renewal.
**MacKenzie and Feimann Limited Scholarship**  
Program code: UESO-270  
Value: $800  
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: $850  
Awarded: Spring  
Terms of reference: Granted to a third or fourth year student in the Environmental Science Program on the basis of academic performance. The application should include a letter from the student describing his/her commitment to and interest in environmental science.

**William and Amelia McMahen Scholarships**  
Program code: UESO-233  
Value: $1300  
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: $600  
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-267  
Value: $2500  
Awarded: Fall  
Terms of reference: The scholarships are granted in any semester based on academic merit to undergraduate students in a major or honors program in the physical sciences. Applicants should have completed at least 60 SFU semester hours toward the requirements for a degree and have completed at least 30 hours in two of the last three semesters in which they were enrolled.

**Scotiabank Student Scholar in the Faculty of Science Award**  
Program code: UESO-315  
Value: $2000  
Awarded: Summer  
Terms of reference: Award will be granted to a Faculty of Science student with at least 90 credit hours who exemplifies the aspects of a well-rounded student scholar; academic excellence and community involvement. Academic excellence is based on academic merit as determined by cumulative grade point average (CGPA). Community involvement may be service to the university community or the community at large.

**Mr. and Mrs. Erwin Sommer Scholarship in Geography**  
Program code: UESO-308  
Value: $725  
Awarded: Summer  
Terms of reference: Granted in any semester based on academic merit to a student majoring in geography who has completed at least 90 undergraduate credits including 12 upper division credits in geography.

**Trans-Canada Pipelines Research Scholarship**  
Program code: UESO-261  
Value: $675  
Awarded: Spring  
Terms of reference: A student presently enrolled in a four year program leading to a BSc in Chemistry. The Department of Chemistry Scholarship Committee will nominate a candidate for the scholarship on the basis of the applicant’s potential for future work in research in chemistry related to the petrochemical industry and on the applicant’s interest in such work.

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

**University Women’s Club of Vancouver Women in Science Scholarship**  
Program code: UESO-260  
Value: $1100  
Awarded: Fall  
Terms of reference: A student enrolled in the Faculty of Science. The award is open to third or fourth year students majoring in Science or Applied Science programs. A recommendation from the Dean of Science and/or the Dean of Applied Science is required.

**Vancouver Port Authority Undergraduate Scholarship in Geography**  
Program code: UPSO-284  
Value: $2500  
Awarded: Fall  
Terms of reference: Based on academic merit, will be given to a Geography student entering the fourth year of studies. In order to receive the second disbursement, the student must maintain academic standards.

**Watson Wyatt & Company Scholarship in Actuarial Mathematics**  
Program code: UESO-516  
Value: $2000  
Awarded: Spring  
Terms of reference: An undergraduate student in the Certificate Program in Actuarial Mathematics who has successfully completed ACMA 310. The scholarship will also be based on high academic merit. A departmental nomination is required from the chair of the department or designate.

**Scholarships for Student Athletes**

**Bill De Vries Athletic Award**  
Program code: UEAU-061  
Value: $300  
Awarded: Spring  
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.

**Howie Larke Scholarship in Sport Information**  
Program code: UEAU-052  
Value: $55  
Awarded: Fall, Spring, Summer  
Terms of reference: A full time undergraduate student involved in sport information. The scholarship will be based on academic merit.

**Simon Fraser University Athletic Scholarships**  
Program code: UUAU-102  
Value: $1000  
Awarded: Fall, Spring, Summer  
Terms of reference: Two scholarships valued at $1,000 each are available to students who demonstrate outstanding and sustained athletic performance on an intercollegiate team. Student must be registered in nine credit hours and have a minimum CGPA of 3.5 based on completion of 60 hours at Simon Fraser University. Consideration will be given to exemplary leadership and contributions to the enhancement of the athletic specialty in which the student is involved.

**Simon Fraser University Track and Field Alumni Scholarship**  
Program code: UEAU-042  
Value: $500  
Awarded: Fall, Spring, Summer  
Terms of reference: Based on academic merit and will be awarded to a student who is a member of the SFU Track and Field team.

**Bursaries**

**Regulations**

The following regulations govern all university, private, and endowed bursaries over which the University has jurisdiction. Many of the following bursaries have been made possible by generous donations.

- Bursaries are a supplemental source of funding for students in high financial need. Students are expected to find their primary funding through other sources such as government student loan or grant programs, part time work, savings, family, etc.
- Both undergraduate and graduate students are eligible unless otherwise indicated.
- Students must have a demonstrated financial need.
- Students must have a minimum CGPA of 2.00 to be eligible for bursaries.
- Undergraduate students must be registered in a minimum of nine semester hours of normal graded courses in the semester of application, unless otherwise indicated. Challenge, audit, and credit free courses will not be considered. Students who register in fewer than nine semester hours or subsequently drop below nine hours may have their awards cancelled.
- Graduate students must be registered for residence credit in an approved full-time program. Students who do not register or subsequently change to on-leave status may have their awards cancelled.
- The student must apply on the Simon Fraser University bursary application form. It is the student’s responsibility to meet applicable deadlines and supply all required documentation. Incomplete applications may be rejected.
Bursaries for All Students

Alumni Association of SFU Annual Bursary
Program code: UEOB-693
Value: $500
Awarded: Fall
Terms of reference: The Alumni Association of SFU bursary provides an annual bursary of $500 in the Fall semester to five students, one in each of the five faculties (Applied Sciences, Arts, Business Administration, Education and Science) and a $500 bursary to a student athlete. The bursary is based on financial need.

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

David Armstrong Memorial Bursary
Program code: UEOB-699
Value: $1200
Awarded: Fall
Terms of reference: An undergraduate student in the co-op program. The bursary is based on demonstrated financial need and satisfactory academic performance.

Laura (Pat) Band and Richard W. Band Bursary for First Nations Students
Program code: UEOB-540
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: The bursary is granted in any semester based on financial need and community service to a student who is a member of the Squamish, Fort Langley, or Chemainus First Nations and who have demonstrated volunteer involvement in service to the university or the community at large. The bursary may be granted to graduate or undergraduate students in all disciplines and fields of study. The successful student will have completed a minimum of 30 credits and will have achieved a minimum cumulative GPA of 2.33. The application should include a discussion of the student's volunteer involvement in community activities and confirmation of the student's status in the Squamish, Fort Langley, or Chemainus First Nations.

Bel-Par Industries Limited Bursary
Program code: UEOB-684
Value: $700
Awarded: Fall
Terms of reference: An undergraduate student in any faculty. The bursary will be granted to a student who has maintained a satisfactory academic record and has financial need in the continuing pursuit of their studies. Preference will be given to students who are former employees of Bel-Par Industries or who are children or legal dependants of employees.

Birks Family Foundation Bursaries
Program code: UEOB-551
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: The Birks Family Foundation has established a plan of annual contributions to the Student Aid Fund of recognized Canadian universities and colleges for the creation of these bursaries. The bursaries are awarded by the Foundation on the recommendation of the University Scholarship Committee, are not restricted by faculty or year, and may be renewed. The number and amount of such awards may vary annually depending upon the funds available from the Foundation.

Canadian Federation of University Women – Coquitlam Bursary
Program code: UEOB-713
Value: $750
Awarded: Spring
Terms of reference: A full-time mature undergraduate female student in any faculty who has returned to SFU after a break in studies. Preference, where possible, will be given to a resident of School District #43 or a graduate of a School District #43 secondary school.

Jim and Penny Cavers Bursary
Program code: UEOB-732
Value: $2000
Awarded: Summer
Terms of reference: Undergraduate students in any faculty on the basis of demonstrated financial need and satisfactory academic performance.

Mr. and Mrs. Leslie Chu Bursary
Program code: UEOB-697
Value: $1500
Awarded: Fall
Terms of reference: An undergraduate student in any faculty. Bursaries will be granted on the basis of demonstrated financial need, demonstrated service to the community, and satisfactory academic performance.

Confratellanza Italo Canadese Bursary
Program code: UEOB-591
Value: $425
Awarded: Fall
Terms of reference: Undergraduate students with financial need and satisfactory academic standing. Preference will be given to Italo-Canadian students if they meet the criteria.

Connell Lightbody Endowment Bursary
Program code: UEOB-649
Value: $1000
Awarded: Fall
Terms of reference: Full-time third year student planning to study law. Please provide a brief concerning your eligibility for this bursary. The bursary, established by the Connell Lightbody law firm 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: $500
Awarded: Fall
Terms of reference: An undergraduate student in any faculty based on demonstrated financial need and satisfactory academic performance.

CUPE Local 15 Vancouver Municipal, Education and Community Workers’ Bursary
Program code: UEOB-580
Value: $1000
Awarded: Fall
Terms of reference: An applicant must be the sons, daughters, or legal dependents of Union members. The member upon whom the applicant is a dependent must be a current member in good standing or retired member of CUPE Local 15 (excluding associate members). The member must have demonstrated a primary attachment to CUPE Local 15 by holding Union membership through a minimum of six months employment for each of the two years prior to the date...
of enrolment and must be pursuing a field of study not
in contradiction to the aims of the labour movement.
The award selection will be made by Simon Fraser
University in consultation with the Executive. Award
will be based primarily upon financial need and
provided that academic performance is satisfactory.
The applicant must be beginning or continuing
full-time enrolment and must be capable of pursuing
the course of study. An applicant for a bursary may
only receive a bursary once every four years.
Bursaries are to a maximum of $1,000 of tuition only.
One half of the tuition will be paid at the beginning of
the school year and the second half will be paid at the
second half of the school year. Bursary recipients are
requested to submit proof of completion of
program/year for which the bursary was provided.

**Alfred William Davidson Bursary**
Program code: UEBO-726
Value: $500
Awarded: Spring
Terms of reference: Granted to undergraduate
students in any faculty based on demonstrated
financial need and satisfactory academic
performance. Preference will be given to students
who contribute to the university or to the community
through volunteer activities.

**De Jong/MacDonald Bursary**
Program code: UEBO-678
Value: $1000
Awarded: Fall
Terms of reference: One or more bursaries will be
awarded to undergraduate students in any faculty
who have a satisfactory academic record and
demonstrates financial need. A short letter outlining
dedication to and involvement in the community
should accompany the application.

**Father Della-Torre Bursary**
Program code: UEBO-592
Value: $600
Awarded: Fall
Terms of reference: Entering students: Bursaries
valued approximately at one semester’s tuition are
available to students entering from Secondary
School. Applicants must demonstrate financial need
and have satisfactory academic standing. Other
bursaries valued approximately at one semester’s
tuition are available to students in any faculty, who
have a minimum of 60 credit hours at Simon Fraser
University, have maintained satisfactory academic
standing and are in financial need. A Bursary
Endowment Fund has been established in honor of
Father Della-Torre for his 27 years of pastorship at the
Sacred Heart Church, Vancouver. This fund will
provide annual bursaries in perpetuity from the
earned income.

**Gordon R. Diamond Bursary**
Program code: UEBO-535
Value: $1000
Awarded: Summer
Terms of reference: To undergraduate students in any
faculty on the basis of demonstrated financial need
and good academic standing.

**Dr. Jack Diamond Bursary**
Program code: UEBO-615
Value: $1100
Awarded: Summer
Terms of reference: To provide a bursary to a student
in any faculty with satisfactory academic performance
and demonstrated financial need.

**Enchant @ SFU Bursary**
Program code: UPBO-803
Value: $500
Awarded: Summer
Terms of reference: Bursaries will be granted on the
basis of demonstrated financial need and satisfactory
academic performance to undergraduate students in
any faculty.

**Erm Florillo – Hal Davis CKNW Orphan’s Fund Bursary**
Program code: UEBO-651
Value: $3000
Awarded: Fall
Terms of reference: An entering student from a
secondary school in the Vancouver School District. In
future the bursary may be offered to students
graduating from secondary schools within the lower
mainland. This award will be renewable for four
academic years provided the recipient maintains a
2.00 grade point average and registers in nine 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 Principal and all applications will be
evaluated by a school district selection committee and the
successful candidate will be recommended to the
Simon Fraser University Senate Undergraduate
Awards Adjudication Committee.

**Alex W. Fisher Bursary**
Program code: UEBO-596
Value: $400
Awarded: Spring
Terms of reference: A hard working and deserving
male student in need of financial assistance. Donated
by Alex W. Fisher.

**Lois M. Fisher Bursary**
Program code: UEBO-597
Value: $400
Awarded: Spring
Terms of reference: A hard working and deserving
female student in need of financial assistance.
Donated by Mr. Alex W. Fisher.

**William Gordon Memorial Bursary**
Program code: UEBO-640
Value: $700
Awarded: Fall
Terms of reference: An undergraduate student in any
Faculty. The student must have a satisfactory
academic standing and demonstrate financial need.

**Government of BC Women’s Equality Bursaries**
Program code: UPBO-677
Value: $500
Awarded: Fall
Terms of reference: Awarded to a woman student who
is enrolled in full or part-time degree, diploma or
certificate program in Women’s Studies or related
coursework, as in fields in which women have not
traditionally sought post-secondary training, has a
high academic standing and is in financial need.
Apply on the Simon Fraser University Bursary
application available at Financial Assistance. The
application deadline is the end of the second week of
classes. This bursary program is sponsored by the
Ministry of Women’s Equality.

**Dr. Ben Gullison Bursary**
Program code: UPBO-640
Value: $500
Awarded: Fall
Terms of reference: Second, third or fourth year
students in any undergraduate program. In
recognition of Dr. Gullison’s work, evidence of
community service will be considered in making the
award.

**Hamber Foundation Bursary**
Program code: UPBO-559
Value: $1000
Awarded: Fall
Terms of reference: Women students with satisfactory
academic standing and need for financial assistance.

**Madge Hogarth Bursary**
Program code: UEBO-674
Value: $350
Awarded: Fall
Terms of reference: Undergraduate students in any
faculty who are entering in or their fourth year of study
and who have maintained satisfactory academic
standing and demonstrated financial need.

**Horne Family Alumni Bursary**
Program code: UEBO-657
Value: $1500
Awarded: Fall, Spring
Terms of reference: A third or fourth year student who
is a single parent, pursuing a degree at Simon Fraser
University. The bursary is also based on satisfactory
academic performance and demonstrated financial
need.

**Ken and Su Jang Entrance Bursary**
Program code: UEBO-672
Value: $1600
Awarded: Fall
Terms of reference: An entering student who
demonstrates financial need and who has a
satisfactory academic record prior to entrance to
Simon Fraser University.

**Blayne and Sharon Johnson Bursary**
Program code: UEBO-523
Value: $1200
Awarded: Summer
Terms of reference: Granted on the basis of
demonstrated financial need and satisfactory
academic performance.

**Charles Chan Kent Golden Wedding Bursaries**
Program code: UPBO-563
Value: $500
Awarded: Summer
Terms of reference: A student who is proceeding to a
degree in any field, has successfully completed at
least one year at Simon Fraser University, and needs
financial assistance. Preferably the bursary will be
made to a student of Chinese descent.

**Harold Lauer B’nai B’rith (Lions Gate Lodge 1716)**
Program code: UPBO-564
Value: $750
Awarded: Fall
Terms of reference: Undergraduate students, in any
faculty, who have determined financial need and
satisfactory academic standing.

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

**Dorothy May Martin Endowment Bursary**
Program code: UEBO-648
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: Students who are returning to
time-studies subsequent to a substantial
interruption of their academic career after secondary
school. Students must have a satisfactory academic
standing and demonstrate financial need.

**Dr Carol Matusicky Family Studies Bursary**
Program code: UEBO-708
Value: $500
Awarded: Spring
Terms of reference: On the basis of demonstrated
financial need and satisfactory academic
performance. Preference will be given to a student in
the Certificate in Family Studies program or, failing
that, to a student in any faculty whose course work

Financial Assistance and Awards 59
will prepare them to work with children, youth and families after university.

**John Michael McLaury Bursary**
Program code: UEBO-666
Value: $2000
Awarded: Fall
Terms of reference: An undergraduate student in any faculty. The award will be granted to a student who has a satisfactory academic record and who is experiencing financial need in the continuing pursuit of studies. Preference will be given to Canadian students.

**Jo-Ann Mychaluk Bursary**
Program code: UEBO-602
Value: $850
Awarded: Fall
Terms of reference: Students with satisfactory academic standing. These bursaries are available to students who are or have been residents of the Chilcotin or Cariboo regions of BC. This fund, has been established in memory of Jo-Ann Mychaluk who worked in the Centre for Distance Education.

**Madeleine Nelson/Megan Thomas Bursary**
Program code: UEBO-735
Value: $300
Awarded: Spring
Terms of reference: Granted to graduate or undergraduate students in any faculty in any semester based on demonstrated financial need and satisfactory academic performance. Preference will be given to mature female students beginning or returning to University.

**NitiKman/Chan Bursary**
Program code: UEBO-737
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: When fully funded, the bursary will substantially pay tuition and fees for two semesters and will be disbursed over two semesters. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance to students in any faculty of discipline. The recipient will be a single parent with preference given to entering students.

**Evelyn J. Oliver Bursary**
Program code: UEBO-682
Value: $500
Awarded: Fall, Spring
Terms of reference: To undergraduate students who are single parents. Bursaries will be granted to students holding satisfactory academic records and providing evidence of financial need in the continuing pursuit of their undergraduate studies.

**Opsimath Club Bursary**
Program code: UEBO-603
Value: $1000
Awarded: Fall
Terms of reference: For mature, continuing students at Simon Fraser University, who have financial need and good academic standing. The Opsimath Club is an organization of senior (60 years) students.

**Margaret Anne Paterson Bursary**
Program code: UEBO-527
Value: $700
Awarded: Summer
Terms of reference: The bursary will be given annually in any semester to an undergraduate student in any faculty. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance. The recipient should be attending university as a mature student at least five years after leaving secondary school.

**Vancouver Foundation – George Pensom Bursary**
Program code: UPBO-579
Value: $1000
Awarded: Fall
Terms of reference: Bursaries are available to full-time undergraduate students who demonstrate financial need and have satisfactory academic standing. Preference will be given to students from school district #47 (Powell River).

**Permanent Bursary Endowment Plan**
Program code: N/A
Value: $200
Awarded: Fall, Spring, Summer
Terms of reference: Applications must be submitted on the Simon Fraser University bursary application form under the heading “Permanent Bursary Endowment Plan.”

**Belkin Packaging Limited Permanent Endowment Fund**
Gretta Bowmer Memorial
Estate of Hans Christiansen
Mark and Phae Collins Fund (Vancouver Foundation)
Ted Cohen
Dr. Jack Diamond
Downs/Archambault
Drop-in Centre Permanent Endowment Bursary
David A. Freeman
Ellen Mary Greenaway
John R. Hecht
Stephen Hinchliff Memorial
A. Koch (Bella Koch Memorial)
Dr. W. Koerner
L.L. Kostman
Mrs. Katherine Leshgold
Samuel D. Leshgold
Dr. R.A. Palmer
Mr and Mrs. N.L. Rothstein
M.M. Waterman
In Memory of Mrs. M.M. Waterman
Ben Wosk
Mr and Mrs. Ben Wosk 40th Wedding Anniversary

**IODE Evelyn Price Memorial Bursary**
Program code: UEBO-641
Value: $700
Awarded: Fall
Terms of reference: Undergraduate students who are in the final year of a degree program. Applicants must be Canadian citizens, be maintaining a satisfactory academic standing and be in financial need.

**Office of the Registrar Bursary for Physically Challenged Students**
Program code: UEBO-665
Value: $500
Awarded: Fall
Terms of reference: Physically challenged undergraduate or graduate students in any faculty. The bursaries will be granted to physically challenged students holding satisfactory academic records and who are experiencing financial need in the pursuit of studies.

**Rotary Club of Vancouver Community Service Bursary**
Program code: UPBO-568
Value: $500
Awarded: Fall
Terms of reference: Students in financial need with satisfactory academic standing.

**Rotary Club of Vancouver Sunrise Entrance Bursary**
Program code: UEBO-706
Value: $1000
Awarded: Fall
Terms of reference: Based on financial need, to a student entering Simon Fraser University. Preference will be given to a student who resides in the City of Vancouver. The recipient of the award may be invited to make a presentation at a meeting of the Rotary Club of Vancouver Sunrise.

**Saskexpo ’86 Bursary**
Program code: UPBO-636
Value: $2750
Awarded: Fall
Terms of reference: Saskatchewan secondary school student entering either Simon Fraser University in British Columbia or The University of Saskatchewan at Saskatoon in Saskatchewan. The award will alternate between Simon Fraser University and the University of Saskatchewan. For 1988-1989 (the first year of the award), the bursary was for a student attending Simon Fraser University. Selection will be made on the basis of financial need, the student’s demonstrated contribution to his/her school and community, and leadership potential. Consideration may also be given to the student’s academic record. Applications will be submitted to the Simon Fraser University Senate Scholarships, Awards and Bursaries Committee, in care of the Director of Financial Assistance at Simon Fraser University for students who plan to attend Simon Fraser University; and to the University of Saskatchewan Scholarships, Awards and Bursaries Committee, in care of the Registrar, for students planning to attend The University of Saskatchewan.

**William and Jane Saywell Bursary**
Program code: UPBO-682
Value: $1500
Awarded: Fall
Terms of reference: A student who is a single parent and who has demonstrated a deep commitment to any field of study at Simon Fraser University and has financial need. A letter is required that outlines and discusses their extracurricular activities and interests that would demonstrate commitment to the chosen field of study.

**Sceptre Investment Counsel Ltd Bursary**
Program code: UEBO-701
Value: $2000
Awarded: Fall
Terms of reference: An entering undergraduate student in the Faculty of Science beginning in the 1995 Fall Semester on a rotational basis in subsequent years to the faculties of Applied Sciences (1996), Arts (1997), Business Administration (1998), and Education (1999). The bursary will be awarded on the basis of demonstrated financial need and satisfactory academic performance.

**Sceptre Investment Counsel Administrative/Union Pension Plan Bursary**
Program code: UEBO-721
Value: $1500
Awarded: Fall
Terms of reference: Granted to a student in any faculty on the basis of demonstrated financial need and satisfactory academic performance.

**Mrs. Rosalie Segal Endowment Fund for Students With Special Needs**
Program code: UEBO-604
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: This fund has been established to provide bursaries to physically challenged students. Up to three bursaries will be awarded on the basis of financial need. Adjudication will occur in consultation with the Physically Challenged Students’ Co-ordinator.

**Stanley Siyenpiper Bursary**
Program code: UEBO-655
Value: $400
Awarded: Fall, Spring
Terms of reference: One award in the Fall and one in the Spring on the basis of financial need. Preference will be given to third and fourth year students. This
Simon Fraser Student Society UCB Pub Bursaries
Program code: UPBO-571
Value: $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
Program code: UEBO-504
Value: $300
Awarded: Fall, Spring, Summer
Terms of reference: This fund has been established to provide bursaries for students in financial need who maintain a GPA of 2.00.

Simon Fraser University Bursary Endowment Fund
Program code: UEBO-502
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: All undergraduates in financial need are eligible to apply for these bursaries. A minimum CGPA of 2.00 is required.

Simon Fraser University Daycare Bursaries
Program code: UUBO-700
Value: $100
Awarded: Fall, Spring, Summer
Terms of reference: Applications for daycare bursaries are available at the Daycare Centre. Eligible students may qualify for a bursary provided that financial need can be demonstrated by a completed Canada Student Loan assessment or an Open Bursary assessment. Daycare bursaries are available to both graduate and undergraduate students.

SFU International Students’ Bursary Fund
Program code: UUBO-600
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: This fund has been established to assist undergraduate visa students who have critical financial need. Students applying for this bursary must be registered in a minimum of nine credit hours and have satisfactory academic standing.

Simon Fraser University International Students' Emergency Assistance Fund
Program code: UPBO-637
Value: $800
Awarded: Fall, Spring, Summer
Terms of reference: This fund has been established primarily to assist undergraduate visa students who have critical financial need. Students applying for this bursary must be registered in a minimum of nine credit hours and have satisfactory academic standing.

Simon Fraser University Open Bursaries
Program code: UUBO-500
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: Must be registered in a minimum of nine credit hours and have satisfactory academic standing.

SFU Punjabi Students Association Bursary
Program code: UEBO-521
Value: $500
Awarded: Summer
Terms of reference: The SFU Punjabi Students Association Bursary valued at a portion of the income earned on the endowment, will be awarded annually in any semester. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance to undergraduate students in any faculty.

Jennifer Allen Simons Bursary
Program code: UEBO-669
Value: $1000
Awarded: Fall, Spring
Terms of reference: An undergraduate or graduate woman student in any faculty. The bursary will be granted to a student who is a single parent supporting a child, and who is in financial need and who has satisfactory academic performance. Applicants must have completed one semester at Simon Fraser University as a full-time student.

B and B Sivertz Bursary
Program code: UEBO-656
Value: $1000
Awarded: Fall
Terms of reference: Undergraduate students who demonstrate financial need and satisfactory academic performance, and who have completed 30 credit hours at Simon Fraser University.

Harry and Dora Annie Sme Bursary
Program code: UEBO-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: UPBO-572
Value: $525
Awarded: Fall, Spring
Terms of reference: A physically challenged student in any faculty who is beyond first year studies. Initial preference will be given to wheelchair users.

Squamish Nation Bursary
Program code: UUBO-738
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: Valued at a portion of the earned interest, is granted in any semester based on financial need and community service to a student who is a member of the Squamish Nation. The bursary may be granted to graduate or undergraduate students in all disciplines. The successful student will have completed a minimum of 24 credits and will have achieved a minimum CGPA of 2.00. The application should include a discussion of the student’s involvement in SFU or Squamish Nation community activities and confirmation of the student’s status with the Squamish Nation.

Dorothy Sullivan Bursary
Program code: UEBO-690
Value: $850
Awarded: Fall, Spring, Summer
Terms of reference: Valued at a portion of the earned interest, is granted in any semester based on financial need and satisfactory academic standing.

TCG International Inc. Bursary
Program code: UEBO-644
Value: $1500
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. However, where no such candidate is identified, disbursement of the awards will be at the discretion of Simon Fraser University.

Trident Enrichment Society Bursary
Program code: UEBO-696
Value: $600
Awarded: Fall
Terms of reference: An entering or first year undergraduate student in any faculty. The bursary will be awarded to a student with a satisfactory academic record and demonstrated financial need in the continuing pursuit of their studies. The application must be accompanied by a letter outlining the applicant’s participation in community service.

TSSU Member Child Care Bursary
Program code: UUBO-550
Value: variable
Awarded: Fall, Spring, Summer
Terms of reference: TSSU employees are eligible to apply to the TSSU Member Child Care Bursary for each semester in which they hold an appointment and are registered as students at SFU and in which they receive child care services from a paid child care provider. All applications are subject to verification. The applicant must identify him/herself as an employee in the bargaining unit on the bursary application.

University Women’s Club of Coquitlam Bursary
Program code: UPBO-573
Value: $750
Awarded: Spring
Terms of reference: A mature female student who is continuing her education after several years absence, and is in her first year of study.

University Women’s Club of Vancouver Bursary
Program code: UPBO-575
Value: $985
Awarded: Spring
Terms of reference: A female student in any faculty enrolled in any program of study leading to a degree. The basis of the award is demonstration of financial need and satisfactory academic standing.

Roger Ward Award for Students With a Learning Disability
Program code: UEBO-536
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: To a full time undergraduate student(s) with a learning disability who is registered for services at the Centre for Students with Disabilities and is experiencing financial need. The award will be granted on the basis of demonstrated financial need and satisfactory academic performance.

Western Businesswomen’s Association Bursary
Program code: UEBO-705
Value: $800
Awarded: Fall
Terms of reference: A full or part-time student who is either entering the University for the first time or returning after an absence. Preference will be given to a mature female student. The bursary will be based on satisfactory academic performance and demonstrated financial need. The award will include a one year’s membership in the Western Businesswomen’s Association as well as the opportunity to engage in the association’s mentorship program.

Morris J. and Dena Wosk Bursary
Program code: UEBO-712
Value: $700
Awarded: Spring
Terms of reference: Undergraduate students in any faculty, on the basis of demonstrated financial need and satisfactory academic performance.

**Fred & Maureen Wright Bursary**
Program code: UEOB-710
Value: $750
Awarded: Spring
Terms of reference: Undergraduate students in any faculty on the basis of demonstrated financial need and satisfactory academic performance.

**John and Isabel Young Bursary**
Program code: UEOB-516
Value: $1000
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance.

**Bursaries for Applied Sciences Students**

**IODE Burnaby Municipal Chapter Bursary**
Program code: UEOB-558
Value: $1000
Awarded: Fall, Spring
Terms of reference: Third or fourth year students majoring in Science or Applied Sciences. Students must be Canadian citizens and graduates of Burnaby Senior Secondary School. Financial need and satisfactory academic standing is required.

**Canadian Federation of University Women – North Vancouver Bursary**
Program code: UPBO-574
Value: $1000
Awarded: Spring
Terms of reference: A female undergraduate student enrolled in the 2nd, third, or fourth year in any math or science Faculty or Professional School. The recipient should be in financial need and in satisfactory academic standing. The recipient must be a resident of North Vancouver or a graduate of a North Vancouver Secondary School (School District #44).

**Hugh Clark Memorial Bursary**
Program code: UEOB-694
Value: $500
Awarded: Fall
Terms of reference: To an undergraduate student in the School of Engineering Science. The award will be granted to a student holding a satisfactory academic record and experiencing financial need in the continuing pursuit of his/her studies.

**Delcan Corporation Bursaries**
Program code: UPBO-667
Value: $1000
Awarded: Spring
Terms of reference: Undergraduate and Graduate students registered full time in the faculties of Science or Applied Sciences. It is the intention of the Delcan Corporation to promote socio-environmental research and studies relative to major civil engineering projects; to support opportunities for women to enter careers at the management level in engineering; to increase high technological input into civil engineering, and to promote superior written and oral communication skills. Students will apply for these bursaries through Financial Assistance, and must include a letter of recommendation from the Office of the Dean of the major program.

**Engineers’ Wives’ Association Bursary**
Program code: UEOB-525
Value: $500
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to undergraduate students in the School of Engineering Science. The applicant should be a Canadian citizen or a permanent resident of Canada.

**Annie and Arthur Fouks Bursary in Publishing Studies**
Program code: UEOB-526
Value: $2500
Awarded: Fall
Terms of reference: One or more bursaries will be awarded annually in the Fall Semester to a student enrolled in a degree program in Publishing Studies. Awards may also be given to graduate students undertaking a Master Program in Publishing Studies. Student must have a minimum of 85 credit hours. The successful applicant should have financial need, a satisfactory academic standing and a demonstrable intent to pursue a career in the publishing industry.

**JimMar Bursary in Engineering**
Program code: UEOB-538
Value: $500
Awarded: Summer
Terms of reference: Bursaries will be granted to undergraduate students in the Faculty of Applied Sciences majoring in Engineering. The bursary is granted in any semester based on demonstrated financial need and satisfactory academic performance.

**Ralph Kerr Memorial Bursary**
Program code: UEOB-599
Value: $1200
Awarded: Fall
Terms of reference: Undergraduate students. Preference will be given to students who are in their third or fourth year of studies in the Physics or Engineering Programs. This bursary fund has been established in memory of Ralph Kerr, a charter member of Simon Fraser University and a former employee of the Physics Department.

**Tom Mallinson Bursary in Communication**
Program code: UEOB-518
Value: $1000
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to undergraduate students in the School of Communication with a shown interest in the field of interpersonal communication.

**Olga and Richard Murray Bursary in Applied Sciences**
Program code: UEOB-725
Value: $1000
Awarded: Fall, Spring
Terms of reference: Granted to graduate or undergraduate students in the Applied Sciences Faculty on the basis of demonstrated financial need and satisfactory academic performance. To the extent feasible, preference will be given to a student, or the spouse or child of a person, who is a member of the Telecommunication Workers Union or of Van-Tel Credit Union.

**Pacific National Foundation Endowment Bursary**
Program code: UEOB-655
Value: $2000
Awarded: Fall
Terms of reference: A single parent, undergraduate student in the Faculty of Business Administration, Faculty of Education, Faculty of Applied Sciences or the Faculty of Science. The bursary will be granted to a student wishing to upgrade their professional skills. The student should have satisfactory academic standing and a demonstrated financial need. A letter expressing job goals and direction should accompany the application form.

**Kazuya Shinyashiki Memorial Bursary in Computing Science**
Program code: UEOB-515
Value: $1000
Awarded: Summer
Terms of reference: An undergraduate student in computing science with financial need.

**Sierra Systems Bursary in Computing Science**
Program code: UEOB-663
Value: $2500
Awarded: Fall
Terms of reference: Third or fourth year students in the School of Computing Science. Applicants must have a satisfactory academic standing and financial need. One award will be given to a student from the Greater Vancouver Regional District and the other to a student from outside the Greater Vancouver Regional District.

**Victor J. Sundberg Memorial Bursary in Engineering Science**
Program code: UEOB-681
Value: $1000
Awarded: Fall
Terms of reference: An undergraduate student in any faculty. Whenever possible, preference will be given to a student majoring in Engineering Science in the Faculty of Applied Science. Applicants must have a satisfactory academic record and be in financial need in the pursuit of their academic studies. As well, special consideration will be given to community involvement and citizenship, evidence thereof to be provided in an accompanying letter or supporting documentation.

**Irene May Surbey Bursary**
Program code: UEOB-723
Value: $900
Awarded: Spring
Terms of reference: Granted to undergraduate students in the Faculty of Science or in the Faculty of Applied Sciences. The bursary is granted on the basis of demonstrated financial need and satisfactory academic performance.

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

**Bursaries for Arts Students**

**B.C. Shopping Centre Association Bursary**
Program code: UEOB-604
Value: $1000
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to an undergraduate student of the Certificate in Urban Studies.

**BOMA Undergraduate Bursary in Urban Studies**
Program code: UEOB-715
Value: $1000
Awarded: Fall, Spring
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance. Preference will be given to a student in the Certificate in Urban Studies program, or failing that, to a student in any faculty whose course work involves some aspect of real estate studies as their primary focus.
IODE Burquitlam Chapter Bursary
Program code: UPBO-561
Value: $300
Awarded: Spring
Terms of reference: An undergraduate student in second or third year within the Faculty of Arts. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance. The recipient may be a Canadian citizen or permanent resident of Canada.

Gloria Garrett Carlton Bursary in Dance
Program code: UEBO-522
Value: $1000
Awarded: Summer
Terms of reference: The Gloria Garrett Carlton Bursary in Dance valued at a portion of the income earned on the endowment, will be awarded annually in any semester. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance to undergraduate students majoring in Dance in the School of Contemporary Arts.

Chien’s Cultural Foundation Bursary
Program code: UEBO-707
Value: $600
Awarded: Fall
Terms of reference: An undergraduate student in the Faculty of Business Administration, or in the Faculty of Arts, preferably in Political Science. The bursary will be given to a student in good academic standing who is experiencing financial need.

Adaline May Clark Bursary
Program code: UEBO-590
Value: $400
Awarded: Fall
Terms of reference: The late Mrs. Clark has provided for the endowment of funds, for bursaries to enable students to attend, or continue to attend university. Students must be registered in the School for the Contemporary Arts, and must demonstrate financial need and a high level of achievement in the Arts.

Dr. Ed Colhoun Memorial Bursary
Program code: UEBO-673
Value: $225
Awarded: Fall
Terms of reference: An undergraduate student in Spanish who is holding a satisfactory academic record and who demonstrates financial need.

Kenneth Conibear Bursary in English
Program code: UEBO-724
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: Granted to undergraduate students majoring in English. The bursary is granted in any semester based on demonstrated financial need and satisfactory academic performance.

Laurence Mervyn Cox Bursary in English
Program code: UEBO-541
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: Awarded on the basis of demonstrated financial need and satisfactory academic performance to undergraduate students majoring in English. Preference will be given to students accepted to the honors program in the Department of English and to Canadian citizens or permanent residents of Canada.

English Faculty Honours Bursary
Program code: UEBO-730
Value: $400
Awarded: Summer
Terms of reference: On the basis of demonstrated financial need and satisfactory academic performance, to an undergraduate student in the honours English program. If there is no suitable candidate from the honours English program in a given year, the bursary may be awarded to an undergraduate student majoring in English.

Murray Farr Bursary in Performing Arts
Program code: UEBO-679
Value: $1000
Awarded: Spring
Terms of reference: An undergraduate student in the School for the Contemporary Arts with a performing arts concentration.

Aird Dundas Flavell Memorial Bursary
Program code: UEBO-659
Value: $1200
Awarded: Fall
Terms of reference: A student who has completed at least 15 hours at Simon Fraser with a satisfactory academic standing and whose course of study is in the following areas: political science, economics and/or business administration.

Florence Godwin IODE Bursary in Criminology
Program code: UEBO-650
Value: $500
Awarded: Fall
Terms of reference: To an undergraduate student majoring in Criminology, on the basis of demonstrated financial need and satisfactory academic performance. The recipient may be a Canadian citizen or permanent resident of Canada.

IATSE-Motion Picture Technicians Union Local 891 Bursary
Program code: UPBO-694
Value: $2000
Awarded: Summer
Terms of reference: Granted to full-time undergraduate students in the School for Contemporary Arts majoring in film or theatre. The bursary is granted in any semester based on demonstrated need and satisfactory academic performance.

ICBC/Brian Jones Memorial Bursary in Criminology
Program code: UEBO-524
Value: $750
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to undergraduate students in the School of Criminology.

Valerie Ann Kilby Memorial Bursary
Program code: UEBO-685
Value: $700
Awarded: Fall
Terms of reference: An upper level undergraduate student majoring in Psychology. Preference will be given to a student who graduated from Centennial Secondary School in Coquitlam. The bursary will also be based on financial need and satisfactory academic standing in the continuing pursuit of studies.

Keith G Loughlin Gerontology Bursary
Program code: UEBO-702
Value: $700
Awarded: Fall
Terms of reference: A graduate student enrolled in the Masters of Gerontology program, or to an undergraduate student enrolled in the Gerontology program, a Post Baccalaureate Diploma Program. The bursary will be granted to a student demonstrating financial need and in satisfactory academic standing. Preference will be given to a student specializing in quality of life issues in intermediate care facilities for seniors. Applicants should submit with their application, a letter outlining specialization or area of interest in the Gerontology field. A departmental nomination is to be submitted along with the application form.

Grace Woodsworth Maclnnis Bursary
Program code: UEBO-704
Value: $700
Awarded: Spring
Terms of reference: An undergraduate student who either has an approved minor in Humanities or has an approved major in Women’s Studies or Political Science. The recipient should have demonstrated financial need and a satisfactory academic standing; preference given to a woman student.

MATCH International Centre Bursaries in honour of Rosemary Brown
Program code: UPBO-507
Value: $625
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to full-time undergraduate or graduate students in the Department of Women's Studies.

McCavour Family Bursary in Criminology
Program code: UEBO-693
Value: $1200
Awarded: Fall
Terms of reference: An undergraduate student in Criminology who are single parents. Preference will be given to applicants who are sons, daughters or legal dependants of members of the Firemen's Benefit Association of Vancouver, BC, however, where no such candidate is identified, the award may be disbursed to other eligible students. The bursary will be granted on the basis of demonstrated financial need and satisfactory academic performance.

Lydia McCombie Memorial Bursary
Program code: UEBO-691
Value: $600
Awarded: Fall
Terms of reference: Undergraduate students in Criminology who are single parents. Preference will be given to applicants who are sons, daughters or legal dependants of members of the Firemen's Benefit Association of Vancouver, BC, however, where no such candidate is identified, the award may be disbursed to other eligible students. The bursary will be granted on the basis of demonstrated financial need and satisfactory academic performance.

Bruce McKelvie Endowment Bursary
Program code: UEBO-601
Value: $400
Awarded: Fall, Spring
Terms of reference: A student on the basis of financial need and satisfactory academic standing. To qualify students must have completed at least two years of study at Simon Fraser University and be focusing their studies on early BC History, namely 18th century forward. The bursary has been established by the Native Sons of British Columbia, Post #2.

Robin Mercer Memorial Bursary in Archaeology
Program code: UEBO-675
Value: $700
Awarded: Fall
Terms of reference: An undergraduate student who is majoring in Archaeology and who has a satisfactory academic record and in financial need. This bursary was established in memory of Robin Mercer, a former alumnus of Simon Fraser University in the Faculty of Arts.

Dr. Grazia Merler Bursary in French
Program code: UEBO-714
Value: $500
Awarded: Spring
Terms of reference: A student in French on the basis of demonstrated financial need and satisfactory academic performance.

Margaret A. Mitchell Bursary in Political Science
Program code: UEBO-687
Value: $2500
Awarded: Fall
Terms of reference: A student in Political Science.
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: $2500  
Awarded: Fall  
Terms of reference: An undergraduate female student in second, third or fourth year who is majoring in Women's Studies. The award will be granted to a student holding a satisfactory academic record and demonstrated financial need. When possible, preference will be given to a candidate living in the east end of Vancouver or in Burnaby.

**Kelly O'Hagan Memorial Bursary**
Program code: UEBO-683  
Value: $1000  
Awarded: Fall, Spring, Summer  
Terms of reference: An undergraduate student enrolled in the Latin American Studies Field School. One or more bursaries will be awarded biennially on the basis of financial need and satisfactory academic standing. Departmental nomination/recommendation is required.

**Dr. Margaret Ormsby Bursary in History**
Program code: UEBO-719  
Value: $850  
Awarded: Fall  
Terms of reference: Granted to undergraduate students in the Department of History based on demonstrated financial need and satisfactory academic performance.

**Rosslyn and Mary Penney Bursary in the Faculty of Arts**
Program code: UEBO-700  
Value: $400  
Awarded: Spring  
Terms of reference: Awarded to an undergraduate student in the Faculty of Arts in their second, third or fourth year of study. The bursary will be granted to a student who is physically challenged. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance.

**Helen Pitt Bursary in Visual Arts**
Program code: UPBO-567  
Value: $500  
Awarded: Fall  
Terms of reference: Bursaries will be awarded on satisfactory academic standing and demonstrated financial need to second, third or fourth year full-time undergraduate students with an approved major or extended minor in visual arts.

**George and Muriel Rogers Bursary in the Faculty of Arts**
Program code: UEBO-534  
Value: $1000  
Awarded: Summer  
Terms of reference: To an entering or returning undergraduate student in the Faculty of Arts. Preference will be given to a female student who is continuing her education after an absence of several years. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance.

**Rogers Sugar Ltd. Bursaries**
Program code: UPBO-553  
Value: $1000  
Awarded: Fall  
Terms of reference: Undergraduate students, who are in their third or fourth year of study at Simon Fraser University. Two bursaries are available to students majoring in Business Administration, and three bursaries to students majoring in Economics, or the Sciences, including Mathematics and Statistics.

**Donald H.M. Ross Faculty of Arts Bursary**
Program code: UEBO-692  
Value: $1000  
Awarded: Fall  
Terms of reference: A third or fourth year undergraduate student in the Faculty of Arts. The bursary will be granted on the basis of demonstrated financial need and satisfactory academic performance.

**Paul and Ethel Seffner Linguistics Bursaries**
Program code: UEBO-661  
Value: $1000  
Awarded: Fall, Spring  
Terms of reference: Undergraduate students pursuing a linguistics program who have satisfactory academic standing, demonstrated financial need, and have completed 15 credit hours at Simon Fraser.

**Retail Loss Prevention Association of British Columbia/Deborah Singer Memorial Bursary**
Program code: UPBO-605  
Value: $1000  
Awarded: Summer  
Terms of reference: To an undergraduate student in Criminology who is in satisfactory academic standing and demonstrates financial need.

**Sodexo Marriott Bursaries**
Program code: UPBO-602  
Value: $500  
Awarded: Summer  
Terms of reference: Awarded to full-time undergraduate students in the Faculty of Arts. The bursaries are based on demonstrated financial need and satisfactory academic performance.

**Bursaries for Business Administration Students**

**3M Canada Company Bursary in Business Administration**
Program code: UPBO-601  
Value: $1000  
Awarded: Summer  
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to undergraduate students in the Faculty of Business Administration.

**BC Bond Dealers Association Bursary**
Program code: UEBO-689  
Value: $600  
Awarded: Fall  
Terms of reference: An undergraduate student in the Faculty of Business Administration with a concentration in Finance. The bursary will be granted on the basis of demonstrated financial need and a satisfactory academic record.

**Keith and Betty Beedie Foundation**
Program code: UEBO-698  
Value: $1000  
Awarded: Fall  
Terms of reference: An undergraduate third or fourth year student in the Faculty of Business Administration with a concentration in either Finance or Accounting. Preference will be given to a graduate of either a Burnaby secondary school or Magee Secondary School. The bursary will be granted on the basis of satisfactory academic performance.

**Faculty of Business Administration Alumni Bursaries**
Program code: UEBO-531  
Value: $500  
Awarded: Summer  
Terms of reference: Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance to students in the Faculty of Business Administration.

**Chien's Cultural Foundation Bursary**
Program code: UEBO-707  
Value: $800  
Awarded: Fall  
Terms of reference: An undergraduate student in the Faculty of Business Administration, or in the Faculty of Arts, preferably in Political Science. The Bursary will be given to a student in good academic standing who is experiencing financial need.

**Connor, Clark & Lunn Bursary**
Program code: UPBO-684  
Value: $1000  
Awarded: Fall  
Terms of reference: To undergraduate student in the Faculty of Business Administration with an Accounting or Finance concentration. The bursary will be granted to a student in good academic standing who is in financial need.

**A. John Ellis Bursary in Business Administration**
Program code: UEBO-711  
Value: $1000  
Awarded: Spring, Summer  
Terms of reference: Undergraduate students in the Faculty of Business Administration. The bursary will be awarded based on financial need and a satisfactory academic standing.

**Executive Women International Bursary**
Program code: UEBO-684  
Value: $800  
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 Flavelle Memorial Bursary**
Program code: UEBO-659  
Value: $1200  
Awarded: Fall  
Terms of reference: A student who has completed at least 15 hours at Simon Fraser with a satisfactory academic standing and whose course of study is in the following areas: political science, economics and/or business administration.

**Henderson Development Ltd. Bursary**
Program code: UPBO-688  
Value: $1000  
Awarded: Fall  
Terms of reference: An undergraduate student in third or fourth year in Business Administration. The bursary will be awarded to a student in satisfactory academic standing and demonstrated financial need.

**Dr. Cal Hoyt Bursary in Business Administration**
Program code: UEBO-722  
Value: $800  
Awarded: Spring  
Terms of reference: Granted to undergraduate students in the Faculty of Business Administration based on demonstrated financial need and satisfactory academic performance.

**Laing Property Endowment Fund Bursary**
Program code: UEBO-653  
Value: $900  
Awarded: Fall
Terms of reference: Full-time undergraduate students in the Faculty of Business Administration. The awards are based on financial need and satisfactory academic standing.

R.J. McMaster Memorial Bursary (Credit Union Foundation of B.C.)
Program code: UPBO-634
Value: $500
Awarded: Spring
Terms of reference: A student majoring in Business Administration who is entering or in the final year of studies and, who has taken or will be enrolled in BUS 393, BUEC 391 or BUEC 495. The basis of the bursary will be financial need and good academic standing.

Pacific National Foundation Endowment Bursary
Program code: UEBO-655
Value: $2000
Awarded: Fall
Terms of reference: A single parent, undergraduate student in the Faculty of Business Administration, Faculty of Education, Faculty of Applied Sciences or the Faculty of Science. The bursary will be granted to a student wishing to upgrade their professional skills. The student should have satisfactory academic standing and a demonstrated financial need. A letter expressing job goals and direction should accompany the application form.

Rogers Sugar Ltd. Bursaries
Program code: UPBO-553
Value: $1000
Awarded: Fall
Terms of reference: Undergraduate students, who are in their third or fourth year of study at Simon Fraser University. Two bursaries are available to students majoring in Business Administration, and three bursaries to students majoring in Economics, or the Sciences, including Mathematics and Statistics.

Robert Rogow Bursary in Business Administration
Program code: UEBO-727
Value: $1000
Awarded: Spring
Terms of reference: Granted to undergraduate students in the Faculty of Business Administration based on demonstrated financial need and satisfactory academic performance.

J. Rose Memorial Bursary
Program code: UPBO-683
Value: $1500
Awarded: Spring
Terms of reference: An undergraduate or graduate Business Administration student who is in full time studies. The bursary will be granted on the basis of financial need and satisfactory academic performance. This bursary is provided by the Vancouver Foundation. A departmental recommendation is required.

Seaspan International Bursary
Program code: UPBO-686
Value: $750
Awarded: Fall
Terms of reference: A student, approved as a major, in Business Administration, who has satisfactory academic standing and financial need.

Vancouver Executives Association Bursary in Business Administration
Program code: UEBO-588
Value: $2000
Awarded: Fall
Terms of reference: A full-time, undergraduate student in Business Administration. The bursary will be granted on the basis of demonstrated financial need and satisfactory academic standing.

Charles S. Walker Bursary
Program code: UEBO-731
Value: $500
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to students in the Faculty of Business Administration with a concentration in marketing.

Bruce and Lis Welch Bursary in Business Administration
Program code: UEBO-717
Value: $1200
Awarded: Summer
Terms of reference: Granted to undergraduate students in the Faculty of Business Administration based on demonstrated financial need and satisfactory performance.

Bing Sum Yip Bursary in Business Administration
Program code: UEBO-686
Value: $1000
Awarded: Fall
Terms of reference: An undergraduate student in the Faculty of Business Administration. The award will be granted to a student with a satisfactory academic record and demonstrated financial need.

Elizabeth Young Memorial Bursary
Program code: UEBO-695
Value: $500
Awarded: Fall
Terms of reference: One or more bursaries will be awarded to undergraduate female students in Business Administration who demonstrate satisfactory academic achievement and financial need.

BC Exchange Teachers’ Association Bursary
Program code: UPBO-594
Value: $300
Awarded: Summer
Terms of reference: Granted to undergraduate or graduate students in the Faculty of Education, in any semester based on demonstrated financial need and satisfactory academic performance.

University Women’s Club of Vancouver/Jeann Beatty Memorial Bursary in Education
Program code: UEBO-519
Value: $750
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to a mature student in the Faculty of Education.

May Bennett Bursary
Program code: UEBO-585
Value: $125
Awarded: Fall
Terms of reference: Undergraduate students in the Faculty of Education. Applicants should be prepared to teach in British Columbia and demonstrate dedication to the teaching profession.

Canadian Yugoslav Community Bursary in Education
Program code: UEBO-703
Value: $1000
Awarded: Fall
Terms of reference: An undergraduate third or fourth year student in the Faculty of Education. The bursary will be granted on the basis of demonstrated financial need and satisfactory academic performance.

Faculty of Education Alumni Bursary
Program code: UEBO-533
Value: $500
Awarded: Summer
Terms of reference: Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance to students in the Faculty of Education.

Faculty of Education Special Bursary
Program code: UEBO-595
Value: $1000
Awarded: Fall, Summer
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 Fall or Spring semester. The bursary is awarded for the semester in which EDUC 405 is undertaken.

JimMar Bursary in Education
Program code: UEBO-539
Value: $500
Awarded: Summer
Terms of reference: Bursaries will be granted to undergraduate students in the Faculty of Education majoring in Engineering. The bursary is granted in any semester based on demonstrated financial need and satisfactory academic performance.

Pacific National Foundation Endowment Bursary
Program code: UEBO-655
Value: $2000
Awarded: Spring
Terms of reference: A single parent, undergraduate student in the Faculty of Business Administration, Faculty of Education, Faculty of Applied Sciences or the Faculty of Science. The bursary will be granted to a student wishing to upgrade their professional skills. The student should have satisfactory academic standing and a demonstrated financial need. A letter expressing job goals and direction should accompany the application form.

Maureen Pollard Memorial Bursary
Program code: UEBO-734
Value: $750
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to students in the Professional Development Program in the Faculty of Education. Preference, when possible, will be given to students in the Elementary stream.

Sylvia R.H. Rice Memorial Bursary
Program code: UEBO-660
Value: $1000
Awarded: Fall
Terms of reference: A first year student in PDP in the Faculty of Education. Satisfactory academic standing and demonstrated financial need is required.

Teacher Savings Credit Union Bursary
Program code: UPBO-638
Value: $500
Awarded: Fall, Spring
Terms of reference: To a student in any year of the Bachelor of Education, or the Professional Development Program in the Faculty of Education. Applicants must be a member or the son or daughter of a member of the VanCity Credit Union. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance.

Vancouver Elementary School Teachers Association Bursary
Program code: UPBO-577
Value: $800
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
66 Financial Assistance and Awards

selected also on the basis of need. The awards offered are as follows:
• the Elizabeth Dobkins Memorial Bursary open to students entering third year in the Faculty of Education at Simon Fraser University
• the Owen J. Thomas Memorial Bursary open to students entering the fourth year in the Faculty of Education at Simon Fraser University.

Bursaries for Science Students

Undergraduate Biology Student Union Bursary
Program code: UPBO-695
Value: $1000
Awarded: Summer
Terms of reference: One bursary valued at $100 will be available annually in any semester. The bursary, based on financial need, will be granted to an undergraduate student who is an approved biology major and is in good academic standing.

Canadian Federation of University Women – North Vancouver Bursary
Program code: UPBO-574
Value: $1000
Awarded: Summer
Terms of reference: A female undergraduate student enrolled in the 2nd, 3rd, or fourth year in any math or science Faculty or Professional School. The recipient should be in financial need and in satisfactory academic standing. The recipient must be a resident of North Vancouver or a graduate of a North Vancouver Secondary School (School District #44).

Curzon-Digman Bursary
Program code: UEBO-594
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: Available to graduate students in physics or for majors or honours students in physics, mathematical physics, chemical physics, biophysics or other joint programs with physics. These bursaries are subject to financial need and academic ability. Nominations will be made by the Chair of the Physics Department in consultation with financial Assistance.

Delcan Corporation Bursaries
Program code: UPBO-667
Value: $1000
Awarded: Spring
Terms of reference: Undergraduate and Graduate students registered full time in the faculties of Science or Applied Sciences. It is the intention of the Delcan Corporation to promote socio-environmental research and studies relative to major civil engineering projects; to support opportunities for women to enter careers at the management level in engineering; to increase high technological input into civil engineering, and to promote superior written and oral communication skills. Students will apply for these bursaries through Financial Assistance, and must include a letter of recommendation from the Office of the Dean of the major program.

Ralph Kerr Memorial Bursary
Program code: UEBO-599
Value: $1200
Awarded: Fall
Terms of reference: Undergraduate students. Preference will be given to students who are in their third or fourth year of studies in the Physics or Engineering Programs. This bursary fund has been established in memory of Ralph Kerr, a charter member of Simon Fraser University and a former employee of the Physics Department.

Margaret Lawson McTaggart-Cowan Alumni Bursary
Program code: UEBO-600
Value: $700
Awarded: Fall
Terms of reference: A female student who is majoring in Mathematics and who has completed at least two full-time semesters at Simon Fraser University.

Oakley Family Endowed Bursary in Science
Program code: UEBO-736
Value: $500
Awarded: Summer
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to students in the Faculty of Science.

Pacific National Foundation Endowment Bursary
Program code: UEBO-655
Value: $2000
Awarded: Fall
Terms of reference: A single parent, undergraduate student in the Faculty of Business Administration, Faculty of Education, Faculty of Applied Sciences or the Faculty of Science. The bursary will be granted to a student wishing to upgrade their professional skills. The student should have satisfactory academic standing and a demonstrated financial need. A letter expressing job goals and direction should accompany the application form.

Rogers Sugar Ltd. Bursaries
Program code: UPBO-553
Value: $1000
Awarded: Fall
Terms of reference: Undergraduate students, who are in their third or fourth year of study at Simon Fraser University. Two bursaries are available to students majoring in Business Administration, and three bursaries to students majoring in Economics, or the Sciences, including Mathematics and Statistics.

Irene May Surbey Bursary
Program code: UEBO-723
Value: $900
Awarded: Spring
Terms of reference: Granted to undergraduate students in the Faculty of Science or in the Faculty of Applied Sciences. The bursary is granted on the basis of demonstrated financial need and satisfactory academic performance.

Ken Turner Memorial Endowment Fund Bursary
Program code: UEBO-639
Value: $1000
Awarded: Fall, Spring
Terms of reference: Third or fourth year undergraduate students with a specialization in Marine Biology. All students are welcome to apply, however, preference will be given to a student from the Kimberley 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-807
Value: $300
Awarded: Fall, Spring
Terms of reference: Students who have completed at least 60 credit hours and who are studying in the areas of toxic chemicals or pollutants and their effects on human health and functioning. Please document eligibility. The Endowment has been established by the Association.

Vancouver Foundation Health Science Bursaries
Program code: UPBO-578
Value: $500
Awarded: Fall, Spring
Terms of reference: 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.

Bursaries for Student Athletes

Ed McDougall Memorial/SFU Softball Alumni Bursary
Program code: UEBO-520
Value: $800
Awarded: Fall, Spring
Terms of reference: An undergraduate student involved in the Simon Fraser soccer program. Awards are based on financial need and a satisfactory academic record. A recommendation is required from the Director of Athletics.

Awards for the University Community

Awards are given in recognition of distinguished intellectual, cultural, social or athletic contribution to university life. Awards usually consist of monetary remuneration but may also come in the form of a prize or medal. Many of the following awards have been made possible by generous donations.

Regulations for Academic and Service Awards

The following regulations govern all prizes, medals or 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 nine semester hours of normal graded courses in the semester of eligibility. Challenge, audit, and credit free courses are not considered. Students who register in fewer than nine semester hours or subsequently drop below nine hours may have their awards cancelled.
• Graduate students must be registered for residence credit in an approved full time program in the semester of eligibility. Students who do not register or subsequently change to on-leave status may have their awards cancelled.
• Candidates must submit an application form to Financial Assistance or be nominated by a member
(or members) of the Simon Fraser University faculty, staff, student body or alumni. Individuals submitting a nomination for an award must file the nomination form with Financial Assistance.

- Normally, only one intervening semester will be allowed between the semester in which the registered student made their contributions and the semester in which the award is adjudicated.
- Where contributions are over and above usual expectations, remunerated or assigned activities, such as course assignments or teaching duties, may be considered for recognition.
- Unless otherwise stated, awards are tenable only at Simon Fraser University for the semester indicated on the notice and may not be deferred.

**Awards for All Students**

**Alumni Association Outstanding Student Leadership Award**  
Program code: UPAO-167  
Value: $2000  
Awarded: Summer  
Terms of reference: Granted to a student in any faculty who is in his/her third or fourth 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 endeavor 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.

**BC Bearing Engineers Limited Award**  
Program code: UEAO-537  
Value: $300  
Awarded: Fall  
Terms of reference: Granted to a co-op student in any faculty who is doing his/her work term(s) in Latin America, including Mexico. The Award is intended to offset travel and/or living expenses for the period of time (not exceeding one year) spent in Latin America, or Mexico. If more than one student applies for the award, then the best CGPA will be the deciding factor. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the recommendation of the director, co-operative education.

**B.C. Sugar Achievement Award**  
Program code: UEAO-526  
Value: $5000  
Awarded: Summer  
Terms of reference: Granted to a SFU faculty, staff member, student or multiple of the same who meet the following criteria: winner of national or international competition, or recipient of national or international prize or award; history of leadership in recipient’s field; accomplishment(s) 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.

**Deans’ Convocation Medals**  
Program code: UUAO-002  
Awarded: Summer  
Terms of reference: A graduating student from each faculty. The dean of the respective faculty will recommend a student who is from the top 5% of graduating students within that faculty. The top 5% is defined by cumulative GPA. All nominations are to be forwarded to the assistant to the registrar.

**Terry Fox Gold Medal**  
Program code: UUAO-001  
Value: $1000  
Awarded: Summer  
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.

**Alexander Fraser Award in Piping and Drumming**  
Program code: UEAO-011  
Value: $500  
Awarded: Spring  
Terms of reference: These awards are made following a competition among the pipers and drummers on campus. A cash award will be made to the student judged best in each of the two categories. In addition, a cash award may also be made to the student who has contributed most significantly to the development of Highland tradition at Simon Fraser University.

**Gandhi Essay Award**  
Program code: N/A  
Value: $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.

**Governor General’s Silver Medal**  
Program code: UPAO-001  
Awarded: Summer  
Terms of reference: The silver medal will be awarded to the student whose record, in the opinion of the faculties, is the most outstanding in the graduating classes in any faculty. Eligible candidates should have completed a minimum of 60 semester hours at Simon Fraser University. The award shall be made to the student who has maintained a high scholastic standing during not fewer than six semesters or the equivalent of 60 semester hours or more at Simon Fraser University.

**Stephen Harold Edward Herring Prize**  
Program code: UEAO-048  
Value: $1000  
Awarded: Summer  
Terms of reference: The Herring Prize will honour the development of a device or innovative way to restore lost functions and provide increased independence for people who have been paralyzed. Submissions will be evaluated by the Herring Committee based on the originality of the research, keeping in mind the contribution of direct and effective research in alleviation and curing injuries made by impact that cause any paralysis. Eligible candidates will be graduate or undergraduate students at SFU in any faculty. The submission should include a description of the research, device or innovation to alleviate or cure injuries causing paralysis and two letters of support from faculty who know the student well and can attest to the originality of the research and role played by the student. Submissions should be sent to the Director, Student Academic Resources by April 15th. The Herring Prize will be awarded at the February Awards Ceremony in the following year. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Stephen Herring Prize Committee.

**Hong Kong University BC Alumni Award**  
Program code: UEAO-538  
Value: $850  
Awarded: Spring  
Terms of reference: A Co-op student in any faculty who is doing his/her work placement in Hong Kong. The award is intended to offset travel and/or living expenses for the period of time (not exceeding one year) spent in Hong Kong. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the recommendation of the co-operative education program director.

**Honor Roll**  
Program code: N/A  
Awarded: Fall, Spring, Summer  
Terms of reference: A limited number of students will be admitted each semester to the University honor roll, 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.

**Judy Kelly Humanitarian Award**  
Program code: UEAO-522  
Value: $450  
Awarded: Summer  
Terms of reference: An undergraduate student in any Faculty who has provided volunteer services to the university community. Particular preference will be given to students who have provided aid to students with physical disabilities. Applicants may apply for the award themselves, or may be recommended by a member of the university community.

**Iain Ormsaig MacKinnon Memorial Award**  
Program code: UEAO-045  
Value: $2250  
Awarded: Fall  
Terms of reference: An undergraduate student in any faculty. The award is for a student who plays the bagpipe, either as a solo musician or as part of the SFU Pipe Band or another pipe band and has a CGPA of 3.25+. Applications for this award should include a letter of reference from an appropriate individual discussing the applicant’s activities as a piper or participation in a pipe band.

**Muslim Students’ Association Award**  
Program code: UPAO-183  
Value: $100  
Awarded: Fall  
Terms of reference: One award valued at $300 will be available annually in the Fall semester. The award is granted to an undergraduate student in good academic standing from any faculty. The successful applicant will be involved in the Muslim Students’ Association for two semesters promoting better understanding and open dialogue between Muslims and the campus community at large. The applicant should submit a letter detailing his/her volunteer activities and a brief synopsis of how this activity helped to promote Islamic awareness.

**C.D. Nelson Memorial Prize**  
Program code: UEAO-019  
Value: $500  
Awarded: Summer  
Terms of reference: The C.D. Nelson Memorial Prize was established at Simon Fraser University in 1975 in memory of Professor C.D. Nelson, first head of Biological Sciences, who gave so fully of himself to
the whole University community. One C.D. Nelson Memorial Prize, valued at approximately $500 for the purchase of a Work of Art, will be awarded annually. The prize will be granted to a current or retired faculty or staff member, or to a current student who has made an outstanding contribution to Simon Fraser University other than normal or academic work. Nominations are to be made through Student Academic Resources, Office of the Registrar. The Prize will be made by the Senate Undergraduate Awards Adjudication Committee.

Dr. M. Sheila O’Connell Prize for Children’s Literature
Program code: UEO-534
Value: $1500
Awarded: Summer

Terms of reference: An undergraduate student who has completed work in the general subject area of children’s literature, fiction or criticism or is working towards publication of a piece of children’s literature. A proposal outlining the story should be forwarded by candidates to the cross-disciplinary committee from the Faculty of Education, the Department of English and the School of Communication. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the recommendation of the joint committee.

Eileen Purkiss Memorial Endowment Award
Program code: UEO-023
Value: $100
Awarded: Summer

Terms of reference: To graduate and undergraduate international students. In adjudicating the award, consideration will be given to the special contributions made by the student to the social and cultural exchange and development of international students at Simon Fraser University with specific reference to volunteer service, promotion of goodwill, and the organization of social, cultural, and related events. Applications or nominations may be made through Financial Assistance with appropriate letters of reference. The endowment fund is established in memory of Eileen Purkiss.

Gordon M. Shrum Gold Medal
Program code: UPAO-002
Value: $500
Awarded: Summer

Terms of reference: An award of a gold medal and $500 is to be made in May of each year to an outstanding student in any faculty who has completed the requirements for the Bachelor's degree during the preceding Summer, Fall or Spring semester. The award shall be made to the student who has maintained a high scholastic standing during not fewer than six semesters or the equivalent of 60 hours or more at Simon Fraser University and who, by participating in extracurricular activities, has shown outstanding qualities of character and unselfish devotion to Simon Fraser University. The award shall be made upon the recommendation of the Awards Committee after consultation with members of the faculty and representatives of the student body.

Simon Fraser University Pipe Band Memorial Award
Program code: UEO-043
Value: $1500
Awarded: Fall

Terms of reference: A Simon Fraser University student playing with the University Pipe Band who has particular promise in piping or drumming and who has maintained a satisfactory academic record. Recommendation is required from the SFU Pipe Band Major.

Simon Fraser University Piping Award
Program code: UPAO-008
Value: $600
Awarded: Fall, Spring, Summer

Terms of reference: Students who are members of the Simon Fraser University Pipe Band in recognition of their significant contribution to the University. The Ceremonies Office will forward nominations to Financial Assistance.

Ted Sinnott Memorial Award
Program code: UEO-027
Value: $450
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: UEO-049
Value: $500
Awarded: Summer

Terms of reference: To graduate or undergraduate students in any faculty whose volunteer activities have made a significant contribution to the development and/or improvement of campus community life. The application should include a letter from the student outlining his/her volunteer activities and the impact those activities have had on campus life.

Dr. Abe Unrau Memorial Co-op Prize
Program code: UEO-039
Value: $350
Awarded: Summer

Terms of reference: An outstanding co-op student in any faculty who, at the time of graduation, has the highest cumulative grade point average and who has successfully completed a minimum of four work semesters. A student from the School of Engineering Science co-op program may also be considered if he/she has successfully completed three work terms and a research semester (the undergraduate thesis project) producing an undergraduate thesis. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the director, co-operative education program.

Joan H. Walter Memorial Award
Program code: UEO-030
Value: $100
Awarded: Fall

Terms of reference: This award will be awarded biennially to a student who has been employed in the four guide service. Special consideration will be given to the student's willingness to serve and personal commitment to the University community and to the degree to which Simon Fraser University has been promoted with enthusiasm and accurate information. A nomination from the Director of Student Recruitment is required.

Roger G. Welch Alumni Prize
Program code: UEO-172
Value: $850
Awarded: Summer

Terms of reference: An alumnus/alumni of Simon Fraser University pursuing a degree program or a post baccalaureate diploma. The prize will honor or recognize students who have demonstrated leadership, citizenship and dedication in service to the university community. Participation with 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.

Dr. Abe Unrau Memorial Co-op Prize
Program code: UEO-039
Value: $350
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.

Communication Alumni Endowment Award
Program code: UEO-029
Value: $500
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: UEO-042
Value: $500
Awarded: Fall, Spring, Summer

Terms of reference: Undergraduate students in Computing Science, who if declared majors, meet the GPA requirements to stay in the School, or if not a declared major, meet the School’s GPA requirements to declare. Candidates need not have completed all the courses required to declare a major in Computing Science. Applicants must demonstrate service to the University community in particular to the undergraduate Computing Science Student Society and/or the Computing Science undergraduate student body. Financial need may be taken into account if more than one student qualifies for the award.

Applications for the award should be submitted to the Director of the School of Computing Science and will include a letter discussing university community involvement or involvement with the Society. Recommendations from any member may be submitted to the Director. The awards will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Director of the School of Computing Science in consultation with the undergraduate Computing Science student society.

DMR Award in Information Technology
Program code: UPAO-182
Value: $2000
Awarded: Spring

Terms of reference: Granted annually in any semester to a third or fourth year student pursuing either a joint major in information systems in business administration and computing science or a degree in the management and systems science program. Applications should include an indication of the students' interest in and work with information technology. The recipients of the DMR Awards may be eligible to be considered for a summer work term with DMR Consulting Group Inc.

Electronic Arts Inc. Award of Excellence in Computing Science
Program code: UPAO-186
Value: $500
Awarded: Summer

Terms of reference: Value at $500, will be given to the top student in Computing Science. The award...
recipient will be invited to visit the Electronic Arts (Canada) Inc. Studio.

Engineering Science Undergraduate Student Project Award
Program code: UEOA-535
Value: $100
Awarded: Fall, Spring, Summer
Terms of reference: Given annually for projects proposed by SFU Engineering Science undergraduate students. The project proposals submitted for consideration should contain a description of the project. Category as noted below, the benefits to SFU 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 and/or teaching aids

The Award(s) will be granted by the Senate Undergraduate Awards Adjudication Committee on the nominations of the Funding Council and the Director of the School of Engineering Science.

Engineering Undergraduate Student Society Award
Program code: UEOA-512
Value: $250
Awarded: Fall, Spring
Terms of reference: An undergraduate student in Engineering Science who has demonstrated service to the Engineering Science undergraduate student body. Students must be in good academic standing to apply for award. Preference will be given to those students who have not previously received the Award. Applications for the Award should be made to the Director of the School of Engineering Science. The application should include a letter from the student of the EUSS discussing the student’s involvement in and service to the Engineering Science student body. In addition, any member of the Engineering Science Undergraduate student body may nominate a recipient to the Director of the School of Engineering Science. The Director will consult with the EUSS prior making the recommendation. The award will be made by the Senate Undergraduate Award Adjudication Committee on the nomination of the Director of School of Engineering Science.

National Bank Financial Award in Kinesiology
Program code: UEOA-533
Value: $2000
Awarded: Fall
Terms of reference: Available to Kinesiology Major and Honours students interested in developing a career in Sport Science or the Fitness Industry. Tenure and remuneration from the award shall extend over three semesters. Candidates must have completed at least 90 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 five hours per week in each of two semesters. Suitable candidates on completion of two semesters of supervised study will be offered an opportunity to work independently as a consultant in the Centre for the remaining semester of the award. Applications for the award will be received by the Director, School of Kinesiology in August each year. Selection will be made by the Director of the Tong Louie Human Performance Centre and the Director of the School of Kinesiology and announced on the 1st of September.

Radio Station CHMB AM1320 Award in Communication
Program code: UEOA-523
Value: $2000
Awarded: Spring
Terms of reference: Available to a student enrolled in the Communications Honors program to assist with the cost of completing the Honors project. Preference will be given to a multi-lingual student whose Honors project addresses issues regarding the diversity of languages and cultures in the Greater Vancouver area with a focus on the role of the mass media, preferably radio. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Director, School of Communication.

Rogers Communications Inc. Award in Communication
Program code: UEOA-120
Value: $2000
Awarded: Spring
Terms of reference: Student enrolled in the Communications Honors program to assist with the cost of completing the Honors project. Preference will be given to a student whose Honors project addresses recent issues in Communication (e.g., relating to television or 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.

Awards for Arts Students
Essay Prize in African Middle-Eastern Asian History
Program code: UEOA-053
Value: $200
Awarded: Summer
Terms of reference: To the author of a superior undergraduate term report or essay on any topic concerning African, Middle-Eastern or Asian history. Special consideration will be given for originality in analysis and treatment of the area. Essays are to be submitted to the History Department by April 15, and must have been written in one of the three previous semesters.

Archaeometry Prize
Program code: UEOA-003
Value: $200
Awarded: Summer
Terms of reference: Either an undergraduate or graduate student who has shown exceptional scholarship and an interest in the application of Physical Science to Archaeology. This prize will be awarded by the Senate Undergraduate Awards Adjudication Committee on the nomination of the faculty members involved in Archaeometry.

Noel Archambault Memorial Award in Film
Program code: UEOA-050
Value: $1300
Awarded: Summer
Terms of reference: Granted to an undergraduate student in the School for Contemporary Arts, film major program whose fourth year film/video project best invokes Noel Archambault’s spirit of independence, innovation and technical ingenuity. The award will be adjudicated on the basis of the proposal for their upcoming fourth year film or video project the film major students present at the conclusion of their third year in the film program. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the director, School for Contemporary Arts.

Jane Austen Society Prize
Program code: UPAO-132
Value: $100
Awarded: Summer
Terms of reference: A student for the best essay by an upper level undergraduate student on the subject of Jane Austen, her life, works, or closely related social history. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the recommendation of the English Department. Applications and/or nominations are to be forwarded to the Dean of Graduate Studies office for adjudication.

G.A.B.C. Chuck Bayley Memorial Award
Program code: UEOA-519
Value: $900
Awarded: Fall
Terms of reference: Graduate or undergraduate students, full or part-time, who have through volunteer or paid work experience demonstrated an aptitude for and interest in the field of Gerontology. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Gerontology Alumni Chapter.

British Columbia Psychological Association Award
Program code: UPAO-005
Awarded: Summer
Terms of reference: A certificate of excellence will be awarded for outstanding achievement in the study of Psychology to a graduating student who has completed the requirements for a Bachelor’s degree over the previous summer, fall, or Spring semester.

British Columbia Psychological Association Award
Program code: UPAO-005
Awarded: Summer
Terms of reference: A certificate of excellence will be awarded for outstanding achievement in the study of psychology to a graduating student who has completed the requirements for a Bachelor’s degree over the previous summer, fall, or spring semester.

Richard P. Brolly Prize
Program code: UPAO-185
Value: $350
Awarded: Summer
Terms of reference: One award of $350 will be made available at the end of Spring semester to a student producing an outstanding paper/essay on any topic in archaeology. The paper/essay will have been written in the previous Spring, Fall or Summer semester. Papers should be submitted to the Department of Archaeology Undergraduate Curriculum Committee. Papers may be submitted for consideration by the author(s) or by the instructor.

Robert C. Brown Award
Program code: UEOA-195
Value: $2000
Awarded: Summer
Terms of reference: A student in the Faculty of Arts who has completed a minimum of 60 credit hours at the University. The recipient will have demonstrated a combination of outstanding academic achievement and outstanding performance or leadership in another endeavour at Simon Fraser. This may be in athletics, in service to the University, or in representing the University to the community at large. The Robert C. Brown Endowment Fund was established to
recognize the outstanding contributions of Dr. Robert C. Brown to Simon Fraser University, and particularly to the Faculty of Arts where, for fifteen years he was Dean. Nominations, including the nominee’s résumé, should be forwarded to Financial Assistance.

Bureau du Quebec Book Prizes in Quebec Studies
Program code: UPAO-177
Awarded: Summer
Terms of reference: To one top ranking undergraduate student and one top ranking graduate student in the Department of French having a concentration in Quebec studies within the Department’s French-Canadian course offerings, including Quebec literature and/or linguistics. The awards will be made by the Senate Undergraduate Awards Adjudication Committee and the Senate Graduate Awards Adjudication Committee on the recommendation of the Chair, Department of French. The Department of French reserves the right to withhold one or both prizes in any given year.

Bice Caple Awards
Program code: UUAO-005
Value: $1000
Awarded: Fall
Terms of reference: Outstanding contribution to the Fine Arts at Simon Fraser University during the previous year. Normally, the award may be held only once, but in no case may an individual receive the award more than twice. Each recipient will be nominated by the Director of the School of the Contemporary Arts, the award of $1,000 will be disbursed in two equal installments, one in the Fall semester and one in the Spring semester.

The Chan Sisters Foundation Non-Profit Co-op Employment Grant
Program code: N/A
Awarded: Fall, Spring, Summer
Terms of reference: The grant will subsidize Co-op students in the Faculty of Arts Program whose next Co-op work terms will be in not-for-profit organizations. The Chan Sisters Foundation Non-Profit Co-op Employment Grant will be administered by the Director, Co-operative Education Program.

Simon Fraser University Service Awards (Contemporary Arts)
Program code: UUAO-000
Value: $100
Awarded: Fall, Spring, Summer
Terms of reference: Students in the School for Contemporary Arts who have made a significant contribution in their field of study. Candidates must have been registered in a minimum of six credit hours (hours with a calculated GPA) with satisfactory academic standing in the qualifying semester of contribution. Graduate students may also be recognized for these awards.

Downtown Vancouver Association Award in Urban Studies
Program code: UEAO-047
Value: $1000
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.

AI Eisenring Gerontology Award
Program code: UEAO-041
Value: $1000
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: $1500
Awarded: Spring, Summer
Terms of reference: An undergraduate student pursuing a course of studies and demonstrate academic competence 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

The successful applicant will be a full-time student and must have been written in one of the three previous semesters. The award will be made by the Senate Undergraduate Awards Adjudication Committee. The successful applicant will be a full-time student and must achieve a gpa of 2.8 or more in their previous semesters of full-time studies at Simon Fraser University. Preference, when possible, will be given to students who have returned to full-time studies subsequent to a substantial interruption of their academic career after secondary school.

Stephen McIntyre Book Prize in History
Program code: UPAO-018
Value: $400
Awarded: Summer
Terms of reference: An undergraduate student in the School for Contemporary Arts majoring in music. The successful applicant will be a full-time student who achieves a gpa of 2.8 or more in their previous semesters of full-time studies at Simon Fraser University. Preference, when possible, will be given to students who have returned to full-time studies subsequent to a substantial interruption of their academic career after secondary school.

Richard Morgan Memorial Book Prize
Program code: UEAO-038
Value: $175
Awarded: Summer
Terms of reference: An undergraduate student who submits a superior 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 15, and must have been written in one of the three previous semesters. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Department of History awards committee.

Ingrid Nystrom Archaeology Award
Program code: UEAO-180
Value: $1200
Awarded: Spring
Terms of reference: An undergraduate student majoring in Archaeology to further studies in archaeology or physical anthropology. Please consult the Archaeology Department for further details and application procedures by November 1st.
and treatment of the subject. Essays are to be
submitted to the history department by April 15th, and must have been written in one of the three previous semesters. Margaret Ormsby, the doyen of historians of British Columbia, wrote the standard work on the history of the province, served for ten years (1965-75) as the head of the history department at the University of British Columbia and as president of the Canadian Historical Association in 1965-66, and was awarded an honorary doctorate by Simon Fraser University in 1971. The prize will be managed by the history department and will be awarded on the nomination of the Ormsby prize committee to the department. The history department will undertake to publicize and adjudicate the essay competition. The prize will be granted by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Chair of the Department of History.

**Helen Pitt Graduating Award in Visual Arts**

Program code: UPAO-189

Value: $1000

Awarded: Summer

Terms of reference: An award will be given in the Summer semester to a graduating student with an approved major or extended minor in visual arts. The award will be given by the Senate Undergraduate Awards Adjudication Committee on the nomination of the School for Contemporary Arts Visual Arts Committee.

**Philippa Polsen Memorial Prize**

Program code: UPAO-021

Value: $250

Awarded: Summer

Terms of reference: A student for the best English honors essay completed during the calendar year preceding October 15th. The Selection Committee, composed of the Department of English Undergraduate Committee, will consider all essays completed during the year. Graduated students, as well as those still completing a degree, are eligible.

**Psychology Alumni Honors Prize**

Program code: UEAO-037

Value: $500

Awarded: Summer

Terms of reference: A student enrolled in Psychology 490/499. The award will be based on the quality of research conducted for the Honours project. The recipient will be expected to give a talk on his/her research at the Psychology Department'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 Gold Medal and Prize In History**

Program code: UPAO-026

Awarded: Summer

Terms of reference: The Department of History wishes to recognize and encourage academic excellence with the award of a medal to the best history student in each graduating year. The award will be based on the best grade point average for upper level work.

**Robert L Stanfield Book Prize**

Program code: UEAO-028

Value: $50

Awarded: Summer

Terms of reference: Outstanding graduating students in Political Science. Awards will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Chair of the Political Science Department.

**F.W. Sullivan Visual Arts Award**

Program code: UPAO-029

Value: $95

Awarded: Summer

Terms of reference: A student majoring in the Centre for the Arts Visual Arts Program. The award will be based on the best grade point average for the Arts Visual Arts program. The Department of Visual Arts will forward the Centre for the Arts to the Senate Undergraduate Awards Adjudication Committee.

**Prize of the Ambassador of Switzerland in Canada**

Program code: UPAO-175

Value: $100

Awarded: Summer

Terms of reference: Students in their final year with the highest grades in German and French languages on recommendation by the Department (for German) and the Department of French (for French).

**Winnie Topping Memorial Prize**

Program code: UEAO-032

Value: $50

Awarded: Summer

Terms of reference: A female student in honors 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.

**US Embassy Essay Prize in History**

Program code: UPAO-179

Value: $700

Awarded: Summer

Terms of reference: The most promising student in the last three semesters in the History major. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Chair of the Political Science Department.

**Brian Williamson Memorial Award in Archaeology**

Program code: UEAO-515

Value: $800

Awarded: Spring

Terms of reference: A student who has declared a major in Archaeology, is registered in a minimum of nine credit hours (not necessarily in Archaeology) when application is made and intends to use the Award to help defray travel costs to participate in field research in Archaeology or Physical Anthropology. The Award will be based on use of the Award, academic achievements, and relevance of travel to the applicant's academic career. Applications should be sent in writing to the Chair, Department of Archaeology. The application should include evidence that the student is an Archaeology major in good academic standing, copy of most recent transcript, a statement describing how the Award will be used and any other relevant information that will aid the Committees in their decision. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Department of Archaeology undergraduate Awards Committee.

**Awards for Business Administration Students**

**Endowment Fund Prizes**

Program code: UEAO-035

Value: $200

Awarded: Summer

Terms of reference: An outstanding graduating student in Finance who has also made an important voluntary contribution to the University community or who has otherwise demonstrated leadership and management capability. The award is supported by The Diamond Fund in Business. A departmental nomination is required.

**Cohen Fund in Business – J. Segal Prize**

Program code: UEAO-036

Value: $400

Awarded: Summer

Terms of reference: The two finalists in the Dean's Medal competition. Students will be chosen by the Dean of Business Administration.

**Dean's Student Service Award**

Program code: UUAO-200

Awarded: Spring

Terms of reference: In 1995, the Dean of the Faculty of Business Administration established the Dean's Student Service Award. The purpose of the award is to recognize outstanding service in the university community by an undergraduate student in the Faculty of Administration. The Dean's Student Service Award will be awarded annually in the spring semester to recognize service in the preceding calendar year. The award, an engraved plaque and a gift, will be granted to a student, approved in a Business program, who has been nominated by the executive of a Faculty of Business Administration student club as their most valuable member. The student should have a minimum CGPA of 3.0 and must have been active in one of the student clubs in two of the three semesters in the preceding year. The award will be made by the Senate Undergraduate Awards Adjudication Committee.
Award Adjudication Committee on the nomination of the Dean, Faculty of Business Administration.

DMR Award in Information Technology
Program code: UPAO-182
Value: $2000
Awarded: Spring
Terms of reference: Granted annually in any semester to a third or fourth year student pursuing a joint major in information systems in business administration and computing science or a degree in the management and systems science program. Applications should include an indication of the students’ interest in and work with information technology. The recipients of the DMR Awards may be eligible to be considered for a summer work term with DMR Consulting Group Inc.

SFU Accounting Club Award
Program code: UPAO-181
Value: $500
Awarded: Spring
Terms of reference: A student in the Faculty of Business Administration with a concentration in accounting. The award is based on academic merit and extra-curricular involvement. The successful applicant should have a minimum CGPA of 3.5. Extra-curricular interests can include active memberships in clubs, volunteer experiences, sports activities and community involvement. Along with the application, applicants should submit a personal letter outlining their extra-curricular interests and a supporting letter of reference.

Awards for Education Students
Jean G.K. Bailey Memorial Award
Program code: UEAO-004
Awarded: Summer
Terms of reference: A student who entered the Professional Development Program in September, and a student who entered in January. The awards will be a three year membership in the National Society for the study of Education.

Dr. Maxwell A. Cameron Memorial Medals and Prize
Program code: UPAO-007
Value: $500
Awarded: Summer
Terms of reference: Granted to students in the Faculty of Education, one to a student in the elementary or middle school stream, and another to a student in the secondary stream. The prizes will be given in the summer semester to the outstanding student in each stream based on his/her academic accomplishments and overall performance during the completion of the Professional Development Program practica. The prizes commemorate the distinguished life and work of Dr. Maxwell A. Cameron (1907-1951), first director of the School of Education at the University of British Columbia and author of the Cameron Report on Education.

Claude E. Lewis Award
Program code: UEAO-015
Awarded: Summer
Terms of reference: Granted in the Fall or Spring semester to each of two students who have demonstrated excellence in overall performance during completion of the Professional Development Program in the Faculty of Education.

Phi Delta Kappa Scholarship in Education
Program code: UPSO-276
Value: $1000
Awarded: Summer
Terms of reference: Five scholarships valued at $1,000 each are available annually to undergraduate students in the Professional Development Program who have demonstrated overall excellence in their program of study. The scholarships will be awarded to students on the basis of overall excellence and contributions to the faculty, to the university and/or to the community. Candidates should include with their application a letter of recommendation in support of their service contributions. The award will be made by the Senate Undergraduate Awards Adjudication Committee on the nomination of the Dean, Faculty of Education.

Professional Development Program Awards of Excellence
Program code: UUAO-003
Value: $500
Awarded: Summer
Terms of reference: In recognition of excellence in overall performance during the 401/402 and 405 practica as well as demonstrated potential for future professional growth. Nominations may come from self, faculty, school associates or other student teachers. Contact the Faculty of Education for further information.

Awards for Science Students
Archaeometry Prize
Program code: UEAO-003
Value: $200
Awarded: Summer
Terms of reference: Either an undergraduate or graduate student who has shown exceptional scholarship and an interest in the application of Physical Science to Archaeology. This prize will be awarded by the Senate Undergraduate Awards Adjudication Committee on the nomination of the faculty members involved in Archaeometry.

Biological Sciences Merit Award
Program code: UESO-205
Value: $1400
Awarded: Fall
Terms of reference: A Biology major who has the highest academic record at the conclusion of the sixth semester of study or the equivalent thereof. A student may receive this award only once during their undergraduate career. Awarded upon nomination of the Department of Biological Sciences.

Chemistry Book Award — Dr. E.J. Wells
Program code: UEAO-008
Value: $50
Awarded: Summer
Terms of reference: Outstanding graduation grade point averages to graduating students in Chemistry, Chemical Physics or Biochemistry.

Chemistry/Biochemistry Award
Program code: UEAO-173
Value: $1000
Awarded: Fall
Terms of reference: An undergraduate student in the final year pursuing a major or honors degree in Chemistry or Biochemistry. The award will be granted to an outstanding student as judged by academic accomplishments and contributions to the department and to the University. Departmental nomination is required.

Dean of Science Award
Program code: UEAO-009
Value: $250
Awarded: Fall
Terms of reference: On the basis of academic merit to a student in the Faculty of Science, who has completed a minimum of 90 semester hours in a major or honors degree program. The prize will be based upon the student’s cumulative GPA in the previous two semesters of full-time study at Simon Fraser University (at least 12 semester hours credit in each semester) and the nominee will be nominated by the Faculty of Science undergraduate curriculum committee.

DMR Award in Information Technology
Program code: UPAO-182
Value: $2000
Awarded: Spring
Terms of reference: Granted annually in any semester to a third or fourth year student pursuing either a joint major in information systems in business administration and computing science or a degree in the management and systems science program. Applications should include an indication of the students’ interest in and work with information technology. The recipients of the DMR Awards may be eligible to be considered for a summer work term with DMR Consulting Group Inc.

Rudi Haering Award in Physics
Program code: UEAO-013
Value: $325
Awarded: Summer
Terms of reference: On the nomination of the Physics Department to an outstanding Physics or Chemical Physics undergraduate who has completed six semesters of study. A book prize may be included as part of the award. Established by members of the Simon Fraser University Physics Department in honor and recognition of Dr. R.R. Haering, founding Department Head and Professor, 1964-72.

Management and Systems Science Prize
Program code: UEAO-040
Value: $350
Awarded: Summer
Terms of reference: The Management and Systems Science Graduation Prize is an annual award valued at approximately 20% of the awarded income from the Management and Systems Science Endowment. The award will be given to an outstanding graduating student who has exhibited leadership through entrepreneurial skills, contribution to the program or contribution to the university in general. To be eligible, a student must be completing his/her degree in the preceding Fall semester, the Spring semester of the award or the Summer semester following the award. Students may be nominated for the award by faculty members in any of the constituent departments of the MSSC program, the executive of MSSC Student Society or Co-op co-ordinators placing MSSC students. The Management and Systems Science Prize provides an annual award valued at approximately 80% of the awarded income from the Management and Systems Science Endowment. Two prizes are available to students with an approved MSSC major or honors program and a minimum CGPA of 3.00. One prize will be given to a student in their third year of the program and one prize to a student in the fourth year or higher. Preference should be given to a student who has not previously received the award.

Department of Mathematics Awards
Program code: UEAO-017
Value: $50
Awarded: Spring
Terms of reference: Awards will be given to full-time students in the Department of Mathematics on the nomination of the Chair, Department of Mathematics. The fund provides support to further mathematics undergraduate education at Simon Fraser University and seeks to encourage secondary school students to enter into the study of mathematics.

Putnam Awards
Program code: UPAO-024
Value: $100
Awarded: Spring
Terms of reference: Awarded by the Department of Mathematics and Statistics to Simon Fraser University students listed as top participants in the William Lowell Putnam Mathematical Competition. The winners will be determined according to the official list provided by the organizers of this
competition. The ranking and the financial value of the award are as follows.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Award</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>(Putnam fellow) $350</td>
</tr>
<tr>
<td>N</td>
<td>$300</td>
</tr>
<tr>
<td>H</td>
<td>$250</td>
</tr>
<tr>
<td>I</td>
<td>$200</td>
</tr>
<tr>
<td>II</td>
<td>$150</td>
</tr>
<tr>
<td>III</td>
<td>$100</td>
</tr>
</tbody>
</table>

Department of Statistics and Actuarial Science Awards
Program code: UEAO-018
Value: $50
Awarded: Spring
Terms of reference: Awards will be given to full-time students in the Department of Statistics and Actuarial Science on the nomination of the Chair, Department of Statistics and Actuarial Science. The fund provides support to further statistical and actuarial undergraduate education at Simon Fraser University and seeks to encourage secondary school students to enter into the study of Statistics and Actuarial Science.

Webber Chemistry Co-op Book Prize
Program code: UPAO-031
Value: $50
Awarded: Summer
Terms of reference: Co-operative education chemistry (biochemistry) students who submit outstanding co-op work reports during the year. The awards will be made on the basis of nominations submitted to the senate committee on scholarships, awards and bursaries by the chemistry co-op co-ordinator.

Awards for Student Athletes

Regulations for Athletic Awards
The following regulations apply to athletic and recreation awards (see also page 44):

- Students must have achieved a minimum cumulative grade point average of 2.0 in the previous semester and must not be on academic probation, or, in the case of a first semester or transfer student, must possess an equivalent high school or college standing.
- Undergraduate students must be eligible to compete and be registered in a minimum of nine semester hours of normal graded courses in the semester of eligibility. Challenge, audit, and credit-free courses are not considered. Students who register in fewer than nine semester hours or subsequently drop below nine hours may have their awards cancelled.
- Graduate students must be eligible to compete and be registered for residence credit in an approved full-time program. Students who do not register or subsequently change to on-leave status may have their awards cancelled.
- Unless otherwise noted, candidates must be nominated by the director, campus community services.
- Only one intervening semester will be allowed between the semester in which the registered student made their contribution and the semester in which the award is adjudicated.
- Athletic awards are tenable only at the University for the semester indicated on the notice and may not be deferred.
- Funds will be credited to the successful student's account with the University. Outstanding debts to the University will be deducted from the award funds before a cheque for the credit balance is issued.

Bob Ackles Sports Administration Award
Program code: UEAA-001
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: To a student in good academic standing in any faculty who has demonstrated high standards of leadership in the management or administration of SFU Athletic, Recreation or Intramural programs.

Yolande D. Anderson Women's Basketball Award
Program code: UEAA-060
Value: $800
Awarded: Fall, Spring, Summer
Terms of reference: A full-time student in good standing who is on the Simon Fraser women’s basketball team and who demonstrates athletic ability in basketball.

G.F. Kym Anthony Endowment Fund
Program code: UEAA-087
Value: $750
Awarded: Fall, Spring, Summer
Terms of reference: The award is based on athletic merit in the wrestling program and will be awarded to a full or part-time student in good standing who is a wrestler attending Simon Fraser University.

Aon Reeds Stenhouse Inc. Athletic Award
Program code: UEAA-034
Value: $400
Awarded: Fall, Spring, Summer
Terms of reference: Athletes who meet the academic requirements and demonstrate outstanding athletic ability.

Aqua-demic Award
Program code: UPAO-019
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: The Aqua-demic Award, sponsored by Lis Welch, will be granted to an SFU student, in good academic standing, who exhibits outstanding athletic ability on the SFU Women’s Swimming and Diving team. The disbursement of award may be split between the Fall and Spring semesters.

C.G. “Chuck” Arnold Golf Award
Program code: UEAA-002
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: Two students who demonstrate outstanding ability in golf and meet the academic requirements. Preference will be given to residents of the Lower Mainland of BC.

Athlete Assistance Awards
Program code: UUAO-105
Value: $250
Awarded: Fall, Spring, Summer
Terms of reference: A number of awards are available each semester from funds raised by SFU athletic teams to assist student athletes in meeting educational costs. Candidates must be members of an SFU athletic team and have demonstrated dedication to their sport. Recipients must be registered in nine credit hours and maintain a CGPA of 2.0. Awards will be made by the Senate Undergraduate Awards Adjudication Committee on nominations from the Director of Recreational Services and Athletics.

Athletic Entrance Awards
Program code: UUAO-104
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: Four awards valued at $1,000 are available to students on the basis of demonstrated leadership in an intercollegiate sport. Students must maintain a 2.00 CGPA and be registered in nine credit hours during the tenure of award.

Athletic and Recreation Awards
Program code: UUAO-100
Value: $700
Awarded: Fall, Spring
Terms of reference: The purpose of the Athletic and Recreation Awards is to recognize significant contributions to the athletic activities of Simon Fraser University, or to recognize excellence in extraordinary amateur athletic activities. Up to 50 awards valued at $700 each are available to students who:
- have achieved a minimum grade point average of 2.00 in the previous semester and must not be on academic probation, or, in the case of a first semester or transfer student, possess an equivalent high school or college standing.
- are registered in nine or more hours of normally graded courses. Students who register in less than nine hours or subsequently drop below nine hours may have their awards cancelled.

Nomination will be made by the Director of Recreational Services and Athletics to the Senate Undergraduate Awards Adjudication Committee.

Jason Auranenko Endowed Golf Award
Program code: UEAA-089
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: To a student or students on the SFU Golf team who are in good academic standing. The recipient(s) must be graduate(s) of Canadian junior golf. Confirmation of this condition may be in writing by the student and/or SFU Head Golf Coach.

Bank of Nova Scotia Football Award
Program code: UEAA-003
Value: $300
Awarded: Fall, Spring, Summer
Terms of reference: A student registered in a program of study in any faculty at Simon Fraser University demonstrating outstanding ability in football, as well as proven academic achievement. This $3,000 self-perpetuating athletic award has been established by the Bank of Nova Scotia.

BC Athlete Assistance Program
Program code: UXAA-001
Value: $250
Awarded: Fall, Spring
Terms of reference: The BC Athlete Assistance Program is funded by the provincial government in support of BC athletes in reaching athletic goals and encouraging the pursuit of academic education.

B.C. Central Credit Union Athletic Award
Program code: UEAA-016
Value: $200
Awarded: Fall, Spring, Summer
Terms of reference: Annual award of approximately $300 to a student who is registered in a program of study in any faculty at SFU and who exhibits outstanding ability as well as proven academic achievement.

BC Lions Football Award
Program code: UEAA-004
Value: $100
Awarded: Fall, Spring, Summer
Terms of reference: The award will be given to student in good academic standing in any faculty who has demonstrated high standards of leadership and performance in playing on the varsity football team. Preference will be given to students with high academic standing.

BCTV Broadcasting System Ltd Athletic Award
Program code: UEAA-015
Value: $500
Awarded: Fall
Terms of reference: To students who meet the athletic requirements and have satisfactory academic standing.

BC Wrestling Association Alumni Award
Program code: UEAA-022
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: A student with demonstrated commitment to wrestling and who meets the academic requirements.
Beedie Construction Company Ltd (Keith & Betty Beedie) Award in Women’s Softball
Program code: UEAA-032
Value: $800
Awarded: Fall, Spring, Summer
Terms of reference: To a student in any faculty who is a member of the SFU Women’s Softball team and is in good academic standing.

David Beneteau Wrestling Awards
Program code: UEAA-093
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: One or more awards will be given to a full-time student(s) who is in good academic standing in any faculty and is a member of the Varsity Men’s Wrestling team. High standards of leadership, athletic performance and academic accomplishment may be considered in selection of the recipient. The recipient should be a member in good standing with the "British Columbia Amateur Wrestling Association."
Preference, when possible, will be given to at least one student who comes from the province of Ontario.
Confirmation of this latter condition may be in writing by the student and/or SFU Head Wrestling Coach. A letter of recommendation from the Head Wrestling Coach should accompany the application.

Best Facilities Services Ltd Athletic Award
Program code: UEAA-017
Value: $250
Awarded: Fall, Spring, Summer
Terms of reference: An athlete who meets the academic requirements and exhibits outstanding ability.

John Buchanan Men’s Soccer Award
Program code: UESO-512
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: To an undergraduate student in any faculty in good academic standing who is a member of the Men’s Soccer team. A letter of recommendation from the Head Soccer Coach should accompany the application.

Canadian Airlines International Ltd Award
Program code: UEAA-035
Value: $400
Awarded: Fall, Spring, Summer
Terms of reference: An athlete who meets the academic requirements and exhibits outstanding ability.

Canadian National Railways
Program code: UEAA-005
Value: $100
Awarded: Fall, Spring, Summer
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: $1000
Awarded: Fall, Spring
Terms of reference: A student active in wrestling at Simon Fraser who meets the athletic and academic requirements. Preference will be given to a Centennial Senior Secondary School graduate.

Jim Ciccone Men’s Basketball Award
Program code: UEAA-084
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: A full or part-time student in good standing who is attending Simon Fraser University and is on the Basketball team. Preference, when possible, will be given to SFU students from Northern BC, or to students from BC. The award is based on athletic merit in the Men’s Basketball Program.

Clansmen Athletic Alumni Society Award
Program code: UPAA-013
Value: $500
Awarded: Fall
Terms of reference: Provides for annual award(s) to entering or continuing students who are involved in the intercollegiate football program and demonstrate outstanding ability in the sport of football.

Coca-Cola Student Athlete Awards
Program code: UPAA-018
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: To students who are members of a varsity athletic team at Simon Fraser University. Awards may be granted in any semester. The recipients must be in good academic standing.

Moira Colbourne Field Hockey Award
Program code: UEAA-018
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: The award will be given to students in good academic standing in any faculty, who have demonstrated high standards of leadership and performance as team members of the women’s field hockey team. Academic accomplishment may be considered in selection of the recipient.

W. Lorne Davies Senior Graduation Award
Program code: UEAA-079
Value: $1000
Awarded: Spring
Terms of reference: A senior SFU varsity athlete with at least 90 semester hours of which 48 semester hours are at Simon Fraser University. The recipient will have completed their senior year of athletic eligibility as identified by the NAIA. The Award will be announced at the March Awards banquet and will be granted to a registered student in the summer, fall or spring semester to offset the tuition costs of the graduation year. The award must be granted within one year of notification. The W. Lorne Davies Senior Graduation Award’s purpose is to fulfill the philosophy of W. Lorne Davies that all varsity athletes should achieve graduation.

W. Lorne Davies Athletic Excellence Award
Program code: UEAA-080
Value: $2000
Awarded: Spring
Terms of reference: The outstanding male and the outstanding female varsity athlete of the year. Two awards may be given in either category if there are two equal candidates. Recipients must be full-time students. The awards will be granted at the Simon Fraser Athletics Banquet.

Larry K Davis/Bravo International Services Corp. PNB Award in Golf
Program code: UEAA-020
Value: $250
Awarded: Fall, Spring, Summer
Terms of reference: A full-time student in good standing who is on the golf team at Simon Fraser University.

Les and Greg Edgelow Wrestling Award
Program code: UEAA-058
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: A first year student (preference given to student from the BC interior) in good standing who is on the University wrestling team and who is registered full-time. The award is also based on athletic merit in wrestling.

Field Hockey Endowment Award
Program code: UEAA-012
Value: $250
Awarded: Fall, Spring, Summer
Terms of reference: Awarded to students who have made contributions to the SFU Field Hockey Program.

Jim Forsythe Olympian Award
Program code: UEAA-069
Value: $1000
Awarded: Fall, Spring
Terms of reference: A student athlete in any sport who has aspirations to compete in the Olympics. The award will be given to a student in good standing who has shown leadership qualities. The student must submit an application in writing and present their training procedures to the Jim Forsythe Olympian committee by August 30th. This award may be held in conjunction with other awards made by Simon Fraser University or other agencies where permitted by those agencies.

Kelly Franks Memorial Swimming Award
Program code: UEAA-090
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: To student or students on the SFU Swimming Team who are in good academic standing. Preference, when possible, will be given to at least one student who was or is active in the British Columbia Summer Swimming Association (BCSSA), either as a participating athlete, coach or volunteer. Confirmation of this latter condition may be in writing by the student and/or SFU head swim coach. The recipient may be granted the Kelly Franks Memorial Swimming Award more than once provided criteria noted above are met.

Rick Hansen Athletic Award
Program code: UUAO-103
Value: $1400
Awarded: Fall
Terms of reference: A physically challenged student athlete who meets the general award requirements.

Dr. T. Peter Harmon Wrestling Award
Program code: UEAA-048
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: The award will be given to student in good academic standing in any faculty who has demonstrated high standards of leadership and performance as a team member of the varsity wrestling team. Preference will be given to students with high academic standing.

Robert F. Harrison & Partners Athletic Award
Program code: UEAA-051
Value: $250
Awarded: Fall, Spring, Summer
Terms of reference: The interest from the endowment will be given each year to an athlete upon the recommendation of the Director of Athletics.

Wayne Holm Football Scholarship
Program code: UEAA-023
Value: $750
Awarded: Fall, Spring, Summer
Terms of reference: Students exhibiting exceptional ability in football and meeting the academic requirements.

Indo-Canadian Wrestling Award
Program code: UEAA-062
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: A full or part-time student in good standing. The award is based on athletic merit in wrestling.

Intramural Involvement Award
Program code: UEAA-086
Value: $125
Awarded: Fall, Spring, Summer
Terms of reference: A full or part-time student in good standing. The recipient is attending Simon Fraser University and who volunteers within the Intramural Program.

Mike Jones Wrestling Award
Program code: UEAA-053
Value: $1000
the wrestling program.

Rick Jones Memorial Award
Program code: UEAA-007
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: A part-time or full-time student in good academic standing, based on athletic merit in the wrestling program.

Keg Restaurants Ltd Athletic Award
Program code: UEAA-026
Value: $200
Awarded: Fall, Spring, Summer
Terms of reference: Of 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: $500
Awarded: Fall, Spring, Summer
Terms of reference: An athlete who meets the academic requirements and demonstrates outstanding ability.

Jon-Lee Kootnekoff Basketball Award
Program code: UEAA-029
Value: $900
Awarded: Fall, Spring, Summer
Terms of reference: A first year student on the Simon Fraser University men's basketball team. The award will be disbursed over two semesters, valued at approximately $450 per semester.

Labatt Breweries Award in Soccer
Program code: UPAA-003
Value: $600
Awarded: Spring
Terms of reference: Granted to one or more students exhibiting outstanding athletic merit in soccer and maintaining a satisfactory academic standing.

Labatt Breweries of BC Limited Football Awards
Program code: UEAA-008
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: A student who is registered full-time in a program of study in any faculty. The awards are based on outstanding ability in football, as well as proven academic achievement.

The Leon J. Ladner Athletic Award
Program code: UPAA-012
Value: $300
Awarded: Fall, Spring, Summer
Terms of reference: Granted to a student in any faculty who demonstrates exceptional accomplishment or promise in active competitive sport at Simon Fraser University.

Landmark Truss & Lumber Inc. Wrestling Award
Program code: UPAA-020
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: To a full-time student who is in good academic standing in any faculty and is a member of the varsity Men's Wrestling team. High standards of leadership, athletic performance and academic accomplishment may be considered in selection of the recipient.

Rae/Suart Alumni Athletic Award in Women's Basketball
Program code: UEAA-049
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: The award(s) will be given to a student on the women's basketball team upon completion of their first year of academic studies at Simon Fraser University.

Rae/Suart Alumni Athletic Award in Men's Basketball
Program code: UEAA-030
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: To student in good academic standing in any faculty who has demonstrated high standards of leadership and performance as a team member of the varsity wrestling team. Preference will be given to students with high academic standing.

David and Brenton Nichols Award in Athletics
Program code: UEAA-092
Awarded: Fall, Spring, Summer
Terms of reference: To third or fourth year students in good academic standing in the Faculty of Business Administration or School of Communications. The award will be granted to students participating in a competitive sport at the provincial level or higher, or if no such student is available, then to a student who is on an SFU Varsity team. A letter of reference from the student's coach should accompany the application. The candidate should provide supporting documents demonstrating their interest not only in competitive sports but also in business and entrepreneurial endeavors.

Northern British Columbia Softball Award in Women's Softball
Program code: UEAA-085
Value: $500
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 two 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.

Northland College of Physical Education Scholarship
Program code: UEAA-056
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: To a student in good academic standing who is on the football team at Simon Fraser University. The award is based on athletic merit in football.

D.B. Perks & Associates Ltd. Award in Swimming and Diving
Program code: UEAA-041
Value: $500
Awarded: Fall, Spring, Summer
Terms of reference: To a student in any faculty who is a member of the varsity SFU Swimming and Diving team, exhibiting exceptional ability in swimming and/or diving and is in good academic standing.

Murray Pezim Award in Football
Program code: UEAA-050
Value: $600
Awarded: Fall
Terms of reference: To students in good academic standing in any faculty who have demonstrated high standards of leadership and performance as a member of the Varsity Football team. Academic accomplishment may be considered in selection of the recipient.

Scott Paper Alumni Endowment Award
Program code: UEAA-013
Value: $500
Awarded: Fall, Spring, Summer
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.

Servipetrol Wrestling Award
Program code: UPAA-017
Value: $1500
Awarded: Fall, Spring, Summer
Terms of reference: To a student who is on the SFU Wrestling team. The recipient must be enrolled in the appropriate number of credit hours for a student-athlete, as defined by the university and must have achieved a grade point average of 2.5 or greater.
Terms of reference: Students who are members of the Simon Fraser wrestling team and who meet the academic requirements.

**Victor V. Spencer Athletic Award**
Program code: UEAA-046
Value: $500
Awarded: Fall, Spring, Summer

Terms of reference: An award is available to an athlete who exhibits outstanding athletic ability as well as maintains satisfactory academic performance.

**Bob Spray Rugby Awards**
Program code: UEAA-025
Value: $500
Awarded: Spring

Terms of reference: Rugby players enrolled at Simon Fraser University. This award is offered in recognition of significant contributions to the Simon Fraser University rugby team, or in recognition of excellence in extra-curricular rugby activities. Students must have achieved a minimum grade point average of 2.00 in the previous semester during tenure of the award. Applications should be submitted to the Simon Fraser University rugby coach in the previous fall semester.

**Student Athlete Support Award**
Program code: UEAA-065
Value: $250
Awarded: Fall, Spring, Summer

Terms of reference: Awards for student athletes. Must have minimum CGPA of 2.00, must be full-time students, and must be eligible to compete in their sport.

**Annis Stukus Award in Football**
Program code: UEAA-040
Value: $1000
Awarded: Fall, Spring

Terms of reference: To a student who has a notable academic achievement. Academic accomplishment may be considered in selection of the recipient.

**Lynn K. Sully Athletic Award**
Program code: UEAA-010
Value: $2000
Awarded: Fall, Spring, Summer

Terms of reference: To a student who demonstrated outstanding athletic ability and meet the academic requirements. This endowment is to provide two awards, one for football and one for basketball.

**Florence and Lynn Sully Basketball Award in Men’s Basketball**
Program code: UEAA-021
Value: $500
Awarded: Fall, Spring, Summer

Terms of reference: To a student in good academic standing who is on the Varsity Men’s Basketball team. Academic accomplishment may be considered in the selection of the recipient.

**Dr. Gordon Shrum Athletic Award**
Program code: UEAA-037
Value: $800
Awarded: Fall, Spring, Summer

Terms of reference: To an athlete who meets the academic requirements and demonstrates outstanding athletic ability.

**Simon Fraser University Alumni Soccer Award**
Program code: UEAA-063
Value: $900
Awarded: Fall, Spring, Summer

Terms of reference: An undergraduate student involved in the University soccer program.

**SFU Athletic Award**
Program code: UEAA-044
Value: $500
Awarded: Fall, Spring, Summer

Terms of reference: An award is available to an athlete who exhibits outstanding athletic ability as well as maintains satisfactory academic performance.

**Sandra Spence Memorial Wrestling Award**
Program code: UEAA-033
Value: $1500
Awarded: Fall, Spring

Terms of reference: To an athlete who exhibits outstanding athletic ability.

**Vancouver Ski Club Award**
Program code: UEAA-039
Value: $1200
Awarded: Fall, Spring, Summer

Terms of reference: To a student who has a notable academic achievement. Academic accomplishment may be considered in selection of the recipient.

**Jay Triano Basketball Award**
Program code: UPAA-014
Value: $2000
Awarded: Fall, Spring, Summer

Terms of reference: To an SFU student who exhibits outstanding athletic merit on the SFU Track and Field team and who maintains a satisfactory academic standing. $2,000 in total will be awarded annually in two installments. Preference will be given to students who are members of the Valley Royals Track and Field Club. If a suitable candidate from the Valley Royals Club is not found in a given year, the Award may be granted to a student on the SFU Track and Field team who is from Zone 3. The recipient may be granted the Valley Royals Award more than one time provided all criteria noted above are met.

**Valley Royals Award in Track and Field**
Program code: UEA-086
Value: $100
Awarded: Fall, Spring, Summer

Terms of reference: An award is available to an athlete who exhibits outstanding athletic ability as well as maintains satisfactory academic performance.

**Brit Townsend Women’s Track and Field Award**
Program code: UEAA-083
Value: $600
Awarded: Fall, Spring, Summer

Terms of reference: An award is available to an athlete who exhibits outstanding athletic ability as well as maintains satisfactory academic performance.

**Vancouver Golf Club/MCL Motors Golf Tournament Award in Golf**
Program code: UEA-066
Value: $100
Awarded: Fall, Spring, Summer

Terms of reference: An award is available to an athlete who exhibits outstanding athletic ability as well as maintains satisfactory academic performance.
External Entrance Scholarships for All Students

AGF Financial Life Skills Scholarship Program
Deadline: May 28
Terms of reference: Candidates must be graduating from their last year of high school (and/or cégep) in Quebec with a 75% (or equivalent) average in their final and next-to-final year courses. They must have demonstrated some involvement in any of the following areas: community leadership, extra-curricular activities, special projects, volunteer service, outside interests or hobbies, career and educational objectives. Candidates must be Canadian citizen or permanent residents.
Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (Aucc), 350 Albert St., Suite 600, Ottawa, ON, K1R 1B1. Tel: (613) 563-1236. Fax: (613) 563-9745. E-mail: awards@aucc.ca. Web: www.aucc.ca

Assoc. of Professional Engineers and Geoscientists of BC Scholarships
Deadline: unknown
Terms of reference: Contact Association of Professional Engineers and Geoscientists of the Province of British Columbia for information, conditions and application.
Contact: Association of Professional Engineers and Geoscientists of the Province of British Columbia, #200-4010 Regent Street, Burnaby, BC, V5C 6N2. Tel: (604) 430-8035. Fax: (604) 430-8085. E-mail: apeginfo@apeg.bc.ca

University Administered Loans

Student Emergency Loan Fund Regulations
The following regulations govern all loans for continuing students over which the University has jurisdiction.
- Short-term emergency funds are available to students who urgently need money while awaiting other sources of funding.
- Emergency loans are interest free for a period of 60 days.
- Students must have a demonstrated financial need and source of repayment.
- Undergraduate students must be registered in a minimum of nine semester hours of normal graded courses in the semester of application. Challenge, audit, and credit free courses will not be considered.
- Graduate students must be registered for residence credit in an approved full-time program.
- Students must apply on the Simon Fraser University Emergency Loan application form and be interviewed by a Financial Assistance Advisor. It is the student’s responsibility to supply all requested documentation. Incomplete applications may be rejected.
- SFU Emergency Loans are tenable only at Simon Fraser University and only for the semester indicated on the notice.

Externeally Administered Programs

Externeally Administered Entrance Scholarships
The following entrance scholarships are not administered by Simon Fraser University. The information is intended for general reference only; it may be subject to change. The student is responsible for enquiring and applying through the appropriate agency as indicated in the description.

West Coast Reduction Ltd Athletic Award
Program code: UEAA-038
Value: $600
Awarded: Fall, Spring
Terms of reference: To a student athlete who exhibits exceptional ability in any intercollegiate sport and maintains a good academic standing.

White Rock Renegades Women’s Softball Awards
Program code: UEAA-045
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: 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.

Women’s Athletic Awards (She Can Play!)
Program code: UEAA-091
Value: $10
Awarded: Fall, Spring, Summer
Terms of reference: To a female student in good academic standing in any faculty who has demonstrated high standards of leadership and performance in a varsity sport offered through the university.

Terry Fox Humanitarian Award
Deadline: February 1
Terms of reference: The Terry Fox Humanitarian Award Program is intended to encourage Canadian youth to seek the high ideals represented by Terry Fox by the granting of commemorative scholarships for the pursuit of higher education. The Terry Fox Scholarship is a renewable award, subject to satisfactory progress, and is tenable at any Canadian university or college. The value of the award is $6,000 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 $3,500. The awards will be of particular interest to graduating secondary level students and those currently studying towards a first degree or diploma in a Canadian university or college. Scholarship candidates must be Canadian citizens or have landed immigrant status. They must not exceed 25 years of age. The field of study is open and at the discretion of the successful candidate. Demonstration of the highest ideals and qualities of citizenship will be criteria for selection of recipients. Further relevant qualities are courage in overcoming obstacles, involvement in humanitarian service and participation in sport; fitness and community service. Applications will be considered either directly or through academic institutions. Recommendations for scholarship assistance made by institutions will be an important factor in the final selection process. Successful Terry Fox scholars are expected to participate in Program activities such as volunteer service, recipients yearly meeting and annual reports.
Contact: Terry Fox Humanitarian Award Program, Simon Fraser University, 8888 University Drive, Burnaby, BC, V5A 1S6. Tel: (604) 291-3057. E-mail: terryfox@sfu.ca. Web: www.terryfox.org

Dr. L. M. Greene Scholarship
Deadline: May
Terms of reference: A scholarship in the amount of $500 and is awarded annually to a former Prince Rupert Senior Secondary School student who is interested in pursuing a vocation in any of the health care fields. Applications will normally be considered in May or June.
Contact: Prince Rupert Regional Hospital, 1305 Summit Avenue, Prince Rupert, BC, V8J 2A6.

IBM Canada Limited Pacific Development Centre Scholarship – Science Council of British Columbia
Deadline: March 1
Terms of reference: The IBM Canada Limited Pacific Development Centre Scholarship program administered by the Science Council of BC, offers $10,000 information technology scholarships over five years, to students pursuing education at a BC post-secondary institution. The intent of the scholarship is to encourage academic excellence and the pursuit of higher education in the information technology sector among youth in the province of British Columbia. This includes, but not limited to, computing science, computer engineering,
management information systems, electrical engineering, physics or first year programs leading to these disciplines at a BC post-secondary institution.

Applicants must be a BC high school student who is completing grade 12 and entering the first year of a full-time post-secondary program at a qualifying BC institution in the year of application. Applications must be made by nomination by the students’ secondary school. To maintain eligibility, recipients must maintain a minimum average of 75% or equivalent.

Contact: Science Council of British Columbia, Suite 400, 4710 Kingsway, Burnaby, BC, V5H 4M2, Tel: (604) 438-2752, Fax: (604) 438-6564, E-mail: INFO@scbc.org, Web: www.scbc.org

Harry Bridges Entrance Scholarship (ILWU)
Deadline: June 30
Terms of reference: Four scholarships of $1500 each are offered to members, and sons and daughters of members, in good standing, of the International Longshore and Warehouse Union who are proceeding in the fall to a full first year program of studies at the University of British Columbia, University of Victoria, Simon Fraser University, the BC Institute of Technology, or a regional college in BC.

Contact: Award # 04718: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

William L. Hurford Memorial Scholarship (ILWU)
Deadline: June 30
Terms of reference: A scholarship of $1,200 is open to sons and daughters of members, in good standing of the International Longshore and Warehouse Union who is proceeding to university or college.

Contact: Award # 04786: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Carol Anne Letheren Leadership and Sport Scholarship
Deadline: January 31
Terms of reference: The scholarship will support women who demonstrate the potential to reach Carol Anne Letheren’s vision and capabilities and who aspire to the same core Olympic values of excellence, leadership, respect, human development, fun, fairness and peace. Candidates must be a female student presently enrolled at a Canadian high school in their graduate year, be applying to a Canadian University in General Arts program with an emphasis in business, sport management, or marketing related fields, demonstrate qualities and personal values that personify the Olympic values of excellence, leadership, respect, human development, fun, fairness, and peace, have outstanding academic performance, minimum grade average of 85% or above, be an accomplished athlete in high school, community or provincial level competitive sports, be a Canadian citizen or permanent resident.

Contact: Canadian Olympic Association, 21 St. Clair Avenue East, Suite 900, Toronto, ON, M4T 1L9, Tel: (416) 324-4125, Fax: (416) 967-4902, E-mail: lmrazzi@coa.ca, Web: www.coa.ca

Sergio Lovison Scholarship
Deadline: August 13
Terms of reference: Two scholarships of $750 each have been set up in Sergio’s name, to commemorate his indomitable spirit, which has touched so many lives. Selection criteria:

- Applicants must be Roman Catholic residents of the Lower Mainland.
- Applicants must be grade 12 students who expect to graduate with a 3.0 (B) grade point average or higher. 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.
- Applicants are expected, upon high school graduation, to attend a university or community college in Canada or another country, and pursue studies leading to a university degree or college diploma. The successful applicant will be required to submit a copy of his/her school tuition receipts.
- Applicants are asked to submit a typewritten letter of no more than 400 words, double spaced, explaining why he/she is qualified to be awarded the scholarship.
- Applicants are asked to submit no fewer than three letters of reference; one of which must be written by the applicant’s parish priest and one of which must be written by a current teacher of the applicant, supporting the scholarship application and explaining why he/she is an appropriate candidate for the scholarship.
- 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.
- Applicants are expected, upon high school graduation, to attend a university or community college where studies will lead to a university degree in Canada or in another country.
- Applicants are asked to submit a typewritten letter of no more than 400 words, double spaced, explaining why they are qualified to be awarded the scholarship.
- Applicants are asked to submit no fewer than three letters of reference; one of which must be written by the applicant's parish priest and one of which must be written by a current teacher of the applicant, supporting the scholarship application and explaining why he/she is an appropriate candidate for the scholarship.
- Applicants are asked to submit no fewer than three letters of reference; one of which must be written by the applicant's parish priest and one of which must be written by a current teacher of the applicant, supporting the scholarship application and explaining why he/she is an appropriate candidate for the scholarship.
why he/she deserves to be the recipient of the scholarship.

• Applicants are asked to submit no less than three letters of reference - one of which must be written by the applicant’s current teacher and one of which must be written by a current teacher of the applicant - supporting the scholarship application and explaining why he/she is an appropriate candidate for the scholarship.

Contact: The Father Rosalia Scholarship Committee, c/o St. Francis of Assisi Parish, 2025 Napier Street, Vancouver, BC, V5L 2N8.

TD Canada Trust Scholarship for Outstanding Community Leadership
Deadline: October 31
Terms of reference: Candidates must be Canadian citizens or permanent residents. They must be graduating from their last year of high school (and/or CEGEP in Quebec) and have demonstrated involvement in community leadership.

Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert St., Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745. Or call toll-free 1-800-308-8306.
E-mail: awards@aucc.ca
Web: www.aucc.ca

United Association of Plumbers & Steamfitters, Local 170 Scholarship
Deadline: June 30
Terms of reference: Two scholarships of $1,000 each are offered to students entering first year at any public university in British Columbia. A candidate must be the son, daughter or legal dependent of a member in good standing of the United Association of Plumbers & Steamfitters, Local 170.
Contact: Award #04798: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Associated Medical Services Hannah Institute Studentship
Deadline: January 10
Terms of reference: To offer undergraduate students the challenge of an academic research experience and the opportunity to work in the area of medical history. Students must be registered as full-time undergraduate students at a Canadian university.

Contact: Associated Medical Services, Inc., 14 Prince Arthur Avenue, Suite 101, Toronto, ON, M5R 1A9, Tel: (416) 924-3368, Fax: (416) 323-3338.
E-mail: grants@ams-inc.on.ca

Association of First Nations Women Scholarship
Deadline: unknown
Terms of reference: Applicants must be first nations ancestry and be recognized as full-time students at a post-secondary institution. They must include with their application proof of registration at a post-secondary institution, a copy of their transcript(s), a personal reference, and a personal support letter from a major aboriginal organization.

Contact: Association of First Nations Women, #1-245 East Broadway, Vancouver, BC, V5T 1W4, Tel: (604) 873-1833, Fax: (604) 872-1845.

Dr. Aimee August Scholarship
Deadline: November 30
Terms of reference: The Dr. Aimee August Scholarship is awarded annually to a SCES/SFU student 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:

• Applicants must have a cumulative GPA of 3.0 or more.
• Students must further manifest the qualities of hard work, dedication and commitment to their studies.
• Applicants must show an appreciable financial need. The Committee will weigh such factors as parental and marital status, part-time employment and Band assistance.
• Applicants must demonstrate sensitivity to the unique cultural and linguistic traditions of Native people. The Committee will consider such criteria as the student’s extra-curricular activities within Native organizations, personal research and the nature of the studies being pursued.

Contact: Chair, SCES/SFU Joint Steering Committee, 355 Yellowhead Hwy., Kamloops, BC, V2H 1H1.

British Columbia Asia Pacific Students’ Awards
Deadline: unknown
Terms of reference: The British Columbia Centre for International Education has received an allocation from the Ministry of Advanced Education, Training and Technology to fund the British Columbia Asia Pacific Students’ Awards program. The program has been established to provide an opportunity for British Columbia public university students to gain a better understanding of the cultures, economies and
languages of Asian countries. The program will provide scholarships for outstanding students to permit attendance in a formal and rigorous program of educational study overseas. Research activities and co-op work terms are not eligible for funding under this program. Countries eligible for study are: Bangladesh, Brunei, China, Hong Kong SAR, India, Indonesia, Japan, Korea, Malaysia, Nepal, oceania (except Australia and New Zealand), Philippines, Singapore, Sri Lanka, Taiwan, Thailand and Vietnam. To be eligible for this scholarship, you must be: i) a Canadian citizen or landed immigrant, ii) have been resident in BC for at least 12 full months before the application deadline, iii) be enrolled in full-time study at a BC public university; be attending that institution - and be returning to that institution for further study after having abroad, iv) have completed two years of post-secondary education before going abroad; and v) have a 79+ percent (G.P.A. 3.4 or equivalent) average over 12 units (24 credit hours) in the last academic year completed.

Contact: British Columbia Centre for International Education, 6th Floor, 1483 Douglas Street, Victoria, BC, V8W 3K4; Tel: (250) 978-4242, Fax: (250) 978-4249, E-mail: bccie@bccie.bc.ca

BC GeoHydro Aboriginal Scholarships
Deadline: March 31

Terms of reference: Scholarships are offered to individuals who are status/non-status Indians, Inuit or Metis and are residents of BC, and who plan to enroll in a public post-secondary institution or who are attending a public post-secondary institution in any field of study.

Contact: BC Hydro, Outreach Programs, 16th Floor, 333 Dunsmuir Street, Vancouver, BC, V6B 5R3, Tel: (604) 623-3994, Web: bchydro.com/scholarships

BC Hydro Scholarships
Deadline: March 31

Terms of reference: BC Hydro is offering a number of $1,000 scholarships. Candidates must submit a completed application form, current official transcript, reference letter from a teacher or faculty member, a resume and a cover letter describing why you are a good candidate for the scholarship. Please submit a separate application for each category in which candidates wish to be considered.

GENERAL PROGRAM: Scholarships are offered to BC residents who are currently enrolled in a university, technical school or college or who are in grade 12 and will be pursuing a public post-secondary education in any field of study.

POWER SMART: Scholarships are available to BC students who have completed an energy efficiency or conservation project/paper for school and who are currently enrolled in a public post-secondary institution or who are in Grade 12 and will be pursuing a public post-secondary education. A summary (maximum of 1000 words) must be included with the application.

LECOLE POLYTECHNIQUE MEMORIAL FUND: Scholarships are offered to BC female students at any BC university, technical school or college or who are in grade 12 and will be pursuing a public post-secondary education in any engineering or technical program.

ABORIGINAL: Scholarships are offered to individuals who are status/non-status Indians, Inuit or Metis and are residents of BC, and who plan to enroll in a public post-secondary institution or who are attending a public post-secondary institution in any field of study.

Contact: BC Hydro, Outreach Programs, 16th Floor, 333 Dunsmuir Street, Vancouver, BC, V6B 5R3, Tel: (604) 623-3994, Web: bchydro.com/scholarships

BC Paraplegic Foundation Scholarships/Bursaries
Deadline: July 31

Terms of reference: Each year the BC Paraplegic Foundation offers scholarships and bursaries to needy students with disabilities attending post-secondary institutes in British Columbia. The awards are available to members of the BC Paraplegic Association who have a physical disability and will be awarded on academic standing, merit and the basis of financial need. Recipients must be residents of British Columbia, Canadian Citizens, or Landed Immigrants. The monies for individual awards vary from year to year, dependent upon interest from investments. Therefore, the values of the scholarships and bursaries are adjusted annually according to the availability of funds. Completion of an application form will ensure the applicant is considered for each scholarship or bursary they are eligible for.

Contact: Scholarship and Bursary Awards Committee, c/o BC Paraplegic Association, 780 S.W. Marine Drive, Vancouver, BC, V6P 5Y7, Tel: (604) 324-3611, Fax: (604) 324-3671.

British Columbia Heritage Trust University Scholarships
Deadline: February 16

Terms of reference: The purpose of these scholarships is to encourage research and scholarship on the history of British Columbia. All applicants must be current BC students and are eligible with an application at the provincial or community level in the field of heritage conservation, or will contribute to telling the complete story of British Columbia's history. Heritage Trust scholarships may be applied to an appropriate program of study in any heritage-related discipline including history, geography, ethnology, archaeology, architecture, heritage preservation, community planning, archival management, museology, etc.

All applicants are evaluated on the following criteria: UNDERGRADUATE SCHOLARSHIP – academic performance, relevant experience/service, expression of interest in heritage conservation.

GRADUATE/PROFESSIONAL SCHOLARSHIP – academic performance, relevant experience/service, career objectives and the practical application of research or contribution to knowledge of British Columbia's history as expressed through the proposed program of studies.

Contact: British Columbia Heritage Trust, PO Box 9818, Stn Prov Govt, Victoria, BC, V8W 9W3, Tel: (250) 356-1433, Fax: (250) 356-7796, Web: www.heritage.gov.bc.ca

W. Norman Burgess Scholarship
Deadline: July 15

Terms of reference: To a university student proceeding to a university degree, who is now at the first year level or higher. Preference will be given to applicants from Central Vancouver Island. Applications should include a transcript and a letter describing the student's field of study, aims, and activities and plans. Applications should be made as soon as transcripts are available.

Contact: Mrs. W.N. Burgess, Royal Canadian Legion Branch 211, Box 35, Bowser, BC, V0R 1G0, Tel: (250) 757-9251.

Burnaby Savings Credit Union Scholarship
Deadline: June 30

Terms of reference: Two scholarships of $500 each are offered to students at UBC, SFU, UCIC, BCTI or a BC college. Applicants must be active members or immediate family of an active member of the Burnaby Savings Credit Union. Applications should be completed and submitted by June 30. Contact: A. Grant, Burnaby Savings Credit Union, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Calverly Estate Scholarship Fund
Deadline: before the second week of August and the second week of October

Terms of reference: Scholarships in the amounts of $300 and $500 will be awarded to non-status Aboriginal applicants who have lived in 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 traits/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.

Canada-Taiwan Student Exchange Program
Deadline: April 9

Terms of reference: The Canada-Taiwan Student Exchange Program is a scholarship program sponsored by the Department of Human Resources Development Canada. This program is aimed at providing opportunities for undergraduate Canadian students to study at participating Taiwanese universities, and for undergraduates from Taiwan to study at participating Canadian universities. All field of study, except medicine, are eligible. The applicant must be nominated by his/her institution. No applications will be accepted directly from students.

Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert St., Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1336, Fax: (613) 563-9745, E-mail: jgalag@aucc.ca, Web: www.aucc.ca

Canadian Cambridge Scholarships
Deadline: October 11

Terms of reference: Canadian Cambridge Scholarships provide Canada’s most promising Graduate students with the unique opportunity of pursuing further academic work at Cambridge University with the hope that the recipients would eventually return and contribute significantly to Canadian life. Two scholarships will be awarded for students commencing their studies in the fall. The criteria for the Canadian Cambridge Scholarships are as follows:

Eligibility:
• students who have completed an undergraduate program of studies from an accredited university by the summer
• applicants must be Canadian citizens or landed immigrants
• awards are subject to an applicant's acceptance to Cambridge University and to a Cambridge College Value: These scholarships will fully fund a student’s course of study at Cambridge, including tuition fees and return travel from Canada to Cambridge once a year.

Contact: Canadian Cambridge Scholarships Secretariat, 9 Sultan Street, Toronto, ON, M5S 1L6, Tel: (416) 934-6006, Fax: (416) 934-0702, E-mail: info@cantabct.org, Web: cantabct.org

Canadian Federation of University Women Parksville/Qualicum – The Helen Condie Memorial Award
Deadline: June 3

Terms of reference: To be awarded annually to a male or female student from the Parksville/Qualicum area (District 69), entering or continuing study in the nursing profession. Applicants must complete an application form and attach a letter stating past school and work experience, study/career plan, volunteer and/or community involvement and financial need. Applicants must supply two reference letters, with the name, address & telephone number of referee, a copy
of letter of acceptance from the school which the applicant plans to attend and a transcript.
Contact: C.F.U.W. - Parksville/Qualicum, Secretary of Scholarship & Bursary Trust, P.O. Box 113, Qualicum Beach BC, V9K 1S7. Web: macn.bc.ca/~cfuw

Canadian Federation of University Women Parksville/Qualicum – The James Craig Reid Memorial Scholarship
Deadline: June 3
Terms of reference: To be awarded annually to a male or female student who has graduated from a secondary school in District 69 (the Parksville/Qualicum area) or have lived in the area for at least three years. Candidates should, at least, be entering their fourth year of study in a university academic course. Preference shall be given to candidates in the Faculty of Music, Fine Arts or Liberal Arts, or Education specializing in those areas. The scholarship must be used at a Canadian university and will be applied directly against tuition fees. Applicant must provide two letters of reference and a letter stating the work on which the student is currently engaged, previous relevant work experience, goals and reasons for making application for the scholarship.
Contact: C.F.U.W. - Parksville/Qualicum, Secretary, James Craig Reid Memorial Scholarship Trust, P.O. Box 113, Qualicum Beach, BC, V9K 1S7, Web: macn.bc.ca/~cfuw

The Canadian Golf Foundation Scholarship
Deadline: June 30
Terms of reference: The Canadian Golf Foundation offers several scholarship programs which encourages the athletic and academic careers of promising Canadian golfers and students of the industry by offering financial assistance through these scholarships and awards. The CGF established its academic scholarship program in 1982 and has since awarded over $775,000 in scholarships to promising junior golfers, landscape architects and turfgrass agronomists. The scholarships assist students with the cost of tuition, books, residence and other related expenses. Each application must meet standard criteria in order to be reviewed by the scholarship committee, which then chooses the recipients based on merit.
Contact: Canadian Golf Foundation, 2070 Hadwen Road, Unit 2, Mississauga, ON L5K 2T3, Tel: (905) 849-9700, Toll Free: 1-800-263-0009, Fax: (905) 845-7040, E-mail: cgf@rcga.org, Web: www.canadiangolffoundation.org

Canadian Japanese-Mennonite Scholarship
Deadline: April 1
Terms of reference: The scholarship will be awarded to a student who is enrolled in a graduate degree program; a Canadian studying at a university in Canada and engaged in research that will assist the protection of minority or human rights in Canada.
Contact: Mennonite Central Committee Canada, Attn: Canadian Japanese-Mennonite Scholarship, 134 Plaza Drive, Winnipeg MB, R3T 5K9, Tel: (204) 261-6381, Fax: (204) 269-9875, E-mail: canada@mennonitecc.ca, Web: www.mcc.org

Canadian Printing Industries Scholarship Trust Fund
Deadline: unknown
Terms of reference: The amount of each scholarship is $1000 per year, this represents the approximate cost of tuition for an approved program. These courses have titles such as graphics arts management, printing technology, graphic communications management and graphical arts. These titles may vary somewhat from school to school. Any college or university offering a full-time two, three or four year certification program in any of these, or related courses, would be acceptable as an approved school. These scholarships are not available to students enrolled in design or art courses. The eligibility of any particular institution is at the discretion of the board of trustees of the scholarship fund whose decision is final. Part-time students and students interested in careers in design or art are not eligible for scholarships. Students must be enrolled for a minimum of two years, on a full time basis, in an approved program (not design or art) in a Canadian school. Applicants must maintain a B average or better and must have an interest in pursuing a career in the printing industries (this includes pre-press, press, sales, management, estimating, etc.).
Contact: Canadian Printing Industries Scholarship Trust Fund, c/o Canadian Printing Industries Association, 75 Albert Street, Suite 906, Ottawa, ON, K1P PE7, Tel: 1-800-287-7280

Canadian Sanitation Supply Association Scholarship Program
Deadline: June 1
Terms of reference: Seven scholarships will be awarded to Canadian students attending college or university in Canada. Application must include: application form, employment history, activity and leadership record, official high school or college/university transcript, an essay on a topic to be announced, photography (head & shoulders, 2x3” max.) with name printed on the back and evaluation form signed by school counselor or instructor. The selection committee’s decision will be based on academic and social achievement as well as the quality of the essay.
Contact: Canadian Sanitation Supply Association, 300 Mill Road, #G-10, Etobicoke, ON, M9C 4W7, Tel: (416) 620-9320, Fax: (416) 620-7199, E-mail: cssa@the-wire.com, Web: www.cssa.com

Canadian Water Resources Association
Deadline: February 15
Terms of reference: Four scholarships are offered to graduate students whose programs of study focus upon applied, natural, or social science aspects of water resources. All applicants will receive a one year membership in the Canadian Water Resources Association. The scholarships are open either to Canadian citizens or landed immigrants who are full-time graduate students, in any discipline or profession, attending a Canadian university or college. Applicants must provide proof that they are enrolled in full-time graduate studies in the school year. Application Requirements:
• A 500-word statement which outlines the student’s research project and its relevance to sustainable water resources. This statement should focus on the research methods of the project.
• Course transcripts at the undergraduate and graduate level.
• Two references, to be sent directly to the Scholarship Committee by the referees or appropriate official of the university or college.
• A statement from the program chairman or director endorsing the application from that program. The endorsement is not a letter of reference and must be attached to the application form.
• The completed application form.
Contact: Chairman, CWRA Scholarship Committee, Canadian Water Resources Association, Membership Services, 400 Clyde Road, PO Box 1329, Cambridge, ON, N1R 7G6, Tel: (519) 622-4764, Fax: (519) 621-4844.

Canadian Wireless Telecommunications Association (CWTA) Graduate Scholarship
Deadline: June 15
Terms of reference: The CWTA, together with five of Canada’s wireless telephone carriers – Bell Mobility, Clearnet Communications, Microcell Telecommunications, Rogers AT&T Wireless and TelUS Mobility – have established a scholarship fund to benefit students at the Master or Ph.D. level whose primary field of study is related to wireless telecommunications including, but not limited to, engineering or business. Candidates must be a Canadian citizens or permanent residents of Canada and enrolled or planning to enrol in a graduate degree program at a university in Canada, and must intend to use the scholarship to assist them to study in disciplines related to wireless telecommunications. Awards are granted on the basis of academic standing and demonstrated potential for advanced study and research.
Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert St., Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 963-9745, E-mail: awards@aucc.ca, Web: www.aucc.ca

Harold Arvid Christenson Memorial Scholarship Fund
Deadline: September 1
Terms of reference: The late Harold Arvid Christenson, former manager of Pacific Coast Fishermen’s Mutual Marine Insurance Company, bequeathed scholarships for sons, daughters or legal wards of past or present members and employees (or persons to whom a past or present member or employee stood in Loco Parentis) of the company. Applicants must be enrolled full-time at a post-secondary educational institution. The number and amount of these scholarships will be determined by the board of directors of the company.
Contact: Pacific Coast Fishermen’s Mutual Marine Insurance Company, Suite 200-4259 Canada Way, Burnaby BC, V5G 1H1, Tel: (604) 438-4240, Fax: (604) 438-5756.

Coquitlam Foundation Scholarships and Bursaries
Deadline: May 11
Terms of reference: The applicant must be a resident of the City of Coquitlam, demonstrate financial need (in the case of the bursary), have a history of school and/or community involvement, show that he or she can successfully undertake a program of studies, attend an interview with the selection committee and begin designated studies within six months of formal notification of selection. Bursary applications must include a letter of application, which should include a statement outlining why the applicant merits the award, a resume, copy of appropriate school transcripts, a personal statement outlining financial need and two letters of reference which address the student’s ability to complete the course of studies proposed.
Contact: Glenn Hara, Secretary, Coquitlam Foundation, 300 Guildford Way, Coquitlam, BC, V3B 7N2, Tel: (604) 927-3003, Fax: (604) 927-3015.

Dental Laboratory Technician Program Entrance Scholarship (Vancouver Community College)
Terms of reference: A $1500 scholarship will be awarded to the eligible applicant who has achieved the highest score in the Vancouver Community College Dental Laboratory Technician Program’s selection process. Applicants must be graduates of an accredited university or a three-year program at an accredited art college.
Contact: Vancouver Community College (City Centre Campus), 250 West Pender Street, Vancouver, BC, V6B 1S9, Tel: (604) 874-7148.

Embassy of Italy Scholarships
Deadline: March 25
Terms of reference: The Government of Italy offers scholarships to Canadian citizens wishing to pursue studies in Italy. They are intended for university undergraduate and graduate students, professionals, teachers, and artists, who meet the necessary requirements for enrollment in Italian universities, who would like to attend specialized courses or undertake
research in specific fields. The scholarships are awarded for periods of eight months, beginning November 1. They are awarded for specific research or specialized courses at public post-secondary institutions in any field of study. However, preference will be given to proposals for graduate or postgraduate research or study in the areas of Italian language and literature, music, visual arts, performing arts, art restoration or sciences. Candidates must be in possession of a high school diploma, BA, BSc, or PhD or have obtained one of the preceding by June 30, and must be 35 years of age or younger. The scholarship consists of a monthly allowance of 1,200.00 lire, plus Italian medical insurance for the period of the scholarship. Candidates are also entitled to prepaid airfare but airfare will not be paid in cash nor will a refund be issued for tickets purchased directly by the scholarship holder.

Elements taken into consideration by the selection committee are:

- candidate’s curriculum studiorum and vitae;
- nature of program proposed by the candidate;
- letters of reference from Canadian or Italian academics;
- existence of direct contacts between the candidate and Italian academics and/or institutions, concerning the proposed stay in Italy;
- candidate’s knowledge of Italian. No application will be accepted after the dates indicated above; incomplete applications will not be considered.

Contact: Embassy of Italy, Cultural Office, Suite 2100-275 Slater Street, Ottawa, ON, K1P 5H9. Italian Cultural Institute in Vancouver call (604) 689-0809; 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 field of wildlife and conservation. Eligible applicants must be Canadian 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. Applications for a scholarship must be made on an OMSF form.

Contact: Orville Erickson Memorial Scholarship, c/o Secretary Canadian Wildlife Foundation, 2740 Queenview Drive, Ottawa, ON, K2B 1A2.

Fairfax Financial Holdings Limited Scholarship Program
Deadline: June 1
Terms of reference: This program is offering up to sixty scholarships, 36 at the university level and 24 at the college level. Students enrolled in an undergraduate university program will receive $5000 and students pursuing a college diploma will receive $3,500. Candidates must be Canadian citizens or permanent residents. They must be completing the first year of a university degree program or college technical diploma program and be in need of financial assistance. They must also be enrolled on a full-time basis, as defined by their educational institution, and have attained high academic standing. Each educational institution may nominate only one candidate.

Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert St., Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1226, Fax: (613) 563-9745, E-mail: awards@aucc.ca, Web: www.aucc.ca
Global Television Network Scholarship-Internship Award for a Canadian with a Physical Disability
Deadline: May 26
Terms of reference: This annual Scholarship-Internship Award is offered to a Canadian student with a mobility impairment, and provides educational assistance as well as a challenging opportunity to work in private television, in pursuit of a career in broadcasting. The Award, valued at about $15,000, covers all tuition fees and textbooks, for one full scholastic year of a radio and television arts program or journalism program at a recognized Canadian university or college, commencing in the Fall. The Award also includes a three or four month Internship at the Global Television Network, in Don Mills, for the summer, and moving expenses associated with the Internship.
Eligibility criteria:
• Canadian citizen with a mobility impairment.
• secondary school graduate with a grade average suitable for admission to a radio and television arts or journalism program at a recognized Canadian university or college; or a mature student eligible for admission to a radio and television arts or journalism program at a recognized Canadian university or college.
• strong English language communications skills.
Application requirements:
• completed application form
• copy of secondary school transcript of marks
• one page written statement, 500 words or less, outlining Applicant’s educational and career goals, interest in broadcasting, and reasons for applying for the Scholarship-Internship Award.
• three letters of reference (e.g. teacher, employer).
• referral letter from a certified physician, describing type and extent of Applicant’s mobility impairment.
Contact: Global Television Network, 81 Barber Greene Road, Toronto, ON, M5C 2A2.
Tel: 1-800-387-8001, Fax: (416) 446-5508.

Golden Key Scholarships and Awards
Deadline: contact the address below for information
Terms of reference: Golden Key National Honour Society is committed to the cause of recognizing and encouraging academic excellence. To recognize members’ accomplishments, scholarships and awards are provided to deserving Golden Key members. Visit Golden Key website for detailed information.
Contact: Golden Key National Honour Society, International Headquarters, 1189 Ponce de Leon Avenue, Atlanta GA, 30306-4624, USA,
Tel: 1-800-377-2401, Fax: (404) 373-7033,
E-mail: mboone@gnknhs.gsu.edu,
Web: www.gnknhs.gsu.edu

Government Finance Officers Association – Daniel B. Goldberg Scholarship for Public Finance Graduate Students
Deadline: February 4
Terms of reference: The GFOA’s Daniel B. Goldberg Scholarship of $3,500 will be awarded to students enrolled in a full-time master’s program preparing for a career in state and local government finance. The candidate must hold a baccalaureate degree or its equivalent and be a citizen or permanent resident of the U.S. or Canada. Recommendation from student’s academic advisor or dean of the graduate program is required. The winner of the scholarship will be invited, at GFOA expense, to attend the GFOA annual conference, where the award is presented.
Contact: Scholarship Committee, Government Finance Officers Association, 180 North Michigan Avenue, Suite 800, Chicago, IL, 60601-7476,
Tel: (312) 977-9700, Web: www.gfoa.org

Government Finance Officers Association – George A. Nielsen Public Investor Scholarship
Deadline: February 8
Terms of reference: The GFOA’s George A. Nielsen Public Investor Scholarship of $5,000 will be awarded (may be awarded as two $2500 scholarships) to an undergraduate or graduate student in public administration, finance, business administration or a related field. The candidate must be employed at least one year by a state, local, government or other public entity and must be a citizen or permanent resident of the U.S. or Canada. Recommendation by employer is required.
Contact: Scholarship Committee, Government Finance Officers Association, 180 North Michigan Avenue, Suite 800, Chicago, IL, 60601-7476,
Tel: (312) 977-9700, Web: www.gfoa.org

Government Finance Officers Association – Public Employee Retirement Research and Administration Scholarship
Deadline: February 4
Terms of reference: The GFOA’s Public Employee Retirement Research and Administration Scholarship of $3,500 is available to a full or part-time student enrolled in a graduate program in public administration, finance, business administration or social sciences. Student must have an intent to pursue a career in state or local government with a focus on public retirement benefits, and must hold a baccalaureate degree or its equivalent. Must be a citizen or permanent resident of the U.S. or Canada. Recommendation from the student’s academic advisor or dean of the graduate program is required.
Contact: Scholarship Committee, Government Finance Officers Association, 180 North Michigan Avenue, Suite 800, Chicago, IL, 60601-7476,
Tel: (312) 977-9700, Web: www.gfoa.org

Guide Outfitters Association of BC Scholarship Program
Deadline: May 13
Terms of reference: The Guide Outfitters Association of BC is awarding a number scholarships to qualifying students graduating from Grade 12 or finishing first year post-secondary, who are planning to pursue a career in some aspect of wildlife management. All application should include: a) A covering letter outlining the applicant’s interest in wildlife management and a description of any past experiences involving wildlife management and a description of any past experiences involving wildlife such as hunting and other wilderness experiences. Any work related experiences in the outdoors should be described along with a brief description of personal interests; b) A completed GOABC Scholarship application; c) Official transcripts of all institutions attended and an outline of your courses; d) A letter of reference from a teacher, principal, councillor or instructor. A letter of reference from a licenced guide may also be included; and e) An essay of at least 1000 words describing the applicant’s views on the role of hunting in wildlife management. Contact: Guide Outfitters Association of BC, Box 94675, Richmond BC, V6Y 2A4,
Tel: (604) 278-2888, Fax: (604) 279-3440,
E-mail: goabc@cw.com,
Web: www.goabc.org

John Gyles Education Awards
Deadline: April 1, June 1 and November 1
Terms of reference: The John Gyles Education Awards are available to students in both Canada and the United States. Full Canadian or American citizenship is a requirement. Awards are available to male and female students for all areas of post-secondary study. A minimum of 2.7 is required. Criteria other than strictly academic ability and financial need are considered in the selection process. Students can receive an application by sending a stamped, self-addressed, standard letter size (No. 10) envelope.
Contact: The John Gyles Education Fund, Attention: The Secretary, P.O. Box 4808, Station A, Fredericton, NB, E3B 5G4, Tel: (506) 459-7460.

Phyllis P. Harris Scholarship
Deadline: June 30
Terms of reference: The scholarship is for full-time undergraduate students in 3rd or 4th year level at a Canadian University. The scholarship is open for application to Canadian citizens or landed immigrants who intend to work for a degree in the field of family planning or population issues. The field is defined broadly to include aspects of biology, education, history, medicine, political science, psychology, international studies, social work or sociology. No special application is required. The applicant must submit a typed essay of about 500 words, outlining relevant background education, objectives and plans for the future. Applicants should include a resume showing a variety of interests, including volunteer and community experience. Application must include name, address and telephone number of two references. Reference letters should be sent directly to the office of Planned Parenthood Federation of Canada.
Contact: Phyllis P Harris Scholarship Committee, Planned Parenthood Federation of Canada, 430 - 1 Nicholas Street, Ottawa, ON, K1N 7B7,
Tel: (613) 241-4474, Fax: (613) 241-7550.
Website: www.ppfc.ca

Harry Bridges Undergraduate Scholarship (ILWU)
Deadline: June 30
Terms of reference: Three scholarships of $1,500 each are offered to members, and sons and daughters of members, in good standing of the International Longshore and Warehouse Union in attendance at the University of BC, the University of Victoria, Simon Fraser University, BCIT or any college in BC who will continue in a full program of studies in the next session.
Contact: Award #00530: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1,
Tel: (604) 822-5111, Fax: (604) 822-6929.

Thomas P. Mayes Scholarship (ILWU)
Deadline: June 30
Terms of reference: An undergraduate scholarship of $1,500 is offered to members, and sons and daughters of members, in good standing. Candidates may attend the University of BC, the University of Victoria, Simon Fraser University, BCIT or any college in BC and must enrol in a full program of studies.
Contact: Award #00568: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1,
Tel: (604) 822-5111, Fax: (604) 822-6929.

Ralph Scruton Memorial Scholarship (ILWU Local 506)
Deadline: June 30
Terms of reference: A $750 scholarship is available to members of the union in good standing and their sons and daughters. Candidates may attend the University of BC, the University of Victoria, Simon Fraser University, BCIT or any college in BC and must enrol in a full program of studies.
Contact: Award #00666: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1,
Tel: (604) 822-5111, Fax: (604) 822-6929.

Bud Smith Scholarship (ILWU Local 517)
Deadline: June 30
Terms of reference: A $500 scholarship is open to members in good standing of Local 517, and their sons and daughters. Candidates may attend the University of BC, the University of Victoria, Simon
Fraser University, BCIT or any college in BC and must enrol in a full program of undergraduate studies. Contact: Award #04804: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Imperial Tobacco Canada Limited Scholarship Fund for Disabled Students
Deadline: June 1
Terms of reference: This scholarship has been created to encourage Canadian disabled students to pursue university studies with the ultimate objective of obtaining a first university degree. The criteria are as follows: for an undergraduate program in any field of study; candidates must meet the following definition: “A disability is a functional limitation resulting from a physical, sensory, or mental impairment, which, for an indefinite period, affects the ability of the student to perform the activities necessary to participate fully in 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 $2,500 scholarship provided all other criteria are met. Note: Students who re-apply for further awards will be considered in competition with all other applicants. A student can receive the award for a total of four year maximum.
Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert St., Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745, E-mail: awards@aucc.ca, Web: www.aucc.ca

Interior Logging Association Scholarship
Deadline: July 31
Terms of reference: There are several scholarships available for $1,000 to students enrolling in a full-time forestry related discipline; in any discipline who are immediate relatives of the Interior Logging Association; who are enrolling in a Trades School; in a Business Administration discipline.
Contact: Chairman, I.L.A. Scholarship Committee, #202-635 Victoria St., Kamloops, BC, V2C 2B3, Tel: (250) 374-0733, Fax: (250) 374-0700.

The Harry Jerome Scholarship Fund
Deadline: May 30
Terms of reference: The Harry Jerome Scholarships are given to Black students attending a college or university in Canada in order to nurture academic excellence among Black youth. The eligible applicant must be a Black student who is a Canadian, a Canadian citizen or permanent resident of Canada, between 17 to 30 years of age as of September and enrolled in a full-time degree (graduate or undergraduate), diploma or certificate program at a Canadian college or university. The applicants must have high academic achievement, proven financial need, has recognized contribution to the Black community.
Contact: The Harry Jerome Scholarship Fund, 675 King Street West, Suite 203, Toronto, ON, M5V 1M9, Tel: (416) 504-4097, Fax: (416) 504-7343, E-mail: hjsf@access.com, Web: www.hjsf.org

Jewish Women International of British Columbia Scholarship
Deadline: June 30
Terms of reference: Two scholarships of $500 each are offered to members of the Hillel or sons and daughters of members of Jewish Women International of Canada. Students must have successfully completed at least one year at Simon Fraser University, the University of British Columbia or Vancouver Community College (Langara) by June 30 and must be continuing studies at any of the three institutions. Application must be accompanied by a transcript of all post-secondary studies completed.
Contact: Award #00581: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Earl Kinney Memorial Scholarship
Deadline: June 30
Terms of reference: A scholarship of $750 is offered by the Graphic Communications International Union, Local 525 M, to students entering the second or higher year of a full academic program of studies at the University of British Columbia, the University of Victoria, Simon Fraser University or Trinity Western University. An applicant must be a member, or the son, daughter or legal ward of a member in good standing and must enclose a letter from the Union attesting to their eligibility.
Contact: Award #5577: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

Laidlaw Foundation Children at Risk, Aboriginal and Black Scholars Programs
Deadline: February 1
Terms of reference: The foundation will assist university students from First Nations and black communities who have demonstrated academic and leadership qualities in areas related to the Foundation’s Children at Risk Program. Eligible applicants are full-time students registered in a degree program at a Canadian university who are interested in the processes that contribute to the creation, maintenance and overcoming of conditions that diminish the life quality and life chances of children.
Undergraduate Awards: First Nations students enrolled in a third or fourth undergraduate program at a Canadian university may apply for a scholarship 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 students enrolled in an undergraduate program at a Canadian university leading to a professional degree in a field relevant to the Children at Risk Program may also apply for an award of up to $500. Eligible candidates must be nominated by community leaders, employers or faculty.
Transitional Year Programs: Promising First Nations students accepted into an undergraduate or graduate transitional year program at a Canadian university may apply for a Laidlaw Scholarship (up to $500 if enrolled in a transitional year program leading to an undergraduate degree; up to $1,000 if enrolled in a transitional year program leading to a graduate degree). Consideration will be given to assisting promising scholars and practitioners nominated by faculty, community leaders, or employers. Applicants must indicate a course of study related to the Foundation’s Children at Risk Program.
Contact: Nathan Gilbert, Executive Director, Laidlaw Foundation, 950 Yonge St., Toronto, ON, M4W 2J4, Tel: (416) 964-3614, Fax: (416) 975-1428.

The Law Foundation of Newfoundland Scholarship
Deadline: May 1
Terms of reference: The Law Foundation of Newfoundland awards up to three annual law school entrance scholarships valued at $5,000 each, tenable at a recognized Canadian law school. Successful applicants must be residents of the province of Newfoundland, have achieved academic excellence and not be the recipient of any other major scholarship.
Contact: Law Foundation of Newfoundland, Murray Premises, PO Box 5907, St. John’s NF, A1C 5X4, Tel: 754-4424, Fax: 754-4320.

Legal Studies for Aboriginal People Grants and Scholarships Program
Deadline: unknown
Terms of reference: check with contact.
Contact: Program Administrator, Legal Studies for Aboriginal People Program, Department of Justice Canada, 222 Queen St., 10th Floor, Ottawa, ON, K1A 0G2.

Lotus Light Charity Society Scholarship
Deadline: July 13
Terms of reference: Any student who is 17 years or older and attending or planning to attend college, university, or technical institution on a full time basis may be eligible to receive a $300 scholarship to assist him/her in his/her studies. Preference will be given to single parents with children under 11 years of age, or students who are working part-time. There are 10 awards to be given. Application must include: transcript of previous semester; if applicable, proof of acceptance for entry to educational institutions; resume containing information of education, work and volunteer experience and letter of reference from previous employers, teachers and volunteer organizations.
Contact: Lotus Light Charity Society, #200-357 East Hastings St., Vancouver, BC, V6A 1P3, Tel: (604) 685-5548, Fax (604) 685-5598.

Lucent Global Science Scholars Program - Canadian Bureau for International Education Education
Deadline: March 15
Terms of reference: Three scholarships of $5,000 US each will be awarded to first year undergraduates in computing science/engineering, electrical engineering or related programs. Scholars participate in a Global Summit at Bell Labs in New Jersey and receive an internship offer from Lucent Canada.
Contact: Canadian Bureau for International Education, 220 Laurier Avenue West, Suite 1100, Ottawa, ON, K1P 5Z9, Tel: (613) 237-4820, ext. 242, Fax: (613) 237-1073, E-mail: flepage@cbie.ca, Web: www.cbie.ca

Manchester Graduate School of Social Science – School of Law Scholarship
Deadline: May 2
Terms of reference: The faculty of Law has set aside funds to make available two scholarships for postgraduate research students. These scholarships are of a maximum value of approximately $7k per annum, which is sufficient to cover home fees and some maintenance. These scholarships are available for postgraduate research in any area of legal study. Enquiries may be addressed to the director of postgraduate studies.
Contact: Director of Postgraduate Studies, School of Law, University of Manchester, Oxford Road, Manchester, M13 9PL, England, Tel: (0161) 275-3563, Fax: (0161) 275-3579. E-mail: pg-law@man.ac.uk, Web: les.man.ac.uk/law

The Maritime Dairy Industry Scholarship
Deadline: December 16
Terms of reference: A $5,000 cash award and 15 weeks of employment within the dairy industry, in the Maritimes, that will complement the successful candidate’s field of study. The applicant must be a resident of either N.S., N.B., or P.E.I.; currently attending a post-secondary education institution within Canada; completed at least two years of post-secondary education and currently enrolled in a program that has application to the dairy industry; applicant must show professional and academic promise and a commitment and interest in the dairy
The Canadian Dairy Commission Scholarship
Deadline: January 31
Terms of reference: The Scholarship is tenable for a three year course of study at a Canadian university in Canada. The winner is chosen on the basis of outstanding academic achievement and leadership potential.

The Diana Fowler LeBlanc Aboriginal Social Work Scholarship
Deadline: January 31
Terms of reference: The Diana Fowler LeBlanc Aboriginal Social Work Scholarship is tenable for a three year course of study at a Canadian university in Canada.

The Munsenca Scholarship
Deadline: January 31
Terms of reference: Awards will be made on the basis of applicants’ essays. The essay should describe the specific goals (academic, vocational or career) that the Scholarship will help the applicant to achieve. The applicant must be Canadian citizens or landed immigrants enrolled in a full-time program at an accredited post-secondary institution. The finalists must provide proof of acceptance or enrollment, and may be required to provide two letters of reference. Maximum essay length is 800 words on one page.

The National Aboriginal Achievement Foundation Scholarship
Deadline: January 31
Terms of reference: The Scholarship is tenable for a three year course of study at a Canadian university in Canada. The winner is chosen on the basis of outstanding academic achievement and leadership potential.

The Royal Bank Award in Memory of Beth Hamilton Bell
Deadline: May 1
Terms of reference: The Scholarship is tenable for a three year course of study at a Canadian university in Canada. The winner is chosen on the basis of academic excellence, personal character, and social responsibility. The application must be accompanied by transcript of grades, letter of recommendation, one page letter by candidate regarding career goals.

The Suncor Energy Foundation Scholarship
Deadline: March 31
Terms of reference: The Scholarship is tenable for a three year course of study at a Canadian university in Canada. The winner is chosen on the basis of academic excellence, service to the community and financial need. All applicants must:

• be legally blind
• reside in Canada
• be pursuing or planning to pursue a full-time college or university level course of study, at a graduate or undergraduate level

Contact: The National Federation of the Blind: Advocates for Equality Scholarship Committee, 107 - 1455 Ellis Street, Kelowna BC, V1Y 2A3, Tel: (250) 862-3551, Fax: (250) 862-3966, E-mail: nfbae@home.com, Web: www.nfbae.ca

The Suncor Energy Foundation ‘Shared Achievements’ Aboriginal Awards
Deadline: June 30
Terms of reference: The Scholarship is tenable for a three year course of study at a Canadian university in Canada. The winner is chosen on the basis of academic excellence, service to the community and financial need. All applicants must:

• be legally blind
• reside in Canada
• be pursuing or planning to pursue a full-time college or university level course of study, at a graduate or undergraduate level

Contact: The National Federation of the Blind: Advocates for Equality Scholarship Committee, 107 - 1455 Ellis Street, Kelowna BC, V1Y 2A3, Tel: (250) 862-3551, Fax: (250) 862-3966, E-mail: nfbae@home.com, Web: www.nfbae.ca

The Shopper Drug Mart Scholarship
Deadline: April 30
Terms of reference: The Scholarship is tenable for a three year course of study at a Canadian university in Canada. The winner is chosen on the basis of academic excellence, personal character, and social responsibility. The application must be accompanied by transcript of grades, letter of recommendation, one page letter by candidate regarding career goals.

Contact: The National Federation of the Blind: Advocates for Equality Scholarship Committee, 107 - 1455 Ellis Street, Kelowna BC, V1Y 2A3, Tel: (250) 862-3551, Fax: (250) 862-3966, E-mail: nfbae@home.com, Web: www.nfbae.ca

The Enbridge Aboriginal Leadership Awards
Deadline: June 30
Terms of reference: The Scholarship is tenable for a three year course of study at a Canadian university in Canada. The winner is chosen on the basis of academic excellence, service to the community and financial need. All applicants must:

• be legally blind
• reside in Canada
• be pursuing or planning to pursue a full-time college or university level course of study, at a graduate or undergraduate level

Contact: The National Federation of the Blind: Advocates for Equality Scholarship Committee, 107 - 1455 Ellis Street, Kelowna BC, V1Y 2A3, Tel: (250) 862-3551, Fax: (250) 862-3966, E-mail: nfbae@home.com, Web: www.nfbae.ca

The Hydro One Aboriginal Scholarships
Deadline: April 30
Terms of reference: The Scholarship is tenable for a three year course of study at a Canadian university in Canada. The winner is chosen on the basis of academic excellence, service to the community and financial need. All applicants must:

• be legally blind
• reside in Canada
• be pursuing or planning to pursue a full-time college or university level course of study, at a graduate or undergraduate level

Contact: The National Federation of the Blind: Advocates for Equality Scholarship Committee, 107 - 1455 Ellis Street, Kelowna BC, V1Y 2A3, Tel: (250) 862-3551, Fax: (250) 862-3966, E-mail: nfbae@home.com, Web: www.nfbae.ca

The Mattinson Endowment Scholarship
Deadline: June 30
Terms of reference: The Scholarship is tenable for a three year course of study at a Canadian university in Canada. The winner is chosen on the basis of academic excellence, service to the community and financial need. All applicants must:

• be legally blind
• reside in Canada
• be pursuing or planning to pursue a full-time college or university level course of study, at a graduate or undergraduate level

Contact: The National Federation of the Blind: Advocates for Equality Scholarship Committee, 107 - 1455 Ellis Street, Kelowna BC, V1Y 2A3, Tel: (250) 862-3551, Fax: (250) 862-3966, E-mail: nfbae@home.com, Web: www.nfbae.ca

The NCIC Pacific Region Scholarships
Deadline: April 30
Terms of reference: The Scholarship is tenable for a three year course of study at a Canadian university in Canada. The winner is chosen on the basis of academic excellence, service to the community and financial need. All applicants must:

• be legally blind
• reside in Canada
• be pursuing or planning to pursue a full-time college or university level course of study, at a graduate or undergraduate level

Contact: The National Federation of the Blind: Advocates for Equality Scholarship Committee, 107 - 1455 Ellis Street, Kelowna BC, V1Y 2A3, Tel: (250) 862-3551, Fax: (250) 862-3966, E-mail: nfbae@home.com, Web: www.nfbae.ca

The National Congress of Italian-Canadians Scholarships
Deadline: April 30
Terms of reference: The Scholarship is tenable for a three year course of study at a Canadian university in Canada. The winner is chosen on the basis of academic excellence, service to the community and financial need. All applicants must:

• be legally blind
• reside in Canada
• be pursuing or planning to pursue a full-time college or university level course of study, at a graduate or undergraduate level

Contact: The National Federation of the Blind: Advocates for Equality Scholarship Committee, 107 - 1455 Ellis Street, Kelowna BC, V1Y 2A3, Tel: (250) 862-3551, Fax: (250) 862-3966, E-mail: nfbae@home.com, Web: www.nfbae.ca

The National Federation of the Blind: Advocates for Equality Scholarship Committee, 107 - 1455 Ellis Street, Kelowna BC, V1Y 2A3, Tel: (250) 862-3551, Fax: (250) 862-3966, E-mail: nfbae@home.com, Web: www.nfbae.ca
the Government provides free tuition or grants. Information and supporting documents i.e. personal letter of application, original certificate (transcripts), letter from Commanding Officer of Corps, recommendation of Branch President responsible for Corps, recommendation of Division President responsible for Corps must all be included.

Contact: The Navy League of Canada, National Council, 305 Rideau St., Ground Floor, Ottawa, ON, K1N 9E5, Tel: (613) 993-5415, Fax: (613) 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 eight 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 1283, Port Alberni B.C. V9Y 7M2, Tel: (604) 724-5757, Fax: (604) 723-0463.

Ontario Graduate Scholarship Program
Deadline: November 16
Terms of reference: The Ontario Graduate Scholarship (OGS) program is designed to encourage excellence in graduate studies at the master's and doctoral levels. Students are eligible to apply if they: (a) plan to be enrolled full-time in an approved graduate program leading to a master's or doctoral degree at an Ontario university that is financially assisted by the government of Ontario; (b) are a Canadian citizen or permanent resident, or have been admitted to Canada with a student visa; (c) have an average of at least A-, or the equivalent, on the last 20 one term/semester courses, or the equivalent, completed; OGS awards are not automatically renewed. You must submit a new application each year (12-month period).

Contact: Ontario Graduate Scholarship Program, Student Support Branch, Ministry of Training, Colleges and Universities, PO Box 4500, fourth Floor, 189 Red River Rd, Thunder Bay, ON, P7B 6G9, Tel: (807) 343-7257, 1-800-465-3957, Web:osap.gov.on.ca/eng/not_secure/OGS.htm

P.E.O. International Peace Scholarship Fund for Women
Deadline: unknown
Terms of reference: A scholarship of $5,000 is offered annually by the P.E.O. to a woman who is from a country other than the United States and Canada. The applicant must be qualified for admission to full-time graduate study or working toward a graduate degree in the University of their choice in the United States or Canada. The applicant must have a full year of class work remaining and enrolled and on campus for the entire school year of the grant and must promise to return to their country immediately following completion of degree to pursue their professional career.

Contact: P.E.O. International Peace Scholarship Fund, P.E.O. Executive Office, 3700 Grand Avenue, Des Moines, Iowa 50312-3820, Tel: (515) 293-3153, Fax: (515) 255-3820, Attention: International Student Advisor.

Petro-Canada Graduate Research Award Program
Deadline: March 28
Terms of reference: The program was established to recognize academic excellence and to support and encourage graduate research in specialized fields of study relating to the petroleum industry. Fields of study include sciences, engineering, social sciences, and business administration. Candidates must be Canadian citizens or permanent residents and working towards a master's or doctoral degree (on a full-time basis) on a subject related to the oil and gas industry. Awards are granted on the basis of academic standing and demonstrated potential for advanced study and research.

Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert St., Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745, E-mail: awards@aucc.ca, Web: www.aucc.ca

The Pisapio Scholarships
Deadline: September 25
Terms of reference: Scholarships in the amount of $1,000 are available each year. The number and the value of each award may be changed from time to time at the discretion of the Trustees. Applicants must meet the following criteria:
- applicant must be accepted for admission to a university.
- applicant must be a full-time student working toward an undergraduate degree or graduate degree from the university.
- the applicant must have completed a minimum first year of university studies.
- the awards will be given: first to eligible applicants who are residents of the City of Nelson; second, to eligible applicants who are residents of an area within a 50 mile radius of City of Nelson; and third, to eligible applicants who live in the East or West Kootenay regions.

Contact: The Pisapio Scholarships Trust, 421 Baker Street, Nelson, BC, V1L 4H1

Public Works Association of British Columbia
Deadline: July 31
Terms of reference: This scholarship in the amount of $1,000 awarded in two $500 instalments, is open to any applicant planning full-time study at an educational institution in BC. Study will be in a Public Works field. Preference is given to female applicants and applicants returning to an educational institution from the workforce or applicants who have completed at least one year of study in their proposed field. Applications must be accompanied by a letter of reference from a B.C.P.W.A. member.

Contact: Public Works Association of BC, Scholarship Committee, 16705 Fraser Highway, Surrey BC, 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.

Contact: Norman Graham, Manager Employee Relations, The Canadian Press, 36 King Street East, Toronto, ON, M5C 2L9, Tel: (416) 594-5133, Fax: (416) 364-9283.

Ross C. Purse Doctoral Fellowship – CNIB
Deadline: April 1
Terms of reference: The purpose of the fellowship is to encourage and support theoretical and practical research and studies at the graduate or doctoral level in the fields of blindness and visual impairment. Applications will be considered from persons studying at a Canadian University or College, or at a foreign university where a commitment to work in the field of blindness in Canada for at least two years can be demonstrated. Preference will be given to graduates of a Canadian University or College. Applicants will be expected to have achieved a high academic standing and to have exhibited superior intellectual ability and judgement.

Contact: The Secretariat, Ross C. Purse Doctoral Fellowship, Vice-President, Client Services and Technology, The Canadian National Institute for the Blind, 1292 Bayview Avenue, Toronto, ON, M4G 3E8, Tel: (416) 486-2500, Fax: (416) 480-7677, Web: www.cnib.ca

Queen Elizabeth Silver Jubilee Endowment Fund For Study in a Second Official Language Program
Deadline: February 15
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. All disciplines except translation are eligible. Students must continue studies in the discipline in which they are enrolled at their home university. Candidates must be Canadian citizens or permanent residents of Canada and must be currently enrolled in the second or third 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.

Contact: Canadian Awards Program, International and Canadian Programs Division, Association of Universities and Colleges of Canada (AUCC), 350 Albert Street, Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745, E-mail: awards@aucc.ca, Web: www.aucc.ca

Queens Elizabeth II British Columbia Centennial Scholarship
Deadline: January 31
Terms of reference: One major scholarship with a total value of $20,000 is available each year. In addition to the major scholarship, two minor scholarships of $4,000 each are available for the two top runners-up to the major winner each year. The scholarship will be awarded each year on a convivial basis to a graduate:
- who has obtained an undergraduate degree from a British Columbia public post-secondary institution;
- whose domicile or ordinary residence is in the Province;
- who is a Canadian citizen or Permanent Resident (Landed Immigrant);
- who, in the opinion of the Advisory Committee, is a person of unusual worth and promise, and qualifies under the regulations; and
- who proposes to conduct the studies for which the scholarship is awarded at an institution in any British Commonwealth country, except Canada. The Advisory Committee will make its recommendations on the basis of academic achievement, demonstrated aptitudes, personal qualities and character, as well as interest and participation in institutional and community affairs.

Contact: Student Services Branch, Special Programs, Ministry of Advanced Education, Training and Technology, PO Box 9173, Stn Prov Govt, Victoria, BC, V8W 9H7, Tel: (250) 387-6116, Fax: (250) 396-5440.

Rabin Scholarship for the Advancement of Peace and Tolerance
Deadline: February 15
Terms of reference: This scholarship is open to any doctoral or post doctoral student of Canadian birth in any faculty whose research interest could impact significantly on the advancement of peace and tolerance throughout the world. One Canadian student will be chosen to study with two Middle East candidates, one Jewish and one Arab, at the Truman Institute for the Advancement of Peace at the Hebrew University of Jerusalem. The application must include formal academic transcripts and at least two academic letters of reference, in addition to a letter of nomination from the Dean or Department Chair of the applicant's university.

Contact: The Rabin Scholarship Committee, Office of Academic Affairs, Canadian Friends of the Hebrew University, 3080 Yonge Street, Suite 5024, Toronto.
Rhodes Scholarships
Deadline: September 15 (in Financial Assistance)
Terms of reference: Eleven scholarships are open for Canadian students and will be awarded annually. These scholarships are tenable at the University of Oxford, England. They are granted for two years, with the possibility of a third year. They are required to go to Oxford in October of each year. Selection is made on the basis of school and college records without written examinations. The qualities which will be considered in making the selection are: literary and scholastic attainment; fortitude and success in outdoor sports; qualities of truthfulness, courage, devotion to duty, sympathy for and protection of the weak, kindness, unselfishness, and fellowhip; exhibition of moral force of character, and of instincts to lead and take an interest in one's contemporaries. Qualities of both character and intellect are the most important requirements for a Rhodes Scholarship; these are what the Selection Committees will seek.
Financial need does not receive special consideration. The eleven scholarships are allotted: three to the Western Region (Manitoba, Saskatchewan and Alberta); two to each of Ontario, Quebec and the Maritime Region (New Brunswick and Nova Scotia); and one each to British Columbia and Newfoundland. A candidate must: be a Canadian citizen or a person domiciled in Canada; have been born between January 1, 1984 and October 1, 1984; 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 Yukon or 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 if 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. If a candidate is in doubt about the appropriate province in which to apply, the General Secretary should be contacted and he will decide on the basis of available evidence. Selection Committees are responsible, subject to ratification by the Rhodes Trustees, for deciding whether candidates comply with the foregoing conditions, and for making the nominations.

SHARE Scholarships
Deadline: May 15
Terms of reference: SHARE is offering four annual scholarships to students who are pursuing careers in the Information Technology (IT) industry. The term “IT” refers to a range of disciplines including, but not limited to: Computer Science, Management Information Systems, and Computer or Electrical Engineering. Each SHARE scholarship includes: a cash award of $2,500, paid in two installments, to defray educational expenses, paid attendance at one SHARE conference during the year for which the scholarship is awarded, airfare, hotel accommodations, and a food allowance for the conference and an announcement of the winners posted on the SHARE web site and displayed prominently at SHARE conferences. Attendance at SHARE extends the student’s academic experience by providing the opportunity to learn from practicing professionals in the industry.
Contact: Brooke Kowalski, SHARE Headquarters, 401 North Michigan Avenue, Chicago, IL, 60611-4267, Tel: (312) 673-4793, E-mail: bkowalski@sba.com, Web: www.share.org/scholarship

Elvie Smith Memorial Scholarship For Studies in Canadian Aerospace
Deadline: January 31
Terms of reference: The scholarship is awarded to the student who best exemplifies the spirit of Canada’s aviation pioneers in seeking to enter the field of aviation, and who wishes to pursue studies in preparation for such a career. This scholarship will be awarded to a Canadian student wishing to pursue studies in engineering or a scientific discipline related to aerospace at the graduate or postgraduate level in preparation for a career in aerospace. Submissions are to be made in writing. Applicants may choose to submit a letter, essay, or other written presentation. Factors to be considered are knowledge of Canadian...
aviation history, the entrant's own activities associated with aviation, interest in aerospace technology, plans for a career in aerospace, and an explanation of how the scholarship would be used. Entries should not exceed 2000 words in length.

Contact: The Elvie Smith Memorial Scholarship Competition, c/o Canada's Aviation Hall of Fame, PO Box 6360, Wetaskiwin, AB, T9A 2G1, Tel: (780) 361-1351, Fax: (780) 361-1239.
E-mail: cahf@telusplanet.net

John J Schumacher Minority Leadership Scholarship Program - Southwestern University School of Law
Deadline: unknown
Terms of reference: Southwestern University School of Law offers approximately 25 scholarships each year through the John J. Schumacher minority Leadership Scholarship Program. These scholarships provide up to full tuition to members of the Southwestern entering class whose academic and leadership qualities are exceptional. The awards are renewable for each year of the program attended, provided that the recipient remains in good academic standing. Any prospective student who would like to apply for a Schumacher Scholarship should complete and return the Interest Form and proceed with the general admissions and financial aid application processes as outlined in the Southwestern catalogue.
Contact: Office of Admission, Southwestern University School of Law, 675 S. Westmoreland Avenue, Los Angeles, CA 90005, USA.
Tel: (213) 738-6717.

Paul W. Wildman Scholarship Program – Southwestern University School of Law
Deadline: unknown
Terms of reference: Southwestern University School of Law offers approximately 25 scholarships each year through the Paul W. Wildman Scholarship Program. These scholarships provide up to full tuition to members of the Southwestern entering class who have demonstrated exceptional academic promise. The awards are renewable for each year of the program attended, provided that the recipient remains in good academic standing. Any prospective student who would like to apply for a Wildman Scholarship should complete and return the Interest Form and proceed with the general admissions and financial aid application processes as outlined in the Southwestern catalogue.
Contact: Office of Admission, Southwestern University School of Law, 675 S. Westmoreland Avenue, Los Angeles, CA 90005, USA.
Tel: (213) 738-6717.

Studenships in Northern Studies - Canadian Northern Studies Trust
Deadline: January 31
Terms of reference: These scholarships are normally valued at $10,000 each, to support students enrolled in graduate, and undergraduate, degree programs, or other courses of study recognized at a Canadian University. The educational programs of the successful candidates will have special relevance to Canada's northern territories and adjacent regions. Preference will be given to candidates who will engage in research culminating in a thesis or similar document, and whose programs will involve direct northern experience. Applicants in all subject areas, including interdisciplinary study, will be considered, but the applicability of the proposed inquiry to northern themes, problems or issues should be demonstrated.
Contact: Association of Canadian Universities for Northern Studies (ACUNS), 17 York Street, Suite 405, Ottawa, ON, K1N 9J6, Tel: (613) 562-0515, Fax: (613) 562-0533, E-mail: acuns@cyberus.ca, Web:www.uottawa.ca/associations/auacen-acsuns

SWANA Scholarship for Studies in Solid Waste Management & Environmental Protection
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 studies
• academic performance
• involvement in school and community activities
• a brief written submission
• references
Applicants must be registered in a full course of studies in an environmental management or related program at a recognized post-secondary institution in British Columbia. They must have completed their first year of post-secondary studies. To be considered for one of these scholarships, the applicant must submit a completed application form, transcript or copy of last year's statement of marks, reference letter from a faculty member and proof of registration.
Contact: SWANA Scholarship c/o GVRD Solid Waste Department, 4330 Kingsway, Burnaby BC, V5H 4G8, Attention: Mike Stringer, Tel: (604) 436-6610, Fax: (604) 436-6811.
Web:www.ecowaste.com/swanabc

The Swedish Institute Guest Scholarship
Deadline: November 1
Terms of reference: This scholarship is offered to a qualified Canadian researcher or scholar of any age who wishes to spend an academic year on a research undertaking at a Swedish university or an independent research facility. The competition for the scholarship is global. The value of the scholarship is approximately SEK 6700 per month. Applicants should submit preliminary personal background information, particularly statements of purpose of study/research and language competence, as well as a copy of letter of invitation from a Swedish University department.
Contact: Swedish Institute Scholarship Office, PO Box 7434, S-10391, Stockholm, Sweden.

Ted Trindell Memorial Scholarship
Deadline: January 8
Terms of reference: Five Awards of $1,000 are awarded to Metis or Non-Status persons from Northwest Territories pursuing full-time post-secondary studies. Academic merit and financial need will be considered.
Contact: Chairman, Selection Committee, Ted Trindell Scholarship Fund, Box 1375, Yellowknife NT, X1A 2P1, Tel: (403) 873-3505.

United Food and Commercial Workers Union, Local 1518, Scholarship
Deadline: June 30
Terms of reference: Ten scholarships of $1,000 each are offered to students beginning or continuing studies in a full academic program of studies at the University of BC, University of Victoria, BCIT, Simon Fraser University or at a college in British Columbia. Candidates must be a member, or the son, daughter, or legal ward of a member of the Union in good standing and must give full details of their own or their parents' membership in the Union.
Contact: Award #00547: Apply at University of British Columbia, Office of Awards and Financial Aid, 1036-1874 East Mall, Vancouver, BC, V6H 2Y3, Tel: (604) 822-5111, Fax: (604) 822-6925.

University College London Scholarships
Deadline: January 31
Terms of reference: The University College London Scholarships are offered to students from overseas. All scholarships are competitive and depend upon academic merit, and are tenable for the duration of the programme of study. To be eligible for any of the scholarships, applicants should: hold an offer of admission to a full-time program of study at University College London, be self-financing and liable to pay tuition fees at the rate for overseas students. These scholarships are not available to students already on a degree programme, or to students intending to pursue their studies at an institution other than UCL. These scholarships are available to students interested in graduate and undergraduate studies.
Contact: International Office, University College London, Gower Street, London, England WC1E 6BT, Tel: +44 171 380 7708, Fax: +44 171 380 7380, E-mail: international@ucl.ac.uk

Vancouver Police Department Scholarships
Deadline: July 31
Terms of reference: To encourage and assist sons and daughters of members of the Vancouver Police Department to attend the Post-Secondary Educational Institutes: University of British Columbia, Simon Fraser University, BCIT or any regional college in BC.
Criteria:
• Graduation from secondary school
• Enrollment in one of the Post-Secondary Educational Institutes
• Preference may be given to candidates who have not previously won a Vancouver Police Department Scholarship
• Preference may be given to applicants entering one of the above listed Post-Secondary Educational Institutes from secondary school
• Applicants enrolled in post-secondary educational institutes other than one listed above may be considered
• In selecting the winners, academic standing, financial circumstances and services to the community may be considered
• Award winners will be required to provide proof of registration with one of the Post-Secondary Educational Institutes.
The letter of application should contain the following information:
• The applicant's full name, address, postal code, telephone number, place and date of birth
• A list of secondary schools attended, along with dates of attendance
• Parent's name and details of service with the V.P.D.
• Transcript of marks from senior secondary school(s) and Post-Secondary Educational Institute(s) attended by applicant
• Other details which may assist the Committee in its selection.
Note: there are six different scholarships offered under the Vancouver Police Department Scholarships, please ask for information from the Financial Assistance Department.
Contact: Secretary, Vancouver Police Department Scholarship Committee, 2120 Cambie Street, Vancouver, BC, V5Z 4N6.

Vancouver Mycological Society
Deadline: unknown
Terms of reference: The Vancouver Mycological Society would like to make available the sum of $400 to a graduate student studying in the province of BC whose field of study encompasses the macro fungi. Interested candidates must submit a one page summary describing their research project; in addition, the candidates must indicate willingness to make a presentation on their research to the Vancouver Mycological Society at one of the regular meetings.
Contact: Vancouver Mycological Society, 101-1001 West Broadway, Box 181, Vancouver, BC, V6H 4E4, Tel: (604) 988-9390 or (604) 322-0074.
The BBM Scholarship (Bureau of Broadcast Measurement) – Canadian Association of Broadcasters
Deadline: June 30
Terms of reference: Applicants must be enrolled in a graduate studies program, or be in the final year of an Honours degree with the intention of entering a graduate program, anywhere in Canada. Applicants must submit a 250-word essay, outlining his/her interest in 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 references/recommendations from appropriate sources. One should be from his/her course director or advisor.
Contact: BBM Scholarship, The Canadian Association of Broadcasters, PO Box 627, Station B, Ottawa, ON, K1P 5S2, Web: www.cab-acr.ca

Canadian Engineering Memorial Foundation
First Year Scholarships
Deadline: January 15
Terms of reference: Up to five $6000 scholarships are offered annually to women entering first year of an undergraduate engineering program to encourage them to pursue this career path. The scholarship is based primarily on demonstrated leadership, community involvement and extracurricular activities, with special emphasis on community services to recognize and encourage continued contribution to society. Academic achievement and work experience are also considered in awarding the scholarship. The applicant must be willing to act as a role model and take action in promoting engineering, particularly to young women by, for example, visiting high schools and otherwise assisting the CEMF. Applicants must be Canadian citizens or landed immigrants with permanent residence in Canada.
Contact: The Canadian Engineering Memorial Foundation, Undergraduate Scholarship Award, c/o Canadian Council of Professional Engineers, 1100-180 Elgin Street, Ottawa, ON, K2P 2K3, Tel: (613) 232-2474, Fax: (613) 230-5759, E-mail: memorial.foundation@ccpe.ca, Web: www.ccpe.ca

Canadian Engineering Memorial Foundation
Claudette MacKay-Lassonde Scholarship
Deadline: October 31
Terms of reference: One $15,000 Claudette MacKay-Lassonde Scholarship is offered annually in Canada to a woman enrolled full-time in a graduate engineering program at the Ph.D level to encourage them to pursue this valuable career path and to recognize the valuable contribution they bring to society through research, teaching and community involvement. The scholarship is based primarily on demonstrated leadership, community involvement and extracurricular activities, with special emphasis on activities that help attract or retain women in engineering. Engineering achievement is also considered in awarding the scholarship, and must be interpreted to include both research contributions and work experience. The applicant must be willing to act as a role model and take action in promoting engineering, particularly to young women by, for example, visiting schools and otherwise assisting the CEMF. Applicants must be Canadian citizens or landed immigrants with permanent residence in Canada.
Contact: The Canadian Engineering Memorial Foundation, The Claudette MacKay-Lassonde Scholarship Award, c/o Canadian Council of Professional Engineers, 1100-180 Elgin Street, Ottawa, ON, K2P 2K3, Tel: (613) 232-2474, Fax: (613) 230-5759, E-mail: memorial.foundation@ccpe.ca, Web: www.ccpe.ca

Vancouver Korean – Canadian Scholarship Award
Deadline: November 30
Terms of reference: The award will be made to several Korean students who want to pursue academic or vocational studies. Financial need, a commitment to enriching the Korean community and Canadian society, and academic standing will be considered.
Contact: Sharons Credit Union, 201B 1194 Lansdowne Dr., Coquitlam BC, V3E 1J7, Tel: (604) 941-5761, Fax: (604) 941-7337, Web: www.sharonscu.com

Geraldo Donato Vertone Scholarship
Deadline: August 31
Terms of reference: A scholarship in the name of Geraldo Donato Vertone has been set up by the Italian Cultural Centre Society and is open to any student who is accepted to, or attends a post-secondary institution leading to a university degree. To qualify, applicants must:
• be of Italian origin
• attend, or be accepted at a University or Community College leading to a University degree.
• send an application letter detailing your reasons for applying, along with one letter of reference.
Contact: Italian Cultural Centre Society, Geraldo Donato Vertone Scholarship, 3075 Slocan Street, Vancouver, BC, V5M 3E4, Tel: 430-3337, Fax: 430-3331.
Web: www.italiansociety.com

Village Credit Union Scholarship Program
Deadline: April 14
Terms of reference: One scholarship is available to those students who are presently enrolled full-time at a college or university and are planning to attend another year of studies, and who are members or the children and/or grandchildren of members of the Village Credit Union. Candidates will be selected on the basis of a completed Village Credit Union scholarship application form, a copy of the most recent official transcript, two letters of references (at least one from an instructor or faculty member) and a 200 word essay “Why I should be chosen as a winner of a scholarship from Village Credit Union”. Proof of enrolment will be required prior to payment of scholarship.
Contact: Village Credit Union, 1013 Brunette Avenue, Coquitlam, BC, V3K 1E6, Tel: (604) 525-3331, Fax: (604) 525-0509.
Web: www.villagecu.com

Bridget Walsh Scholarship for Single-Parent Irish Women
Deadline: October 15
Terms of reference: The Bridget Walsh scholarship was created from the royalties of Sheelagh Conways book The Faraway Hills are Green, Voices of Irish Women in Canada published in October 1992 by Women's Press. In recognition of the 22 Irish women from across Canada whose stories are told in this book, Sheelagh Conways has donated half of the royalties to low income, single-parent Irish women in Canada who wish to pursue their education at university or college level. The scholarship will be awarded on the basis of academic merit or promise as well as economic need. The value of the scholarship will vary from year to year depending on royalties.
Contact: Mary Broderick, Chairperson, Bridget Walsh Scholarship, 205 Mountainview Road North, Georgetown, ON, L7G 4T8, Tel: (416) 873-0873.

Welch Foundation Scholarship
Deadline: April 15
Terms of reference: A scholarship is offered to a promising scholar who wishes to study vacuum science, techniques or their application in any field. Candidates for the scholarship should have at least a Bachelors degree, a Doctors degree is preferred.
Contact: Dr. F.R. Shepherd, Nortel Networks, Dept. C115, 3500 Carling Avenue, Nepean, ON, K2H 8E9, Tel: (613)763-3285, Fax: (613) 763-2404.
E-mail: frsms@nortelnetworks.com

Xerox Aboriginal Scholarships Program
Deadline: June 15
Terms of reference: Applicants must be a 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. This includes but is not restricted to such disciplines as computer/math sciences, business administration or commerce and engineering. Applications must include a transcript, proof of admission to a recognized post-secondary institution, two letters of reference and a letter describing of the applicant’s program of study, interest in information technology, involvement in activities at school or in community and use of information technology at home, work or school.
Contact: Xerox Canada Ltd., External Affairs Office, Contributions Administer, Corporate Affairs, Xerox Canada, 5650 Yonge Street, North York, ON, M2M 4G7, Tel: (416) 733-6837, Fax: (416) 733-6811, E-mail: chiara.lam@can.xerox.com.
Web: www.xerox.ca/corp_aff/english/it.html

Zajac Scholarship – Centre For Ability
Deadline: June 11
Terms of reference: The Zajac Scholarship is awarded annually to an individual with a disability that is attending/ or planning to attend post-secondary education. Applicant must: be a Canadian citizen or resident; have a physical, neurological and/or developmental disability; attend post-secondary (creditable courses leading to a degree, diploma or certificate) or a structured vocational program; demonstrate social interests, such as participation in volunteer work or leadership in community activities and demonstrate the philosophy and values of the Centre for Ability (believes in community inclusiveness and demonstrates strengths and resourcefulness in overcoming life challenges). Successful applicant will be notified and the award will be presented at the annual general meeting at the Centre for Ability in June.
Contact: Zajac Scholarship Committee, c/o The Centre for Ability, 2805 Kingsway, Vancouver, BC, V5R 5H9, Tel: (604) 451-5511, Fax: (604) 451-5651, Web: www.centreforability.bc.ca

External Scholarships for Applied Sciences Students

Jim Allard Broadcast Journalism Scholarship - Canadian Association of Broadcasters
Deadline: June 30
Terms of reference: Aspiring broadcasters enrolled in a broadcast journalism course at a Canadian college or university are eligible to apply for the $2,500 scholarship. To qualify, simply explain on a separate piece of paper, in about 500 words, why you’re interested in broadcast journalism, what your career goal is, and how this scholarship can help you attain that goal. Complete the application and send it, with your 500-word outline and a signed recommendation from your course director, to the Canadian Association of Broadcasters (CAB). In seeking the student who “best combines academic achievement with natural talent”, the judging committee also will look for evidence of strong character and leadership qualities; a willingness to assist others in the industry; genuine enthusiasm for a career in Canadian broadcasting, as reflected in activities related to broadcasting, such as home studies, part-time employment, etc.
Contact: Jim Allard Scholarship, The Canadian Association of Broadcasters, PO Box 627, Station B, Ottawa, ON, K1P 5S2, Web: www.cab-acr.ca

Financial Assistance and Awards 89
Canadian Society for Chemical Engineering –
SNC LAVALIN Plant Design Competition
Deadline: May 15
Terms of reference: The Canadian Society for Chemical Engineering offers the SNC LAVALIN Undergraduate Plant Design Competition for students enrolled in undergraduate chemical engineering programs at Canadian universities. Eligibility: Individuals and groups of undergraduate students registered in chemical engineering programs in Canadian universities. Prize: The group of students with the best design will receive the SNC LAVALIN Inc. Plant Design Award of $1,000. Each member of the team receives a certificate and a two-year subscription of “The Canadian Journal of Chemical Engineering.”
Contact: Canadian Society for Chemical Engineering, #550-130 Slater Street, Ottawa, ON, K1P 6E2, Tel: (613) 232-6252, Fax: (613) 232-5862.
E-mail: cic_adm@fox.nstn.ca
Web: www.fox.nstn.ca

Canadian Society for Chemical Engineers -
Edmonton Chemical Engineering Scholarship
Deadline: April 30
Terms of reference: The Canadian Society for Chemical Engineering offers the Edmonton Chemical Engineering Scholarship to undergraduate students in chemical engineering entering the second, third, fourth, or fifth (in a 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. 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 two letters of reference.
Contact: Canadian Society for Chemical Engineers, #550-130 Slater Street, Ottawa, ON, K1P 6E2, Tel: (613) 232-6252, Fax: (613) 232-5862.
E-mail: cic_adm@fox.nstn.ca
Web: www.fox.nstn.ca

Canadian Society for Chemical Engineers –
Sarnia Chemical Engineering Community Scholarship
Deadline: April 30
Terms of reference: The Canadian Society for Chemical Engineering offers the Sarnia Chemical Engineering Community Scholarship to undergraduate students in chemical engineering about to enter the final year of studies at a Canadian university, and will be made for academic excellence and demonstrated contributions to the Canadian Society for Chemical Engineering, such as participation in student chapters. Applicants must be members of the Canadian Society for Chemical Engineering. Application: Application for the award should be submitted to Diane Goltz, Program Manager. Applications should contain evidence of academic standing, letters of reference and evidence of contribution to the Society.
Contact: Canadian Society for Chemical Engineers, #550-130 Slater Street, Ottawa, ON, K1P 6E2, Tel: (613) 232-6252, Fax: (613) 232-5862.
E-mail: cic_adm@fox.nstn.ca
Web: www.fox.nstn.ca

CCPE-ENCON Scholarship
Deadline: April 1
Terms of reference: A CCPE-ENCON Scholarship valued at $10,000 each to provide financial assistance to engineers returning to university for further study or research in an engineering field. Candidates must be accepted or registered in a Faculty of Engineering. To be eligible, candidates must be licensed to practice engineering and be registered as full members of one of the provincial/territorial professional association/order in their province/territory.
Contact: CCPE National Scholarship Program, Canadian Council of Professional Engineers, 1100-180 Elgin Street, Ottawa, ON, K2P 3K3, Tel: (613) 232-2474, Fax: (613) 230-5759.
E-mail: info@ccpe.ca
Web: www.ccpe.ca

CCPE-Manulife Financial National Scholarships
Deadline: April 1
Terms of reference: Three CCPE- Manulife Financial National Scholarships valued at $10,000 each to provide financial assistance to engineers returning to university for further study or research in an engineering field. Candidates must be accepted or registered in a Faculty of Engineering. To be eligible, candidates must be licensed to practice engineering and be registered as full members of one of the provincial/territorial professional association/order in their province/territory.
Contact: CCPE National Scholarship Program, Canadian Council of Professional Engineers, 1100-180 Elgin Street, Ottawa, ON, K2P 3K3, Tel: (613) 232-2474, Fax: (613) 230-5759.
E-mail: info@ccpe.ca
Web: www.ccpe.ca

CCPE-Melocche Monnex Scholarship
Deadline: April 1
Terms of reference: Two CCPE-Melocche Monnex Scholarships of $7,500 each to support engineers returning to university for further study or research in a field other than engineering. Candidates must be accepted or registered in a Faculty other than Engineering. The field of study chosen should favour the acquisition of knowledge which enhances performance in the engineering profession. To be eligible, candidates must be licensed to practice engineering and be registered as full members of one of the provincial/territorial professional association/order in their province/territory.
Contact: CCPE National Scholarship Program, Canadian Council of Professional Engineers, 1100-180 Elgin Street, Ottawa, ON, K2P 3K3, Tel: (613) 232-2474, Fax: (613) 230-5759.
E-mail: info@ccpe.ca
Web: www.ccpe.ca

C.D. Howe Memorial Foundation Engineering Awards Program
Deadline: July 2
Terms of reference: The C.D. Howe Memorial Foundation is pleased to grant scholarships to students enrolled in an engineering program in a Canadian university. Two scholarships of $6,000 will be awarded each year. One award will be offered to a male and one to a female student. The awards are renewable twice for a total maximum tenure of three consecutive years. This is a merit scholarship open to qualified full-time engineering students entering the second year of their program and who will graduate within the next two or three years. Candidates must be Canadian citizens or permanent residents who have completed a full first year program in a Canadian faculty of engineering and who intend to continue their studies in engineering. Candidates must have attained a first class standing as defined by the nominating institution. Applications are by nomination only.
Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 600-350 Albert Street, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745.
E-mail: awards@aucc.ca
Web: www.aucc.ca

The Engineering Institute of Canada, Vancouver Island Branch Scholarships
Deadline: July 31
Terms of reference: Awards are offered to qualified students entering the second year of an accredited engineering program and to students transferring from a bridging program at a technical institute into either second year or third year in an accredited engineering program. Applicants must have graduated from a high school on Vancouver Island and must have achieved a minimum ‘B’ grade average in the previous year of their engineering program. Applicants must be Canadian citizens or landed immigrants. The awards are granted on the basis of academic standing, financial need and other considerations such as disability or special circumstances. Candidates must submit an application form, a transcript and a letter of assessment from the department head or dean.
Contact: Engineering Institute of Canada, Vancouver Island Branch, PO Box 41013, Victoria, BC, V8Y 3C8, Tel: (250) 388-8161.
E-mail: mgalbraith@pinic.com
Web: www.uu.ca

Ruth Hancock Scholarships – Canadian Association of Broadcasters
Deadline: June 30
Terms of reference: Complete the application and send it, with your 500 word outline and a signed recommendation from your course director, to the Canadian Association of Broadcasters. Applicants are expected to demonstrate strong character and leadership qualities; a willingness to assist others in the industry; genuine interest in pursuing a broadcasting career, as reflected in extra-curricular activities related to broadcasting and/or self-initiated undertakings. To qualify, simply explain on a separate piece of paper, in about 500 words, why you’re taking a communications course, what your career goal is, and how one of these scholarships will help you attain that goal.
Contact: Ruth Hancock Memorial Scholarships, The Canadian Association of Broadcasters, PO Box 627, Station B, Ottawa, ON, K1P 5S2.
Web: www.cab-acr.ca

The Frederick T. Metcalf Award Program (Canadian Cable Television Association)
Deadline: March 28
Terms of reference: This scholarship is open to qualified full-time students pursuing graduate level studies in disciplines related to new media companies and delivering cable communications services in Canada: Business (Finance and Marketing), Economics, Television Production, Mass Communications, Engineering. Candidates must be Canadian citizens or permanent residents.
Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert Street, Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745.
E-mail: awards@aucc.ca
Web: www.aucc.ca
Monsanto Native Forestry Scholarship
Deadline: July 31
Terms of reference: This $500 scholarship is designed to assist First Nations students entering a nationally recognized forestry school. In addition to the scholarships, Monsanto Agricultural Company of Canada personnel will be available to the students as advisors in their studies.
Contact: National Aboriginal Forestry Association, Attention: Monsanto Native Forestry Scholarship Program, 875 Bank Street, Ottawa, ON, K1S 3W4, Tel: (613) 233-5563.

NRC-CNRC Women in Engineering and Science Program
Deadline: October 15
Terms of reference: The National Research Council has established a unique program designed to encourage greater participation of women in the under-represented fields of engineering, science, and mathematics. Working with world-class researchers in top facilities, successful candidates of the Women in Engineering and Science Program will undertake career-related work while receiving a salary. The basic criteria is as follows: must be a woman who is a citizen or permanent resident of Canada; must have a high academic standing; must be currently attending a Canadian university or CEGEP; must be enrolled full-time in an undergraduate physics, science, engineering or undergraduate year of university or the second year of pre-university CEGEP before September 1st of the year application is made to WES.
Contact: National Research Council Canada, Human Resource Branch, WES Co-ordinator, Ottawa, ON, K1A 0R6, Tel: (613) 993-9134, Fax: (613) 990-7669, E-mail: WES.co-ordinator@NRC.CA Web:www.nrc.ca/careers

The Premier’s Awards for Young Women in Science
Deadline: June 29
Terms of reference: The purpose of the awards is to recognize outstanding female students from Science disciplines where women are currently under-represented. Candidates must:
- be a female student, who is a citizen or permanent resident of Canada, in third or fourth year of an undergraduate program or in a Master’s degree program and have obtained a minimum of entering a Master’s or Doctoral program;
- be a resident of British Columbia;
- be enrolled full time in a physics, computer science, engineering or mathematics program;
- demonstrate strong leadership qualities and research potential;
- consent to her nomination and the publication of her name and photo in connection with the Premier’s Awards for Young Women in Science; and
- agree to make up to three school presentations in conjunction with the Scientists and Innovators in the Schools Program.
Selection will be based primarily on academic ability and level of participation in community activities intended to encourage young women to pursue science careers. Nomination must be submitted by department heads of relevant disciplines.
Contact: Information, Science and Technology Agency, PO Box 9411, Stn Prov Gov’t, Victoria, BC, V8W 9V1, Tel: (250) 356-9566, Fax: (250) 356-0021.

Spaceflight and Life Sciences Training Program Scholarship – Canadian Space Agency
Deadline: January 31
Terms of reference: The Canadian Space Agency is sponsoring one Canadian student, who has demonstrated scholastic excellence and an interest in Space Life Sciences, to participate in a unique learning experience. The NASA Spaceflight and Life Sciences Training Program (SLSTP) is an intensive six week training program at the Kennedy Space Center (KSC) in Florida for about 25 University students interested in Life Sciences, Bioengineering or related fields. The program will allow students to participate in pre-flight, flight demonstration, post-flight, data analysis and report preparation phases of simulated space flight experiments and NASA Life Sciences research. The scholarship is limited to currently enrolled undergraduate students who: 1) are Canadian citizens and are at least 16 years of age but not more than 25 years of age, 2) are pursuing their first undergraduate degree in a Life Science at a recognized Canadian university, 3) have a minimum cumulative average of 75%, 4) are proficient in English, 5) will have completed at least their first year of study or graduating students who have been accepted into a graduate research or Bachelor of Education program at a recognized Canadian university.
Contact: SLSTP Canadian Space Agency, Space Science Program, PO Box 7275, Station V, Ottawa, ON, K1L 8E5, E-mail: slstp@space.gc.ca

David Squires Foundation Scholarship
Deadline: October 31
Terms of reference: The Squires Foundation provides two scholarships each year to students who demonstrate significant financial need; are Canadian or US citizens; are in a full time computer science program at a university or college and maintain a high level of scholastic achievement. A student must meet all requirements to qualify. Apply on website (www.itisb.com).
Contact: Squires Foundation, Tel: (250) 595-8282, Fax: (250) 595-8088, E-mail: johns@itisb.com Web:www.itisb.com

Telesat Canada Satellite Engineering Scholarship
Deadline: July 2
Terms of reference: Telesat Canada has established a scholarship fund to benefit students pursuing studies in engineering related to satellite communications. Candidates must be Canadian citizens or permanent residents of Canada and be enrolled or planning to enrol in an undergraduate or graduate degree program at any Canadian university, and must intend to use the scholarship to assist them in completing studies in the fields related to satellite engineering. Applicants must have a minimum academic standing of 70% or equivalent in their last two years of study and submit their most recent transcripts. As well applicants should submit a personal statement (500-750 words) about themselves including but not limited to: a) personal characteristics and demonstration of skills; b) relevant experience and/or education, and research potential; c) interest in their major field of study, interest in pursuing higher education, etc.
Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert Street, Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745, E-mail: awards@aucc.ca, Web:www.aucc.ca

The Wood Scholarship Fund – The Women’s Association of the Mining Industry of Canada, Toronto
Deadline: June 15
Terms of reference: The Wood Scholarships shall be awarded to students with financial need for tuition fees and books at a duly qualified school of mining in Canada in the amount of $6,000. These scholarships are for well-rounded students with a “B” or better average pursuing careers in the Mining Industry. The scholarship is available for undergraduate studies and can be renewed up to four years providing the scholar maintains good academic standing and the need prevails.
Contact: The Women’s Association of the Mining Industry of Canada, Toronto, The Wood Scholarship Fund, PO Box 207 Postal Station A, Toronto, ON, M5W 1B2.

External Scholarships for Arts Students

Jim Allard Broadcast Journalism Scholarship – Canadian Association of Broadcasters
Deadline: June 30
Terms of reference: Aspiring broadcasters enrolled in a broadcast journalism course at a Canadian college or university are eligible to apply for the $2,500 scholarship. To qualify, simply explain on a separate piece of paper, in about 500 words, why you’re interested in broadcast journalism, what your career goal is, and how this scholarship can help you attain that goal. Complete the application and send it, with your 500-word outline and a signed recommendation from your course director, to the Canadian Association of Broadcasters (CAB). In seeking the student who “best combines academic achievement with natural talent”, the judging committee also will look for evidence of strong character and leadership qualities; a willingness to assist others in the industry; genuine enthusiasm for a career in Canadian broadcasting, as reflected in activities related to broadcasting, such as home studies, part-time employment, etc.
Contact: Jim Allard Scholarship, The Canadian Association of Broadcasters, PO Box 627, Station B, Ottawa, ON, K1P 5S2, Web:www.cab-acr.ca

Association of Moving Image Archivists Scholarships
Deadline: May 15
Terms of reference: Three scholarships, Mary Pickford Scholarship, Sony Pictures Scholarship and CFI Sid Solow Scholarship, are awarded as financial assistance to students of merit who intend to pursue careers in the profession of moving image archiving. To be considered the applicant must be enrolled in a graduate level or other advanced program in moving image studies or production, library or information services, archival administration, museum studies or a related discipline; or must be accepted into such a program for the next academic year. The applicant must have a GPA of 3.0 in his/her most recently completed academic program. The applicant must submit an application form, an official transcript from the most recent academic program, an essay of no more than 1000 words describing the applicant’s major field of study, interest in moving image archiving, relevant experience and/or education, and career goals. Two letters of recommendation. Applicants need only submit one application form and one set of supporting documents to be eligible for any of the three awards; however, no applicant will be awarded more than one scholarship.
Contact: AMIA, 8949 Wiltshire Boulevard, Beverly Hills, CA 90211, Tel: (310) 550-1300, Fax: (310) 550-1363, E-mail: amia@amianet.org, Web:www.amianet.org

Austrian Scholarship Award Program
Deadline: March 1
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. The age at the beginning of the academic year (1 October) is decisive. Applicants must have successfully completed 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 Financial Assistance and Awards 91
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. Applicants for scholarships for studies in Applied Arts, Music and Architecture must submit special works.

Contact: Austrian Embassy, 445 Willbrod Street, Ottawa, ON, K1N 6M7, Tel: (613) 789-1444, Fax: (613) 789-3431.

BC Arts Council Scholarship Awards
Deadline: May 31
Terms of reference: BC resident for 12 months; Canadian citizen or landed immigrant. First class standing in theatre, dance, music, film and video, creative writing, arts administration, museological and conservation studies, or visual arts programs.
Contact: Julie Poskitt, co-ordinator, Scholarship Awards Program, BC Arts Council, 800 Johnson Street, 5th floor, PO Box 9819, Stn Prov Govt, Victoria, BC, V8W 9W3, Tel: (250) 356-1724, Fax: (250) 387-4099.

BC Historical Federation Scholarship
Deadline: May 15
Terms of reference: The British Columbia Historical Federation awards a $500 scholarship annually to a student completing the third or fourth year at a British Columbia college or university. To apply for the scholarship, candidates must submit: 1) a letter of application; 2) an essay of 1,500-2,000 words on a topic relating to the history of British Columbia. The essay must be suitable for publication. The winning essay will be published in BC Historical News; 3) letters of recommendation from two professors.
Contact: Frances Gundry, 265 Niagara Street, Victoria, BC, V8V 1G4, Tel: (250) 387-3623.

The Brucebo Fine Art Summer Scholarship
Deadline: January 31
Terms of reference: The ‘Brucebo’ has been a grant fixture among practicing Fine Arts persons - painters, sculptors, photographers, etc. for over 20 years. The grant finances a two-month studio stay at Brucebo on the island of Gotland, Sweden. It includes free use of the fully furnished studio cottage, a two-month food stipend and a generous transport allowance. The grant must be used within the period June 10-August 20. This grant is sponsored by the Gotland Konstmuseum (Gotland Museum of Fine Arts).
Contact: CSF Secretary, Dr. Jan O. Lundgren, Department of Geography, McGuill University, 805 Sherbrooke Street W., Montreal, QC, H3A 2K6, Tel: (514) 398-4304, Fax: (514) 398-7437, E-mail: lundgren@felix.geog.mcgill.ca.

Burnaby Historical Society Scholarship
Deadline: June 15
Terms of reference: This scholarship, given by Drs. Violet and Blythe Eagles in honour of Evelyn Salisbury. The applicant for the scholarship should be an undergraduate attending an accredited British Columbia University or College and enrolled in a major or honours programme that specializes in Canadian history, with preference given to the history of British Columbia. Candidates must apply in writing, outlining their studies to date, provide an essay or an example of research done and including a current academic transcript and letters of recommendation from two professors at the university or college the candidate is attending.
Contact: Burnaby Historical Society, Scholarship Committee, c/o Burnaby Village Museum, 6501 Deer Lake Avenue, Burnaby BC, V5G 3T8, Tel: (604) 293-6500, Fax: (604) 293-6525.

F.J. Connell Music Scholarship Trust
Deadline: October 1
Terms of reference: The F.J. Connell Music Scholarship Trust is a charitable organization whose sole purpose is to provide (in perpetuity) an annual scholarship to university music students; winners are eligible to reapply in a subsequent year.
Eligibility:
- Undergraduate or graduate student at a recognized university.
- Full-time or part-time studies.
- Successful completion of the equivalent of one year of full-time studies in music.
- Currently majoring in music (performance, education, composition, history, etc.) and planning a professional career in music.
- Preference given to students who, through academic performance, extra-curricular activities, and community involvement, best illustrate the values which F.J. Connell taught through the gift of music (ex: co-operation, honesty, work ethic, responsibility, teamwork, dedication, commitment, patience, goal setting).
- 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:
- Curriculum vitae.
- Essay (not more than 500 words) which indicates your extra-curricular activities and community involvement.
- One academic reference (sent directly from the referee).
- One character reference (sent directly from the referee).
- Official transcript of grades (sent directly from the Registrar).
Contact: FJ Connell Music Scholarship Trust, 1187 Simcoe Street, Moose Jaw SK, S6H 3J5, Tel: (306) 694-2045.

Government Finance Officers Association – Minorities in Government Finance Scholarship
Deadline: February 8
Terms of reference: The GFOA's Minorities in Government Finance Scholarship of $5,000 will be awarded to an upper division undergraduate or graduate student of public administration, (governmental) accounting, finance, political science, economics, or business administration (with a specific focus on government or non-profit management). The candidate must belong to one of the following groups: Black, Indian, Eskimo or Aleut, Asian or Pacific Islander, Hispanic. Must be a citizen or permanent resident of the US or Canada. Recommendation by the student's academic advisor, department chair or dean is required.
Contact: Scholarship Committee, Government Finance Officers Association, 180 North Michigan Avenue, Suite 800, Chicago, IL, 60601-7476, Tel: (312) 977-9700, Web:www.gfoa.org.

Leo J. Krysa Family Undergraduate Scholarship in Education, History, Humanities, Social Sciences
Deadline: March 1
Terms of reference: The Leo J. Krysa family undergraduate scholarship is awarded annually to a student in the faculty of Arts or Education about to enter the final year of study in pursuit of an undergraduate degree. Applicants' programs must emphasize Ukrainian and/or Ukrainian-Canadian studies, through a combination of Ukrainian and East European or Canadian courses in one of the following areas: education, history, humanities and social sciences. The scholarship is for an eight month period of study at any Canadian university. Candidates must be Canadian or permanent residents of Canada at the time of application.
Contact: Canadian Institute of Ukrainian Studies, 352 Athabasca Hall, University of Alberta, Edmonton, AB, T6G 2E8, E-mail: cius@ gpu.srv.ualberta.ca

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 stating personal background and heritage; selection of colour slides and/or black and white photographs or a small portfolio of recent work; letter of recommendation from instructor. All entries will be returned to the sender.
Contact: Robert Markle Fund, c/o Woodland Cultural Centre, 184 Mohawk Street, PO Box 1506, Brantford, ON, N3T 5V6.

National Aboriginal Achievement Foundation Arts Scholarship Program
Deadline: March 31 & September 30
Terms of reference: The NAAF continues its support of Aboriginal students, artists and cultural workers for basic, intermediate, post-secondary education, advanced graduate degrees and professional development initiatives in fields of visual, performing, media, graphic and literary art. All programs including private and group instruction, fine arts degree programs, advanced training and professional development are eligible. Internships in arts creation and management are also eligible for funding. Preference is given to descendants of former members of the Moose Jaw Lion’s Band.
Deadline: January 31
Terms of reference: The Arts Scholarships program pronounces two-month studio stays at Brucebo on the island of Gotland, Sweden. It includes free use of the fully furnished studio cottage, a two-month food stipend and a generous transport allowance. The grant must be used within the period June 10-August 20. This grant is sponsored by the Gotland Konstmuseum (Gotland Museum of Fine Arts).
Contact: CSF Secretary, Dr. Jan O. Lundgren, Department of Geography, McGill University, 805 Sherbrooke Street W., Montreal, QC, H3A 2K6, Tel: (514) 398-4304, Fax: (514) 398-7437, E-mail: lundgren@felix.geog.mcgill.ca.

New Brunswick Arts Scholarships
Deadline: January 31
Terms of reference: The Arts Scholarships program pronounces two-month studio stays at Brucebo on the island of Gotland, Sweden. It includes free use of the fully furnished studio cottage, a two-month food stipend and a generous transport allowance. The grant must be used within the period June 10-August 20. This grant is sponsored by the Gotland Konstmuseum (Gotland Museum of Fine Arts).
Contact: CSF Secretary, Dr. Jan O. Lundgren, Department of Geography, McGill University, 805 Sherbrooke Street W., Montreal, QC, H3A 2K6, Tel: (514) 398-4304, Fax: (514) 398-7437, E-mail: lundgren@felix.geog.mcgill.ca.

National Aboriginal Achievement Foundation Arts Scholarship Program
Deadline: March 31 & September 30
Terms of reference: The NAAF continues its support of Aboriginal students, artists and cultural workers for basic, intermediate, post-secondary education, advanced graduate degrees and professional development initiatives in fields of visual, performing, media, graphic and literary art. All programs including private and group instruction, fine arts degree programs, advanced training and professional development are eligible. Internships in arts creation and management are also eligible for funding. Preference is given to descendants of former members of the Moose Jaw Lion’s Band.
Deadline: January 31
Terms of reference: The Arts Scholarships program pronounces two-month studio stays at Brucebo on the island of Gotland, Sweden. It includes free use of the fully furnished studio cottage, a two-month food stipend and a generous transport allowance. The grant must be used within the period June 10-August 20. This grant is sponsored by the Gotland Konstmuseum (Gotland Museum of Fine Arts).
Contact: CSF Secretary, Dr. Jan O. Lundgren, Department of Geography, McGill University, 805 Sherbrooke Street W., Montreal, QC, H3A 2K6, Tel: (514) 398-4304, Fax: (514) 398-7437, E-mail: lundgren@felix.geog.mcgill.ca.

Community Arts Council of Richmond Scholarships
Deadline: March 31
Terms of reference: The purpose of the scholarships is to assist in the educational costs of Richmond residents to attend recognized post-secondary or advanced programs of study in the arts. Scholarships will be awarded for specific programs or courses of study within the discipline of visual arts, drama/theatre, creative writing, dance and music. Applicant must be a resident of Richmond for a
minimum of one year and must not be less than seventeen years of age. Each application must be accompanied by two letters of recommendation, a personal resume outlining personal and immediate goals in field of study and copy of application form and/or letter of acceptance from program, indicating tuition fees and other related costs. Applicant must be prepared to audition for jury evaluation by Scholarship Committee. Visual Arts applicant to submit portfolio. Creative writing applicant to submit typed copy.

Don Smith Scholarship Fund (BCTV)
Deadline: May 1
Terms of reference: In recognition of Don Smith’s long term contributions to the broadcasting industry, BCTV has established a trust fund in his name that will provide scholarships to a maximum of $2,500 per year for up to four students enrolled in a recognized Broadcast Communications Program, or a university program with an emphasis on broadcast journalism, 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 requirements include: 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. Applications must be made by a resume, current scholastic record, and two personal letters of reference must be submitted.

Spaceflight and Life Sciences Training Program Scholarship – Canadian Space Agency
Deadline: January 31
Terms of reference: The Canadian Space Agency is sponsoring one Canadian student, who has demonstrated scholastic excellence and an interest in Space Life Sciences, to participate in a unique learning experience. The NASA Spaceflight and Life Sciences Training Program (SLSTP) is an intensive six week training program at the Kennedy Space Center (KSC) in Florida for about 25 University students interested in Life Sciences, Bioengineering or related fields. The program will allow students to participate in the conceptualization, preparation, pre- and postflight testing, data analysis and report preparation phases of simulated space flight experiments and NASA Life Sciences research. The scholarship is limited to currently enrolled undergraduate students who: 1) are Canadian citizens and are at least 16 but not more than 25 years of age, 2) are pursuing their first undergraduate degree in a Life Science at a recognized Canadian university, 3) have a minimum cumulative average of 75%, 4) are proficient in English, 5) will have completed at least their first year of study or graduating students who have been accepted into a graduate research or Bachelor of Education program at a recognized Canadian university.

External Scholarships for Business Administration Students
Ellen Bell YMCA Memorial Scholarship
Deadline: March 31
Terms of reference: Awarded to a student pursuing a career in marketing and advertising. Ellen Bell will be remembered for 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. Applicants must be in writing, giving full particulars together with the reason for applying (in 500 words or less) along with letters of reference. All candidates must be available for an interview in Vancouver.

CARB Sales & Marketing Award – Canadian Association of Broadcasters
Deadline: June 30
Terms of reference: Applicant must be a student enrolled in the final, or next to final year of an accredited University, College, Post-Secondary Technical School with the intention of entering a business program and/or the broadcast industry as a sales, marketing, or promotion capacity. Applicant must submit a minimum 300-word essay answering his/her interest in the understanding of, the sales and marketing role in radio, TV and specialty TV. Also a case study that details an actual Canadian marketing success story based on the exclusive use of one or more of the above media; or, a hypothetical product launch using the aforementioned. The applicant should attach to his/her application three references/recommendations from appropriate sources. One should be from his/her course director or advisor.

CGA Academic Excellence Scholarship
Deadline: April 15
Terms of reference: The Certified General Accountants Association of British Columbia awards a $500 scholarship to an accounting student who has completed the third year of the undergraduate degree program at Simon Fraser University. The $500 scholarship will be applied to the student’s tuition fees when the recipient enrols in the final year of Simon Fraser University’s degree program. To apply for this scholarship, please make formal application to the Financial Assistance Office where the application will be reviewed and a recommendation made to the Certified General Accountants Association.

Donald H. Lander Scholarship
Deadline: July 3
Terms of reference: One scholarship, valued at $1000, is offered to a student entering the third year of a program leading to a degree in business administration or management studies. Candidates must be Canadian citizens or landed immigrants and will have achieved a high level of academic excellence (“A” average), be entering the third year of the program and have demonstrated an interest and involvement in international management studies. This may include participation in an organization such as AIESEC. Letters of recommendation and transcripts must be sent directly from the university.

Contact: Scholarship Selection Committee, BCTV, A Division of WIC Television Ltd., P.O. Box 4434, Station B, Ottawa, ON, K1P 5S2, Tel: (604) 681-9622, Fax: (604) 688-0220.
The Cement Association of Canada Environmental Scholarships Program  
Deadline: July 2  
Terms of reference: The purpose of the scholarship is to encourage academic excellence in the pursuit of higher education and to increase the awareness of the cement industry at Canadian universities chosen by the Cement Association of Canada. Award recipients will be selected from environmental science or environmental engineering programs. Applicants must be Canadian citizens and have lived in Canada for at least two years as a permanent resident and entering the third year of a full-time undergraduate program at a qualifying institution in the year of application. Applicants must have fully completed the two years of course work in an environmental science or environmental engineering program that is required to continue a third year of their eligible program. Evaluation is based upon the student's academic transcripts, a 500-word essay, letters of reference and the results of any achievement or aptitude tests that have been taken by the student. In addition to academic merit, the selection committee will take into consideration the student's involvement in any extracurricular activities. Applications are by nomination only. Each eligible educational institution may nominate one candidate. The award is tenable for up to two consecutive academic years or until the award holder obtains a first undergraduate degree.  
Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert Street, Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745, E-mail: awards@aucc.ca, Web: www.aucc.ca  

The Frederick T. Metcalf Award Program (Canadian Cable Television Association)  
Deadline: March 28  
Terms of reference: This scholarship is open to qualified full-time students pursuing undergraduate level studies in disciplines related to new media companies and delivering cable communications services in Canada: Business (Finance and Marketing), Economics, Television Production, Mass Communications, Engineering. Candidates must be Canadian citizens or permanent residents.  
Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert Street, Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745, E-mail: awards@aucc.ca, Web: www.aucc.ca  

Robert E. Oliver Scholarship (Advertising Standards Canada)  
Deadline: February 1  
Terms of reference: ASC is pleased to award one $1,500 scholarship annually to a full-time post-secondary student enrolled in a recognized advertising and/or marketing program at a Canadian university or college community. The Robert E. Oliver Scholarship commemorates ASC's first president - a pioneer of Canadian advertising self regulation. Robert E. Oliver played a key role in developing the Canadian Code of Advertising Standards, the principal instrument of advertising self-regulation. Submit application to Financial Assistance by February 1. Only one nominee per institution.  
Contact: Standards Division, Advertising Standards Canada, 350 Bloor Street East, Suite 402, Toronto, ON, M4W 1H5, Tel: (416) 961-6311, Fax: (416) 961-7904, Web: www.adstandards.com  

External Scholarships for Education Students  

Leo J. Krysa Family Undergraduate Scholarship in Education, History, Humanities, Social Sciences  
Deadline: March 1  
Terms of reference: The Leo J. Krysa family undergraduate scholarship is awarded annually to a student in the faculty of Arts or Education about to enter the final year of study in pursuit of an undergraduate degree. Applicants' programs must emphasize Ukrainian and/or Ukrainian-Canadian studies, through a combination of Ukrainian and East European or Canadian courses in one of the following areas: education, history, humanities & social sciences. The scholarship is for an eight month period of study at any Canadian university. Candidates must be Canadian citizens or permanent residents of Canada at the time of application.  
Contact: Canadian Institute of Ukrainian Studies, 352 Athabasca Hall, University of Alberta, Edmonton, AB, T6G 2E8, E-mail: cius@gpo.srv.ualberta.ca  

External Scholarships for Science Students  

Association of Professional Biologists Scholarship  
Deadline: June 30  
Terms of reference:  
• The scholarship may be awarded each year to a student, who is son or daughter of a member in good standing of the Association, and who is entering the third or fourth year of a program leading to a degree in Biology or a closely related area as specified in the membership guidelines. For a student who receives the award in the third year, the scholarship will be renewed for the fourth year on proof of successful completion of third year. It is the intention of the association that the student will be planning on a career in some aspect of Biology. There will be no more than two scholarships funded each year.  
• The applicant shall complete an application form, as well as enclosing a copy of her/his transcript, two letters of reference, and an essay of approximately 500 words in which the student discusses her/his career goals and their importance to the science of biology.  
• The scholarship shall have the value of $1,000 each year, which be forwarded to the winner on proof of registration in the third or fourth year of an approved biology program at an approved post-secondary institution. The student will also be given a one year honorary membership in the APB as a student biologist in each year that they receive the scholarship.  
Contact: Association of Professional Biologists, Suite 205 733 Johnson Street, Victoria, BC, V8W 3C7, Tel: (250) 383-3306, E-mail: apbbc@tnet.net  

Baxter Corporation Jean Goodwill Scholarship  
Deadline: July 1  
Terms of reference: Consideration will be given to applicants of Indian and Inuit ancestry who intend to serve in the North, including students who are graduating from a registered nurses’ course and are accepted into one of the following: community health nursing, outpost nursing or midwifery, graduate nurses already serving in isolated communities who are accepted into one of the above mentioned programs; those who are or will be enrolled in a Bachelor level nursing program. The successful applicant must provide documentation of his/her efforts to secure employment in isolated northern native communities. The scholarships are administered by the association of Indian and Inuit Nurses of Canada. There are two scholarships in the amount of $5,000 each.  
Contact: President of the Indian and Inuit Nurses of Canada, c/o Baxter Corporation, 55 Murray Street, Third Floor, Ottawa, ON, K1N 5M3, Tel: (613) 241-1864, Fax: (613) 241-1542.  

Canadian Society for Chemistry's Alfred Bader Scholarships  
Deadline: May 15  
Terms of reference: The Canadian Society for Chemistry offers the Alfred Bader Scholarship as a mark of excellence for achievement in organic chemistry or biochemistry by undergraduate students completing their final year of study in an Honours program. Eligibility: Nominees must be student chapter members of the CSC and be continuing in a graduate program in chemistry or biochemistry at a Canadian university. Up to three 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, #550-130 Slater Street, Ottawa, ON, K1P 6E2, Tel: (613) 232-6252, Fax: (613) 232-5862, E-mail: cic_adm@fox.nstn.ca Web: www.fox.nstn.ca  

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.  

NRC-CNRC Women in Engineering and Science Program  
Deadline: October 15  
Terms of reference: The National Research Council has established a unique program designed to encourage greater participation of women in the under-represented fields of engineering, science, and mathematics. Working with world-class researchers in top facilities, successful candidates of the Women in Engineering and Science Program will undertake career-related work while receiving a salary. The basic criteria is as follows: must be a woman who is a citizen or permanent resident of Canada; must have a high academic standing; must be currently attending a Canadian university or CEGEP; must be enrolled full-time in an undergraduate physics, science, technical or engineering program. Eligibility: Applicants must be Canadian citizens or permanent residents of Canada; must be currently in the third or fourth year of an approved undergraduate program; must have a high academic standing; must be currently enrolled full-time in a Canadian university or CEGEP; must have achieved an overall average of at least 80 percent in their first year of study; must have achieved an overall average of at least 75 percent in each of their second and third years of study; must have achieved an overall average of at least 75 percent in their third year of study; must have achieved an overall average of at least 75 percent in each of their fourth and fifth years of study; must have completed all required courses in their first year of study; must have completed all required courses in their second and third years of study; and must have completed all required courses in their fourth year of study. Application: Applications must be submitted to Diane Goltz, Program Manager, Awards, Canadian Society for Chemistry. They shall include: a copy of the Honours' research project report; a statement from the research supervisor describing the student's contribution at the academic and extracurricular levels, two letters of reference; and an official transcript of the student's academic record, all in quadruplicate. The nominees chosen will be notified in July. Award: The funds to endow this award, in the amount of $1,000 for each scholarship, have been provided by Alfred Bader.  
Contact: Canadian Society for Chemistry, #550-130 Slater Street, Ottawa, ON, K1P 6E2, Tel: (613) 232-6252, Fax: (613) 232-5862, E-mail: cic_adm@fox.nstn.ca Web: www.fox.nstn.ca
Spaceflight and Life Sciences Training Program Scholarship – Canadian Space Agency
Deadline: January 31
Terms of reference: The Canadian Space Agency is sponsoring one Canadian student, who has demonstrated scholastic excellence and an interest in Space Life Sciences, to participate in a unique learning experience. The NASA Spaceflight and Life Sciences Training Program (SLSTP) is an intensive six-week training program at the Kennedy Space Center (KSC) in Florida for about 25 University students interested in Life Sciences, Bioengineering or related fields. The program will allow students to participate in the conceptualization, preparation, pre- and post-flight testing, data analysis and report preparation phases of simulated space flight experiments and NASA Life Sciences research. The scholarship is limited to currently enrolled undergraduate students who: 1) are Canadian citizens and are at least 16 but not more than 25 years of age, 2) are pursuing their first undergraduate degree in a Life Science at a recognized Canadian university, 3) have a minimum cumulative average of 75%, 4) are proficient in English, 5) will have completed at least their first year of study or graduating students who have been accepted into a graduate research or Bachelor of Education program at a recognized Canadian university.
Contact: SLSTP Canadian Space Agency, Space Science Program, PO Box 7275, Station V, Ottawa, ON, K1L 8E5, E-mail: slst@space.gc.ca

The Wood Scholarship Fund – The Women’s Association of the Mining Industry of Canada, Toronto
Deadline: June 15
Terms of reference: The Wood Scholarships shall be awarded to students with financial need for tuition fees and books at a duly qualified school of mining in Canada in the amount of $6,000. These scholarships are for well-rounded students with a “B” or better average pursuing careers in the Mining Industry. The scholarship is available for undergraduate studies and can be renewed up to four years providing the scholar maintains good academic standing and the need prevails. Contact: The Women’s Association of the Mining Industry of Canada, Toronto, The Wood Scholarship Fund, PO Box 207 Postal Station A, Toronto, ON, M5W 1B2

Externally Administered Bursaries
The following bursaries are not administered by Simon Fraser University. The information is intended for general reference only; it may be subject to change. The student is responsible for enquiring and applying through the appropriate agency as indicated in the description.

External Bursaries for All Students

Arctic Cooperatives Bursary
Deadline: January 31
Terms of reference: Arctic Co-operatives Ltd., the NWT Cooperative Business Development Fund, and the Canadian Northern Studies Trust offer a bursary, normally valued at up to $2,000 to support a student whose studies will contribute to the understanding and development of cooperatives in the Northwest Territories. The award may be held concurrently with a Special Bursary for Northern Residents. Applicants who are not northern residents must be full-time students at a recognized Canadian community college, or a Canadian university. In making the selection for the award, preference will be given to northern residents. Contact: Association of Canadian Universities for Northern Studies (ACUNS), 17 York Street, Suite 405, Ottawa ON, K1N 8J6, Tel: (613) 562-0515, Fax: (613) 562-0533.

BC Government and Service Employees’ Union
Deadline: February 28
Terms of reference: Twelve $1,000 scholarships are available each year to students who are BCEGEU members or relatives of members of staff. Applicants must be registered full time in a post secondary program at a BC education institution with a satisfactory academic record. Contact: 4911 Canada Way, Burnaby BC, V5G 3W3, Tel: (604) 291-9611, Fax: (604) 291-6030, Web: www.bcgeu.bc.ca

British Columbia Health Care Bursaries
Deadline: November 15, March 15 & July 15
Terms of reference: You may apply for a health care bursary if you meet all of the following:
• you have worked for an employer who is base funded by the Ministry of Health, for at least twelve months in the last 4 years, dating back from the start of the bursary period; or
• you have worked in a position that was base funded by the Ministry of Health prior to the creation of the Ministry for the Children and Families, for at least twelve months in the last 4 years, dating back from the start of the bursary period; and
• you have been a permanent resident of BC for the last 12 months; and
• during the bursary award period for which you are applying, you are enrolled in an eligible health care program at a BC public post-secondary school, St. Paul’s Hospital or BC Cancer Agency program, that leads to a Certificate, Diploma or Degree recognized for practice in BC; and
• based on the information provided on the application, you can demonstrate financial need and/or that you will suffer significant financial loss by taking training.
Contact: Health Care Scholarship Fund, Student Services Branch, PO Box 9180 Str Prov Govt., Victoria BC, V8W 9H9, Tel: (250) 387-6100 in Victoria / 660-2610 in the lower Mainland / 1-800-561-1818 (toll-free in Canada), Fax: (250) 356-5440.

BC Indian Arts and Welfare Society Memorial Bursary
Deadline: Unknown
Terms of reference: A bursary of $150 will be awarded annually by the BC Indian Arts and Welfare Society in memory of those Indian Canadians who gave their lives in either World War. Native Indian applicants must be from the Province of BC and must be planning to enter one of the established universities or colleges in BC, or a recognized technical school or other training centre. The award will be made by the Executive Committee of the BC Indian Arts and Welfare Society. If no application is received from a student entering first year university, then the bursary may be awarded to a student enrolled in any of the senior years. Contact: The Honourable Secretary, BC Indian Arts Society, 212-701 Esquimalt Road, Victoria BC, V9A 3L5.

BC Ministry of Aboriginal Affairs – First Citizen’s Fund
Deadline: May 31
Terms of reference: Bursaries in the amounts of $700 - $2,000 per year (depending on other funding sources). Applicants must be persons of North American aboriginal ancestry and have been resident in 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 consideration providing the academic courses or
BC Nursing Education Bursary Program
Deadline: November 15, February 28, July 15
Terms of reference: You may apply for a nurses education bursary if you meet all of the following:
• you are enrolled in an eligible health care program of study at least 4 months in length, at a BC public post-secondary school, St. Paul’s Hospital or BC Cancer Agency program, that leads to a Certificate, Diploma or Degree recognized for practice in BC; and
• you can demonstrate financial need and/or that you will suffer significant financial loss by taking training; and
• you are not in default of a BC student loan; and
• you have been a permanent resident of BC for the last 12 months; and
• you have worked for an employer who is base funded by the Ministry of Health, for at least 12 months in the last 4 years, dating back from the start of the bursary period; OR you have worked in a position that was base funded by the Ministry of Health prior to the creation of the Ministry for the Children and Families, for at least 12 months in the last 4 years, dating back from the start of bursary period; and
• you are enrolling in a nursing refresher program or qualifying program that will lead to licensure as an RN, RPN or LPN; OR you are enrolling in the third or fourth year of a nursing program or are enrolled in graduate or specialty nursing.
Contact: Nursing Education Bursary Program, Student Services Branch, PO Box 9173 Stn Prov Govt, Victoria BC, V8W 9H7, Tel: (250) 387-4100 in Victoria / 660-2610 in the lower Mainland / 1-800-561-1818 (toll-free in Canada), Fax: (250) 356-5440.

BC Paraplegic Foundation
Scholarships/Bursaries
Deadline: July 31
Terms of reference: Each year the BC Paraplegic Foundation gives out a number of scholarships and bursaries to needy students with disabilities attending post secondary institutions in British Columbia. The awards are available to members of the BC Paraplegic Association who have a physical disability and will be awarded on academic standing, merit and the basis of financial need. Recipients must be residents of British Columbia, Canadian Citizens, or Landed Immigrants. The monies for individual awards vary from year to year, dependent upon interest from investments. Therefore, the values of the scholarships and bursaries are adjusted annually according to the availability of funds. Completion of an application form will ensure the applicant is considered for each scholarship or bursary they are eligible for.
Contact: Scholarship and Bursary Awards Committee, c/o BC Paraplegic Association, 780 S.W. Marine Drive, Vancouver, BC, V6P 5Y7, Tel: (604) 324-3611, Fax: (604) 324-3671.

The British Columbia Associated Boards of Health/Dr. Ken Benson Memorial Bursaries
Deadline: September 15
Terms of reference: Candidates must be full-time students engaged in graduate study in a field of Public/Community Health Practice within an applicable discipline (e.g. nurses, nutritionists, environmental health officers, etc.). Physicians are not eligible for this bursary. Preference will be given to individuals who are resident and practising in BC, who demonstrate a commitment to remain in BC, who commit to live and practise in rural areas of BC. Studies may be undertaken at any post-secondary institution in B.C. Consideration will be given to candidates who wish to study out-of-province or out-of-country. Applications must be accompanied by a current C.V., proof of acceptance or enrolment in an appropriate program, future goals and intentions within public/community health and any other relevant information.
Contact: The Office of the Medical Health Officer, Capital Health Region, #430-1900 Richmond Avenue, Victoria, BC, V8R 4R7, Tel: (250) 519-7066, Web: www.vancouverfoundation.bc.ca/community/public%20health.htm

Utan Patrick Byrne Education Trust Bursary
Deadline: May 10
Terms of reference: Bursaries are awarded based on financial need to assist with undertaking and/or completing programs (on a full time basis) in either: medicine, law, engineering or nursing. Applicants must be enrolled full-time in undergraduate or graduate courses at either Simon Fraser University, University of British Columbia or University of Victoria. Applicants must have been born and currently reside in British Columbia. Please submit a proposal (no more than two pages) addressing the following: name, address, telephone and email address; area of study, name of university, years completed to date of program; current personal circumstances expressing your financial need; letter stating why this bursary is important to you and what difference it will make; and proof of your place of birth.
Contact: Sarah J. Howard, Compton International Fundraising, 1930 – 777 Hornby Street, Vancouver, BC, V8Z 1S4, E-mail: showard@comptoninternational.com

Cal Callahan Memorial Bursary – Pipe Line Contractors Association of Canada
Deadline: September 30
Terms of reference: A Bursary, or bursaries, not exceeding six thousand dollars ($6,000) in total, will be awarded by the Pipe Line Contractors Association of Canada to sons, daughters, or legal wards of persons who derive their principal income from pipeline construction. To qualify, the parent or guardian of the applicant must be employed by or have a history of employment with an association member firm. The applicant must be enrolled in first year studies at any recognized Canadian university or college in a programme leading to a degree or certificate in any field. Applications may be obtained from and submitted to the association office at any time but must be supported by transcripts of high school record, evidence of university or college enrollment, and proof of payment, by not later than September 30th.
Contact: Pipeline Contractors Association of Canada, Suite 201, 1075 North Service Road W., Oakville ON, L6M 1M2, Tel: (905) 847-3933, Fax: (905) 847-7824.

Canadian Federation of University Women
Parksville/Qualicum – Mature Women Bursaries
Deadline: June 3
Terms of reference: Three bursaries will be awarded to a mature female student from the Parksville/Qualicum area, District 69. Applicant must have been out of school for at least two years and have been accepted by the school or university of her choice. Applicant must provide two letters of reference and a letter stating her reasons for returning to school, past school and work experience, future study and career plans and financial need.
Contact: The Secretary of the Scholarship Trust, C.F.U.W. Parksville/Qualicum, P.O. Box 113, Qualicum Beach, BC, V9K 1S7, Web: www.macion.bc.ca/~cfuw

Caribou Research Bursary
Deadline: January 31
Terms of reference: The Beverly and Qamanirjuaq Caribou Management Scholarship Fund provides awards of up to $3,000 to full-time students enrolled in a recognized Canadian community college or university pursing studies that will contribute to the understanding of Barren Ground Caribou (and its habitat) in Canada. Preference will be given to individuals who are normally resident in one of the caribou-using communities on the range of the Beverly or Qamanirjuaq caribou. These awards may be held concurrently with a special Bursary for Northern Residents.
Contact: Association of Canadian Universities for Northern Studies (ACUNS), 17 York Street, Suite 405, Ottawa ON, K1N 9J6, Tel: (613) 562-0515, Fax: (613) 562-0533, E-mail: acums@cyberus.ca, Web: www.acuns.ottawa.ca

Hugh Christie Memorial Bursary – YMCA
Deadline: November 1
Terms of reference: A $500 bursary is available to a student who is pursuing a career in Corrections, International Development, Social Work or YMCA, 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 fields. Applications must be in writing, giving full particulars together with the reason for applying (in 500 words or less) along with letters of reference.
Contact: Hugh Christie Memorial Bursary Committee, YMCA of Greater Vancouver, 2200-1166 Alberni Street, Vancouver, BC, V6E 3Z3, Tel: (604) 681-9222, Fax: (604) 688-0220.

The Columbia Institute Awards Program
Deadline: March 1
Terms of reference: The Columbia Institute Awards Program is designed to address the unique needs of older workers and provide both financial assistance and an incentive for them to seek retraining or skills upgrading. To be eligible, candidates must be 24 year or older, BC resident, Canadian citizen or landed immigrant and not currently enrolled in a training or academic program.
Contact: Columbia Institute, #702-1166 Alberni Street, Vancouver BC, V6E 3Z3, Tel: (604) 408-2500, Fax: (604) 408-2525, E-mail: awards@columbiafoundation.ca, Web: www.columbiafoundation.ca

Emergency Preparedness for Industry and Commerce Council Bursary (EPICC)
Deadline: June 30
Terms of reference: The Emergency Preparedness for Industry and Commerce Council (EPICC) has established an annual bursary to be awarded to a
deserving student undertaking a program of studies which includes at least one emergency management course. Qualification requirements for the bursary are: current study program includes at least one course in emergency management, study program leads to a diploma or a degree at a BC post-secondary institution, financial need, demonstrated involvement in community service, preference given to EPICC members/employees or their immediately family, good academic standing, two references and application to include a 500 word essay on the importance of emergency preparedness for the well being of the business community.

Contact: Mr. Nick Toulmin, EPICC Bursary Committee, Emergency Preparedness for Industry, 1110-1040 West Georgia Street, Vancouver BC, V6E 4H1, Tel: (604) 687-5522. E-mail: epicc@sfu.ca
Web:www.epicc.org

**Forest Renewal BC Bursary Program**

**Deadline:** April 30

Terms of reference: Forest Renewal BC Bursary Program is open to:

- graduating Grade 12 students attending high schools, regional correspondence schools, or band schools in B.C.
- first and second year students attending post-secondary institutions in B.C.

Application may be by:

- printing the application form from Forest Renewal BC’s web page (www.forestrenewal.bc.ca/forestrenewal) and faxing it to Forest Renewal BC Communications,
- on an application form available from Forest Renewal BC regional offices across the province (students who apply through the Forest Renewal BC offices should deposit the completed form at one of the offices).

Applications for bursaries must include the completed application form and a typed document of no more than 500 words explaining how your ideas or proposed course of study will support sustainable forest development and Forest Renewal BC goals.

Contact: Peg Ainsley, Forest Renewal BC, Bursary Program Administration, Tel: (250) 387-4248, Fax: (250) 356-7134. E-mail: peg.ainsley@gems1.gov.bc.ca
Web:www.forestrenewal.bc.ca

**Hamilton Community Foundation**

**Deadline:** October 1, February 1 and June 1

Terms of reference: Hamilton Community Foundation provides modest financial assistance from various bursary funds established by generous citizens to post-secondary students who: can demonstrate serious financial need; have graduated from publicly funded secondary schools in the Hamilton-Wentworth area, have 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, 2 King Street West, Plaza Level, Hamilton, ON, L8P 1A1, Tel: (905) 523-5600, Fax: (905) 523-0741.

**Indian/Inuit Health Careers Bursary Program**

**Deadline:** February 15

Terms of reference: Bursaries are available to assist students of Aboriginal ancestry who wish to pursue educational opportunities leading to careers in health professions. Candidates must be Canadian citizens of Aboriginal ancestry who have resided in British Columbia for the last 12 months. Candidates must demonstrate financial need and be acceptable for enrolment in a professional health careers program. A professional health careers program is a post-secondary program in a federally recognized college or university that provides a degree or diploma qualifying graduates for employment in an accredited health career professions, such as medicine, nursing, dentistry, health administration, traditional medicine.

Contact: First Nations Chiefs’ Health Committee, Health Careers/Financial Manager, #902-100 Park Royal South, West Vancouver, BC, V7T 1A2.

**Insurance Institute of 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 BC.

Contact: University of Calgary, Students Award Office, 124 MacKinnie Library Block, 2500 University Drive NW, Calgary, AB, T2N 1N4, Tel: (403) 220-6925.

**Kinsmen and Kinettes Bursary - A Program of the Hal Rogers Endowment Fund**

**Deadline:** February 1

Terms of reference: The program was established to promote, encourage and sponsor educational programs and activities by providing assistance to applicants in their quest for higher learning at a recognized post-secondary institution. Applicants must be a Canadian citizen or landed immigrant, must plan to register as a full-time student in September at a recognized University, Community College, Technical Institute or other post-secondary institution for advanced learning, must demonstrate high ideals and qualities of citizenship and have not previously received a bursary from the Hal Rogers Endowment Fund. Applications must be submitted to a Kinsmen, Kinette, or Kin Club nearest to the applicants’ permanent residence.

Contact: Kinsmen and Kinettes Bursary, c/o Kinsmen & Kinettes Clubs of Canada, 1920 Hal Rogers Drive, PO Box KIN, Cambridge ON, N3H 5C6, Tel: 1-800-742-5546 ext. 215, Fax: (519) 650-1091, E-mail: bzak@kinclubs.ca, Web:www.kinclubs.ca

**The Leonard Foundation Financial Assistance Program**

**Deadline:** March 15

Terms of reference: This award supports students in an undergraduate degree program in Canada if the institution accepts the student, regardless of age or any other prerequisite. The main criterion is based on financial need. All applicants will be considered but preference will be given to sons and daughters of clergy, teachers, military, personnel, graduates of Royal Military College, members of the Engineering Institute of Canada and members of the Mining and Metallurgical Institute of Canada. The amount of the award may vary depending on the applicant’s financial assistance, but on average, it will be in the amount of $1,250 and approximately 140 will be made annually across Canada.

Contact: Silvio Sauro, Honourary Secretary, The Leonard Foundation, 20 Englington Avenue West, Seventh Floor, Toronto ON, M4R 2E2, Fax: (416) 361-8711, E-mail: info@leonardfnd.org, Web:www.leonardfnd.org

**David Mason Educational Fund – Queen Alexandra Foundation For Children**

**Deadline:** June 30

Terms of reference: The Former Women’s Auxiliary of the George R. Pearkes Centre for Children (now the Queen Alexandra Centre for Children’s Health in Victoria, BC) established a fund in the name of David Mason, a former student at the Centre. One or more awards will be granted each year. The purpose of the fund is to assist a person with a disability who has been a student at the Centre at one time or another to undertake or continue his/her post-secondary education. Monies awarded could be used for tuition fees, books, equipment, transportation, residence and support worker costs.

Contact: David Mason Education Fund, Queen Alexandra Foundation for Children, Queen Alexandra Foundation for Children, 2400 Arbutus Road, Victoria, BC, V8N 1V7, Tel: (250) 721-6721, Fax: (250) 721-6715, Web:www.queenalexandra.org

**Ministry of Education – Official Language Programs**

**Deadline:** February 15

Terms of reference: A number of official language programs are available to residents of British Columbia. Funded by the federal Secretary of State and administered by the provincial Ministry of Education, the following programs are currently available.

- **Summer Language Bursary Program – deadline mid-February** (www.cmem.ca/olp)
- **Official Languages Study Fellowship** (www.bc.ed.gov.bc.ca/frenchprograms/offlang.htm)
- **Minority Language Interprovincial Travel Bursaries** (www.bc.ed.gov.bc.ca/frenchprograms/offlang.htm)
- **Official Language Monitor Program – deadline mid-February** (www.cmec.ca/olp)
- **British Columbia/Quebec Six Month Bilingual Exchange Program** (apply through participating schools)
- **French Teachers’ Bursary Program** (www.bc.ed.gov.bc.ca/frenchprograms/offlang.htm)

Contact: Provincial Coordinator Federal Official Languages Programs, French Programs Unit, Ministry of Education, PO Box 9160 Stn Prov Gvt, Victoria, BC, V8V 9H5, Tel: (250) 356-2524. Fax: (250) 387-1470. Web: www.cmec.ca/olp www.bc.ed.gov.bc.ca/frenchprograms/

**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, Human Resources Office-North, Fourth Floor-1600 Third Avenue, Prince George, BC, V2L 3G6, Tel: (250) 565-7259.

**Bill and Elsie More Indian Bursary**

**Deadline:** October 1

Terms of reference: Bursaries are available to assist First Nations students attending any university or college in 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 First Nations Bursary Fund, Attention: Dr. Art More, c/o Department of Educational Psychology, University of BC, 2125 Main Mall, Vancouver BC, V6T 124.

**Pacific Coast Fishermen’s Mutual Marine Insurance Company**

**Deadline:** September 1

Terms of reference: Bursaries of $600 are available to sons, daughters and legal wards of past or present members (or persons to whom a past or present member stood in Loco Parentis) of Pacific Coast Fishermen’s Mutual Marine Insurance Company. Applicants must be enrolled full time at a recognized University, Community College, or university that provides a degree or diploma qualifying graduates for employment in an accredited health career professions, such as medicine, nursing, dentistry, health administration, traditional medicine, nursing, dentistry, health administration, traditional medicine, nursing, dentistry, health administration, traditional medicine.

Contact: Pacific Coast Fisherman’s Mutual Marine Insurance Company, 2400 Arbutus Road, Victoria, BC, V8N 1V7, Tel: (250) 721-6721, Fax: (250) 721-6715, Web:www.queenalexandra.org

**Peterhouse-Cambridge Friends of Peterhouse Bursary**

**Deadline:** April 1

Terms of reference: Peterhouse offers a Bursary to a well qualified graduate student from overseas who is...
not already a resident member of the College and who wishes to read for an undergraduate degree as an affiliated student of to pursue a one or two year taught course as a registered graduate student. The Bursary is intended to encourage the study and use of French in the province, is pleased to offer bursaries to students pursuing studies in any of the fine arts who either use French in daily communication or who have studied French sufficiently to be at ease in the language. Candidates should send a dossier containing:

- a letter in French outlining his or her linguistic background, details of present or proposed studies and some indication of previous artistic achievements,
- with two letters of reference from persons able to attest to the candidate’s artistic merit and
- copies of relevant academic documents such as transcripts of marks or certificates awarded. The award will be announced to the recipient by the end of October. Documents submitted will not be returned.

Contact: M. Walter Herring, Secrétaire des Bourses, La Fondation André Piolat, 1575 Avenue, 7ème ouest, Vancouver BC, V6J 1S1, Tel: (604) 263-5639.

The Pisapio Bursaries
Deadline: September 25
Terms of reference: Bursaries in the amount of $500 each are available each year. The number and the value of each award may be changed from time to time at the discretion of the Trustees. Applicants must meet the following criteria:

- applicant must have completed a minimum first year of university studies.
- the awards will be given: first to eligible applicants who are residents of the City of Nelson; second, to eligible applicants who are residents of an area within a 50 mile radius of City of Nelson; and third, to eligible applicants who live in the East or West Kootenay regions.

Contact: The Pisapio Scholarship Trust, 421 Baker Street, Nelson, BC, V1L 4H7.

Dr. John D. E. Price Bursary
Deadline: June 18
Terms of reference: The bursary provides funding for education and training purposes to kidney patients. Applicant must be a resident of British Columbia, eighteen years or older and a pre-dialysis or kidney transplant patient. Spouses and dependent children are also eligible. Previous recipients are welcome to re-apply.

Contact: The Kidney Foundation of Canada, BC Branch, 320-1600 West 6th Avenue, Vancouver BC, V6J 1R3, Tel: (604) 736-9775, 1-800-567-8112 extension 230, Fax: (604) 736-9703, 1-800-867-8871.

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: Chair, BC Paraplegic Foundation, 780 SW Marine Drive, Vancouver, BC, V6P 5Y7.

The Public Trustee Educational Assistance Fund
Deadline: April 15
Terms of reference: Public Trustee Educational Assistance Fund bursaries are awarded annually in conjunction with the Ministry for Children and Families from a limited fund to high school graduates who are over 19 years old and pursuing a post-secondary academic, technical or vocational program. These bursaries are only available to former permanent wards of the Ministry of Social Services and those formerly in continuing custody of the Ministry for Children and Families of the Province of British Columbia. These bursaries assist recipients to further their academic or vocational goals by supplementing existing funding to cover shortfalls which otherwise might cause the individual to terminate their studies prematurely. Applicants must have other sources of funds.

Contact: Personal Trust Officer, Public Trustee of British Columbia, 700-806 West Hastings Street, Vancouver, BC, V6C 3L3, Tel: (604) 680-4077, Fax: (604) 680-0964.

Quota International District 11 Speech and Hearing Bursary
Deadline: April 30
Terms of reference: This bursary is in the amount of $1,000 and is available to:

- assist a person to undertake professional training for work in the field of communication disorders.
- the applicant must have completed a minimum first year of university studies.
- the awards will be given: first to eligible applicants who are residents of the City of Nelson; second, to eligible applicants who are residents of an area within a 50 mile radius of City of Nelson; and third, to eligible applicants who live in the East or West Kootenay regions.

Contact: The Pisapio Scholarship Trust, 421 Baker Street, Nelson, BC, V1L 4H7.

Special Bursary for Northern Residents – Canadian Northern Studies Trust
Deadline: January 31
Terms of reference: These bursaries, valued at $5,000 each, allow persons who are northern residents and in need of financial assistance to engage in an educational experience at a degree granting institution in Canada. The objective of this bursary is to permit Northerners to undertake studies in a field of interest that will further their careers in the north or assist their local communities. The programme of studies can be flexible, and may not necessarily lead to the completion of a degree or diploma. It is desirable that the students have a sponsor at the institution of learning, and a mutually satisfactory programme of studies is agreed upon.

Contact: Association of Canadian Universities for Northern Studies (ACUNS), 17 York Street, Suite 405, Ottawa ON, K1N 9J6, Tel: (613) 562-0515, Fax: (613) 562-0533, E-mail: acuns@cyberus.ca, Web: www.uottawa.ca/associations/acuen-acs

Judge Brian Stevenson Bursary Fund
Deadline: September 30
Terms of reference: The intent of the fund is to assist blind youth in continuing their post-secondary education. Judge Stevenson served as International President of the International Association of Lions Clubs in 1987-1988. This bursary will make available financial grants of from $300 to $500 to legally blind Canadians pursuing post-secondary studies with strong career aspirations. 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: Judge Brian Stevenson Bursary Committee, The W. Ross MacDonald School, Brantford ON, N3T 3J9.

Royal Canadian Legion (Pacific Command) #160 Bursaries
Deadline: May 1
Terms of reference: A number of awards are offered annually for students proceeding from high school to university and to students taking a full course load in second and third year university. The awards are granted on the basis of academic standing, financial need and veteran affiliation. Incomplete and/or late applications will not be considered.

Contact: Secretary, Ladies Auxiliary, Royal Canadian Legion, 1825 Comox Avenue, Comox, BC, V9M 3M3.

R.B. Shaw Bursaries
Deadline: September 25
Terms of reference: Bursaries in the amount of $500 are available each year. The number and the value of each award may be changed from time to time at the discretion of the Trustees. Applicants must meet the following criteria:

- applicant must be accepted for admission to a university,
- applicant must be a full-time student working toward an undergraduate degree or graduate degree from the university,
- the applicant must have completed a minimum first year of university studies.

Contact: The W. Ross MacDonald School, Brantford, ON, N3T 3J9.
Surrey/White Rock University Women’s Club Bursary Foundation
Deadline: September 2
Terms of reference: The Surrey/White Rock University Women’s Club Bursary Foundation offers bursaries for women who are either:
- Entering the third year or higher of a degree program at a recognized University and who have graduated from a Secondary School in Surrey or White Rock (School District 38); or
- A mature student entering the third year or higher of a degree program at a recognized University who has been a resident in the Surrey/White Rock area for the immediately preceding five years.

THEO BC Bursary Fund
Deadline: unknown
Terms of reference: A bursary fund has been established for individuals who wish to enter or continue post-secondary training, have a mental health diagnosis, meet THEO BC’s entrance criteria, and are in need of financial assistance. The bursaries can be applied to full or part time programs leading to a recognized certificate, diploma or degree in public or private post-secondary settings. Academic, trade and technical programs will be assessed equally. Qualified students may apply for a second year.
Contact: THEO BC, Administrative Assistant, 1910 Quebec Street, Vancouver BC, V5T 4K1, Tel: (604) 872-0770, Fax: (604) 873-1758.

University Women’s Club of the Comox Valley Bursary
Deadline: July 1
Terms of reference: A $500 bursary is offered to a female graduate of a Comox Valley high school program who has completed at least one year of study in an accredited course at a Canadian university or college.
Contact: J. Kennett, Bursary Secretary, University Women’s Club of the Comox Valley, Box 296, Union Bay BC, V9R 3B0, Tel: (250) 335-2955.

White Spot Limited Bursary
Deadline: June 30
Terms of reference: Two $500 bursaries are offered by White Spot Limited for their employees and sons and daughters of their employees who have served with White Spot for at least one year by the application deadline. The bursaries are open to students in a full program of studies at the University of British Columbia, the University of Victoria, Malaspina College, Simon Fraser University or BCIT. Candidates must achieve an average of at least 65% in their previous year of study.
Contact: Award #07724: Apply at University of British Columbia, Office of Awards and Financial Aid, 1038-1874 East Mall, Vancouver BC, V6T 1Z1, Tel: (604) 822-5111, Fax: (604) 822-6929.

External Bursaries for Applied Sciences Students
Division of Engineers and Geoscientists for the Forest Sector Bursaries
Deadline: February 15
Terms of reference: The purpose of the award is to encourage and promote education and advancement in forest engineering and geoscience/geotechnique and provide nominal financial assistance to students enrolled in programs directly related to these areas. Applications should be made in writing. Applicants must be enrolled in at least a third year program, at either the University of British Columbia or Simon Fraser University, in a program directly related to the practice of forest engineering and/or geoscience/geotechnique, leading to membership in the Association of Professional Engineers and Geoscientists of British Columbia; or must be enrolled in Institute of Forest Engineering of British Columbia (IFEBC) Advanced Forest Engineering Diploma and must have successfully completed Module 1 of the IFEBC program. All applicants shall demonstrate above average grades.
Contact: DEGIS Bureau Sub-committee, c/o APEGBC, 200-4010 Regent St., Burnaby BC, V5C 6N2, E-mail: brian.chow@gems3.gov.bc.ca, Web:www.aipeg.bc.ca/members/divisions_degis/ Degis.htm
James M. Harrison Bursary
Deadline: June 1
Terms of reference: The objective of this bursary is to assist a student from the Northwest Territories to obtain an education in the natural sciences to be applied to future work in the Northwest Territories. Selection is based upon future aspirations of the applicant for a career within the Northwest Territories, academic record and financial need. Applicants must be entering a) graduate school or b) fourth year, or c) third year of undergraduate studies as a full-time student in the natural sciences at a Canadian University or College or the University of Alaska. Applicants must also have been resident in the Northwest Territories for at least five years.
Contact: Executive Director, Science Institute of the Northwest Territories, Box 1617, Yellowknife NT, X1A 2P2.

Externally Administered Awards

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: a) is born in and/or educated in the regional district of Fraser Cheam; b) is the second year of a recognized forestry program at a post secondary Institution in BC (Proof of acceptance will be required before the bursary is awarded.)
Contact: Canadian Women in Timber, Fraser Valley Branch, #214-46244 Airport Road, Chilliwack, BC, V2P 1A5.

Division of Engineers and Geoscientists for the Forest Sector Bursaries
Deadline: February 15
Terms of reference: The purpose of the award is to encourage and promote education and advancement in forest engineering and geoscience/geotechnique and provide nominal financial assistance to students enrolled in programs directly related to these areas. Applications should be made in writing. Applicants must be enrolled in at least a third year program, at either the University of British Columbia or Simon Fraser University, in a program directly related to the practice of forest engineering and/or geoscience/geotechnique, leading to membership in the Association of Professional Engineers and Geoscientists of British Columbia; or must be enrolled in Institute of Forest Engineering of British Columbia (IFEBC) Advanced Forest Engineering Diploma and must have successfully completed Module 1 of the IFEBC program. All applicants shall demonstrate above average grades.
Contact: DEGIS Bureau Sub-committee, c/o APEGBC, 200-4010 Regent St., Burnaby BC, V5C 6N2, E-mail: brian.chow@gems3.gov.bc.ca, Web:www.aipeg.bc.ca/members/divisions_degis/ Degis.htm
James M. Harrison Bursary
Deadline: June 1
Terms of reference: The objective of this bursary is to assist a student from the Northwest Territories to obtain an education in the natural sciences to be applied to future work in the Northwest Territories. Selection is based upon future aspirations of the applicant for a career within the Northwest Territories, academic record and financial need. Applicants must be entering a) graduate school or b) fourth year, or c) third year of undergraduate studies as a full-time student in the natural sciences at a Canadian University or College or the University of Alaska. Applicants must also have been resident in the Northwest Territories for at least five years.
Contact: Executive Director, Science Institute of the Northwest Territories, Box 1617, Yellowknife NT, X1A 2P2.

As Prime Minister Awards
Deadline: June 3
The Scholarship Fund will provide annual awards of $5,000 each. The As Prime Minister Awards program invites university, college and GEGEP students to write an essay in response to the question “If you were the Prime Minister of Canada, what political vision would you offer to improve our living standards and ensure a secure and prosperous global community?” Student essays are judged on the merits of practical, solution driven and innovative proposals that demonstrate defensible, realistic visions and ideas. Recognition of your extra-curricular activities, academic grades and essay composition will also be reviewed. Applicants must be full-time students at an accredited Canadian college or university. Submit a maximum 2,500-word essay in either official language. You may choose to register and submit your essay electronically on-line at www.asprimeminister.com. You may submit your essay type-written on 8.5”x 11” paper with full name, address and telephone number, college or university, area and year of study and extra-curricular activities. Additional rules and regulations can be obtained on the website.
Contact: Magna for Canada Scholarship Fund, 337 rue. Magna Drive, Aurora ON, L4G 7K1, Tel: 1-866-ASTHEPM, (905) 726-2462, Fax: (905) 726-7177. Web: www.asprimeminister.com

Associated Medical Services Bioethics Studentship
Deadline: December 1
Terms of reference: The Associated Medical Services Inc., through the Bioethics Program, provides outstanding individuals, registered in an undergraduate degree program in the health sciences, arts and science or the science disciplines, with an opportunity to pursue an interest in bioethics. Students must be Canadian citizens or permanent residents and registered in a recognized undergraduate program at a Canadian university. Any full-time undergraduate student is eligible to apply provided the proposed project and supervisor meet the criteria. Research should be related to, but not limited to the following areas: beginning and end of life issues, managed care and health care reform, corporate entities and how they relate to organized or managed care, ethics of the healthcare profession, bioethics education, and ethics of human research. The project should be a closely supervised full-time research experience. It should not be for academic credit nor should it represent work already undertaken or submitted for academic credit.
100 Financial Assistance and Awards

Contact: Associated Medical Services, Inc., 14 Prince Arthur Avenue, Suite 101, Toronto, ON, M5R 1A9, Tel: (416) 924-3368, Fax: (416) 323-3338. E-mail: grants@ams-inc.on.ca

BC Press Council Prize
Deadline: May 28
Terms of reference: The British Columbia Press Council wants young British Columbians to think about the press and the important role journalism plays in a free democratic society. That's why the BC Press Council Prize has established - 2 awards of $1,000 each for the best essay submitted by both secondary and post-secondary students in the province. Two categories: 1) high school students, will have a 1,500 word limit; and 2) college and university students, will have a 2,500 word limit. Entries must be typed, double spaced and presented in the form of a formal essay.
Contact: British Columbia Press Council, 201-1290 Broad Street, Victoria, BC, V8W 2A5, Tel: (250) 384-3344.

Book Promoters’ Association of Canada Bursary
Deadline: May 15
Terms of reference: The Janice Hanford Memorial Bursary will be awarded to a student whose primary interest is book marketing, promotion or publicity. The purpose of the bursary is to assist a student attending Simon Fraser University’s Book Publishing Workshop.
Applicants must write a press release about their favourite book. Applications are accepted from both publishing program students and those already employed in the industry.
Contact: Stephanie Cunningham at pubworks@sfu.ca or phone 604-291-5241. E-mail: pubworks@sfu.ca. Web:www.bpacanada.org

Canada Council For the Arts Molson Prizes
Deadline: December 1
Terms of reference: The Canada Council for the Arts Molson Prizes, in the amount of $50,000 each, are awarded annually to two distinguished individuals (one in the arts, one in the social sciences and humanities). The prizes are intended to encourage continuing contribution to the cultural and intellectual heritage of Canada. Candidates must be Canadian citizens or permanent residents of Canada and must be nominated by three individuals or three organizations, or a combination thereof.
Contact: Carol Bream, Director, Endowments and Prizes Unit, 1-8000263-5588, ext 5041 or (613) 566-4414, ext. 5041, Fax: (613) 566-4407. E-mail: prizes.endowments@canadacouncil.ca. Web:www.canadacouncil.ca

Canadian Bureau for International Education International Learning Grants
Deadline: December 1
Terms of reference: International Learning Grants are grants to allow students to finance the additional costs associated with international learning. Canadian citizens and permanent residents enrolled full-time at a CBIE member institution are eligible to apply. Applicants must be accepted in an exchange program organized by their college, university or secondary school board. Selection is based on the innovativeness of the program, relevance to your future international education career and potential to contribute to global understanding, as well as need, merit and personal suitability. Programs may be study, study-internships or internships. Research only programs are not eligible.
Contact: Canadian Bureau for International Education, 220 Laurier Ave. West, Suite 1100, Ottawa, ON, K1P 5B9, Tel: (613) 237-4820, ext. 242, Fax: (613) 237-1073, E-mail: flepage@cbie.ca. Web:www.cbie.ca

Canadian Cystic Fibrosis Foundation Summer Student Research Programme
Deadline: February 1
Terms of reference: This programme provides support for a student to work on a cystic fibrosis project during the summer semester. Full-time students pursuing an undergraduate degree in an appropriate discipline are eligible to receive this award. Students participating in this programme must submit a report describing their summer project, no later than 28 September.
Contact: Medical/Scientific Advisory Committee, Canadian Cystic Fibrosis Foundation, 2221 Yonge Street, Suite 601, Toronto, ON, M4S 2B4, Tel: (416) 485-9149, 1-800-378-2233, Fax: (416) 485-0960, E-mail: info@cfft.ca

Canadian Institutes of Health Research (CIHR) Science Writer Scholarships
Deadline: March 1
Terms of reference: CIHR has established scholarships at both undergraduate and graduate levels to increase the number of Canadian science writers engaged in communicating the findings and implications of health research. Undergraduate Science Writer Scholarship and Internships will be open to university students enrolled in a third or fourth year undergraduate program in the liberal arts (e.g. communications, journalism, history, literature, psychology, etc.) with a science minor. Students in a science program who have demonstrated an aptitude for writing are also eligible. All applicants must have previous work experience — either paid or volunteer — where science writing was a major part of the assignment. Graduate Science Writer Scholarships will be open to those who have completed one or more degrees related to human health and who have been accepted into a journalism or communications degree program.
Contact: Application forms are available from the CIHR website at www.cihr.ca, E-mail: sw-undergrad@cihr.ca. Web:www.cihr.ca

Canadian Mine Action Research Program
Deadline: November 1
Terms of reference: Canada’s Mine Action Team, in co-operation with York University and Mines Action Canada, is supporting policy relevant research in three areas related to the implementation of the Ottawa Convention: universalizing the ban on the production, stockpiling, trade and use of anti-personnel mines; clearing mined land; and assisting mine victims and their communities. The awards are open to students enrolled in Canadian universities in the final year of a (minimum) four year undergraduate program, all Law students, all Master’s students, and any PhD students who have not yet completed their course work and examinations. Successful applicants will be asked to produce a 20- to 30-page paper on one of the above topics in return for a $500 research award; participation in a mine action colloquium in Ottawa in May involving key Canadian and international mine action experts; and an opportunity for publication of the best papers.
Contact: York University Centre for International and Security Studies, 4700 Keele Street, Toronto, ON, M3J 1P3, Tel: (416) 736-5156, Fax: (416) 736-5752. E-mail: yics@yorku.ca. Web:www.mines.gc.ca

Canadian Unity Essay Contest
Deadline: March 31
Terms of reference: Canadians attending Colleges and Universities are invited to submit an essay on Canadian unity. First Prize: $2,000. Two additional prizes of $500 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 proof of student and citizenship status, a short curriculum vitae and a signed statement of assignment of all rights to: The Military and Hospitalier Order of St. Lazarus of Jerusalem.
Contact: Dr. David Lenarcic, Canadian University Essay Competition, Wilfrid Laurier University, Waterloo ON, N2L 3C5. E-mail: dlenarc@maci1.wlu.ca

Canadian-Scandinavian Foundation Special Purpose Grant
Deadline: January 31
Terms of reference: The CSF Special purpose grants are small travel grants in the range of $500 to $800 dollars set up in order to help defray travel costs in connection with shorter research/study visits to Scandinavia.
Contact: Jan O. Lundgren, CSF Secretary, c/o Geography Department, McGill University, 805 Sherbrooke Street W., Montreal, QC, H3A 2K6, Tel: (514) 398-4111, Fax: (514) 398-7437, E-mail: lundgren@felix.geog.mcgill.ca

Centennial Flame Research Award for Persons with Disabilities
Deadline: March 31
Terms of reference: The recipient of the Award will have one year in which to use the money to prepare a report focusing on the public achievements of one or more disabled Canadians. Value: $2,500. Any Canadian citizen with a disability wishing to apply for the Award should submit an outline of his or her proposed research project to the Clerk of the Committee. The Committee will select the recipient according to a set of criteria. Selection Criteria: The research report for the Centennial Flame Research Award must deal with the contribution of a disabled person (or persons) to public life in Canada or the activities of Parliament.
- Any interested party must send an outline of his or her research project to the Clerk of the Standing Committee on Human Rights and the Status of Persons with Disabilities.
- The applicant may submit his or her outline in any medium.
- The submission must contain a brief background of the applicant, including current employment, if any; an outline of the subject of the research; the significance of this choice; and a description of how the research will be undertaken.
- Each submission should be accompanied by a letter of support from a person selected by the applicant.
Contact: The Clerk, Standing Committee on Human Rights and the Status of Disabled Persons, Tel: (613) 996-4663, Fax: (613) 996-1962.

Roger Charest, Sr. Award for Broadcast & Media Arts (URDC)
Deadline: November 30
Terms of reference: This award is available to any qualified applicant (individual or group) who has taken the initiative to create a special program or series of audio vignettes or reports suitable for broadcast, which may further the cause of multiculturalism in Canada. The final report may provide a window into the particular characteristics and unique qualities of a given identifiable group within the Canadian cultural mosaic. Works in progress and/or completed works will be considered. Applicants must submit a written proposal (in English) outlining the intended project, including possible broadcast applications, or outlets to be used for distribution of the final product. A budget is also required. Successful applicants must acknowledge the assistance of Ethnic FM CKER Radio in all promotional materials and final products of the project, for which the award is granted.
Contact: Ukrainian Resource and Development Centre (URDC), Grant MacEwan Community College, Box 1796, Edmonton, AB, T5J 2P2, Tel: (780) 497-4374, Fax: (780) 497-4377. Web:www.gmc.ab.ca/wu/urdc/scholars.htm
China Synergy Programme For Outstanding Youth
Deadline: March 15
Terms of reference: The objective of the programme is to provide an opportunity for outstanding Chinese youths who are residing overseas and in Hong Kong to know more about the socio-economic, technological and cultural development of China. The 17-day programme of exploration and exchange activities will be held in Hong Kong, Xian, Shanghai and Beijing. Activities include: meeting with top government officials; touring major socio-economic, technological and cultural development projects; participating in exchange activities with local undergraduates; visiting local households; meeting with outstanding youths; and sightseeing. Candidates should be ethnic Chinese, full-time undergraduates and fluent in English. Applicants must complete an application form and attach copies of documentary evidence.
Contact: Office of Student Affairs (Attn: Dr. Eddie K.W. Ho), Hong Kong Baptist University, Level 8, Yeung Shui Sang Building, 224 Waterloo Road, Kowloon Tong, Hong Kong, Tel: (852) 2339-7883, Fax: (852) 2339-5983, E-mail: csp2@hkbu.edu.hk, Web:www.hkbu.edu.hk/sa/csp

Sheldon Chumir Internship in Ethics in Leadership
Deadline: March 15
Terms of reference: Applications are invited from senior students or graduates in programs in any field relevant to Ethics in Leadership for an internship sponsored by the Sheldon Chumir Foundation for Ethics in Leadership. Candidates should display a deep understanding of ethics in leadership and public life together with imagination and creativity of thought, demonstrated experience working with the community, strong organizational skills, superior writing skills and a personal commitment to the Foundation’s mission. Applications should include: (1) a curriculum vitae; (2) a brief essay (not more than 1500 words) describing the applicant’s interest in and views on Ethics in Leadership, how this subject is related to his/her academic program and career plans, and what ideas, knowledge and skills the applicant would bring to the work of the Foundation; (3) names and contact information for three referees who have been asked to send letters of support directly to the Foundation.
Contact: The Sheldon Chumir Foundation for Ethics in Leadership, 200, 850 - 16th Avenue SW, Calgary, AB, T2R 0S9, (Tel): (403) 244-6666, (Fax): (403) 244-5596, E-mail: info@chumirethicsfoundation.ca, Web:www.chumirethicsfoundation.ca

CIBC Youthvillage Graduate Research Award Program
Deadline: February 1
Terms of reference: Research awards will be offered in recognition of academic excellence and to support and encourage research in specialized fields of study related to community economic development. Candidates must be Canadian citizens or permanent residents at the time of application and must hold a Bachelor’s degree in a related field with a record of high academic achievement. Applicants must be working towards a master’s or doctoral degree (on a full-time basis) on a subject related to community economic development with a focus on youth employment.
Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert Street, Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745, E-mail: awards@aucc.ca, Web:www.aucc.ca

Co-operatives Award – Canadian Northern Studies Trust
Deadline: January 31
Terms of reference: Arctic Co-operatives Ltd., the NWTF Co-operative Development Fund, and the Canadian Northern Studies Trust offer an award, normally valued at up to $2,000, to support a student whose studies will contribute to the understanding and development of co-operatives in the Northwest Territories. The award may be held concurrently with a Special Bursary for Northern Residents, and the Canadian Northern Studies Trust offer an award, normally valued at up to $2,000, to support a student whose studies will contribute to the understanding and development of co-operatives in the Northwest Territories. The award may be held concurrently with a Special Bursary for Northern Residents. Applicants who are not northern residents must be full-time students at a recognized Canadian community college or a Canadian university. In making the selection for the award, preference will be given to northern residents.
Contact: Association of Canadian Universities for Northern Studies (ACUNS), 17 York Street, Suite 405, Ottawa, ON, K1N 9J6, Tel: (613) 562-0515, Fax: (613) 562-0533, E-mail: acuns@cyberus.ca, Web:www.uottawa.ca/associations/acuen-acuns

Corbiere-Lavel/Two Axe Early Award
Deadline: July 1
Terms of reference: Two awards of $1,000 are available to Aboriginal women of First Nations/Metis descent. To be eligible for the award, you must have completed your Master's degree in a field that is related to Ethics in Leadership. You must also have demonstrated a commitment to community involvement with and for Aboriginal women, and the ability to share insights and experiences that contribute to the development of ethical leaders in Aboriginal communities.
Contact: NWAC Executive Council, Native Women’s Association of Canada, 350 Albert Street, Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 722-3033, Fax: (613) 722-7687, Toll Free: (800) 461-4043.

DAAD German Academic Exchange Service
Deadline: October 2
Terms of reference: The German Academic Exchange Service (DAAD) offers Annual Grants to highly qualified graduate students and graduating seniors for study and/or research at universities in the Federal Republic of Germany. Applicants must be United States or Canadian citizens enrolled full time at DAAD partner institutions. Applicants should also possess a working knowledge of the German language. Scholarships are granted for ten months (October-July).
Contact: DAAD German Academic Exchange Service, 950 Third Avenue, New York, NY10022, Tel: (212) 758-3233, Fax: (212) 755-5780, E-mail: daadny@daad.org, Web:www.daad.org

Davies Charitable Foundation Fellowship Proposal
Deadline: April 16
Terms of reference: Established by the Davies Charitable Foundation and awarded on the basis of academic excellence for a year of study/research at the post-doctoral or fellowship level. Applicants must have been in the Kingston, Ontario area or have resided in the area for at least 5 years prior to the student's 20th birthday. The fellowship is tenable in all disciplines and at the University of the student's choice.
Contact: The Davies Charitable Foundation, 245 Alington Place, Kingston, ON, K7L 4P9, Tel: (613) 546-4000 or 1-800-472-4796, E-mail: daviesfoundation@cogeco.ca

Department of Justice Canada: Financial Assistance
Deadline: Summer program: April 1; three year program: June 1
Terms of reference: The Department of Justice Canada provides financial assistance to Metis and non-status Indian students to help them become lawyers. Funds of up to 10 students each year to attend a two month summer course offered by the University of Saskatchewan’s Native Law Centre for students who may not have the minimum academic requirements for law school. 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, payment of tuition fees, text book allowance and other allowances.
Contact: Chief, Native Programs, Department of Justice Canada, Justice Building, Ottawa, ON, K1A 0H8, Tel: (613) 957-9636.

The Duke of Edinburgh’s Award
Deadline: March 25
Terms of reference: The Duke of Edinburgh’s Award is:
• An international youth program for ages 14-25.
• Open to all young people. Participants do not compete with others — only themselves. If participation is in a group, the group may do different things if they wish. There is also a minimum time that they must be involved in the three levels but they can take as long as they like up to age 25.
• Participants can do the Award as a member of a youth group/organization such as Scouts, Guides, Cadets, church youth group, school etc., or they can work on the Award as an independent.
• Each participant requires their own Record Book ($3.00). Leaders need a Handbook ($3.00) and if a participant is working on their own they may want a Handbook as well.
• To start, just contact the Award office or call collect.
• Nothing starts counting for the Award until registration. (Then only what is done after registration counts.)
• To start the Bronze level: Age 14, To start Silver level: Age 15, To start Gold level: Age 16
• When the Bronze, Silver or Gold Award is approved, there is a Certificate and Pin to be presented at an award ceremony.
Contact: The Duke of Edinburgh’s Award, 212-633 Courtney Street, Victoria, BC, V8W 1B8, Tel: (604) 682-5543 or (250) 385-4232.

J.M. Ellis Innovative Map of the Year – Canadian Institute of Geomatics
Deadline: March 1
Terms of reference: The award is intended to promote interest in, and to recognize excellence of, creative design in cartography. Annually, the award will highlight a single map that exhibits significant design advances. The competition is open to all Canadian residents, private firms, federal, provincial, and municipal agencies producing and publishing maps.
Contact: The Chair, Geomatics Canada Scholarship Program, c/o Canadian Institute of Geomatics, Suite 120, 162 Cleopatra Drive, Nepean ON, K2G 5X2, Tel: (613) 224-9851, Fax: (613) 224-9577.

Etuwanet Inuit History Prize – Canadian Northern Studies Trust
Deadline: January 31
Terms of reference: This prize of $500 is awarded for the best essay about an interesting event or circumstance in Inuit history written in Inuktitut, English or French by an Inuit student registered at any Canadian University or College. The essay (1500 to 3000 words in length) must be on an Inuit elder’s story, obtained from either an original or previously
taped interview. The Prize is designed to encourage interest among Inuit students in preserving their oral history in writing. The prize is named for the late Etuagat Aksayuk, a distinguished elder of Pangnirtung, Baffin Island.

Contact: Association of Canadian Universities for Northern Studies (ACUNS), 17 York Street, Suite 405, Ottawa, ON, K1N 9J6, Tel: (613) 562-0515, Fax: (613) 562-0533.

E-mail: acuns@cyberus.ca
Web: www.uottawa.ca/associations/auccn-acs

J. Douglas Ferguson Historical Research Foundation

Deadline: October 15

Terms of reference: The J. Douglas Ferguson Historical Research Foundation offers two competitions for student essays. One award for $1,000 will be made to the author of the best post-graduate essay and two others, for $750 each, will go to the undergraduates who write the best essays. To be eligible for an award, applicants must either be enrolled in a post-graduate program (MA, MSc or PhD) or undergraduate program (BA, BSc) at a Canadian university. The essays should have significant relevance for numismatics. This would include essays in history, art history, archaeology or classics for which coins, tokens, jetons, paper money, cheques or medals provide an important source of evidence as well as essays in banking history, monetary history, medallic art, banknote engraving, or the technology and metallurgy of coinage.

Although students are encouraged to select topics relevant to Canadian numismatics, essays on ancient, medieval, or modern international topics are also eligible. The essays may 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, with pages numbered, and author's name and address clearly marked on the title page. Include also a short resume. Winning essays in both categories will be published in the Canadian journal most relevant to their topics.

Contact: The J. Douglas Ferguson Historical Research Foundation, 654 Hiawatha Blvd., Ancaster ON, L9G 3A5.

The Foundation for the Advancement of Aboriginal Youth

Deadline: September 15

Terms of reference: These awards, valued at $1,000 each, are awarded to a student or returning student of Aboriginal descent and residents of Canada. Applicants must be enrolled and accepted in a first, second, or third year college or undergraduate program, preferably in the areas of business, accounting, marketing, medical or technology. Consideration will be given to applicants who have made contributions to their community by volunteering or providing a leadership role for educational goals and a potential career choice in the future; copies of recent transcripts; a completed registration form; two letters of reference (no relatives), one personal and one academic; a letter from an educational institution indicating confirmation of registration or a photocopy of school application form.

Contact: Brenda Maracle O'Toole, National Director, FAAY, 204 St. George Street, 2nd Floor, Toronto, ON, M5R 2N5, Tel: (416) 961-8663, Fax: (416) 961-3995, Toll Free: (800) 485-7079.

The Canada-U.S. Fulbright Program

Deadline: November 15

Terms of reference: Graduate and graduating students are eligible to apply if they are seeking enrolment in graduate degree programs at American universities, or if they plan to pursue research in the United States as part of their Canadian graduate degree program.

FORMAL ENROLMENT AWARDS are for those who intend to begin graduate programs at universities in the United States, and who have gained acceptance to programs.

RESEARCH AWARDS are for those who intend to spend an academic year of research and course work at institutions in the United States, but who are enrolled in graduate programs at Canadian universities.

INDEPENDENT RESEARCH AWARDS are for students who have already received an undergraduate degree from a recognized university and wish to pursue an academic year of independent research/study. Students must be affiliated with an institution in the United States.

Contact: Foundation for Educational Exchange Between Canada and the United States of America, 350 Albert Street, Suite 2015, Ottawa, ON K1R 1A4, Tel: (613) 237-5366, Fax: (613) 237-2029.

E-mail: info@fulbright.ca
Web: www.usembassycanada.gov/on/fulbright.htm

Global Television Network Aboriginal Peoples' Internship Award

Deadline: August 15

Terms of reference: This annual Internship Award offers an aboriginal Canadian a challenging opportunity to work in private television, in pursuit of a career in broadcasting. The award, valued at $10,000, places the applicant in a Global Internship program at any one of the Global Television stations where the award recipient will be paid on a salary basis for the summer. The applicant must be an aboriginal Canadian, have minimum education at secondary school graduate, have interest in, and aptitude for, a career in the broadcasting industry, and have strong English language communication skills.

Application must include:
- completed application form,
- copy of transcript of marks from most recent educational institute (high school, college, university), or date when transcript of marks will be sent directly to Global Television,
- one page written statement, 500 words or less, outlining Applicant's educational and career goals, interest in broadcasting, and reasons for applying for the internship award,
- three typed/written letters of reference (e.g. teacher, employer).

Contact: Global Television Network, 81 Barber Greene Road, Toronto, ON, M3C 2A2, Tel: 1-800-387-8001, Fax: (416) 446-5508.

The Grant For Women Awards – Soroptimist Foundation of Canada

Deadline: January 31

Terms of reference: The Soroptimist Foundation of Canada annually offers several $7,500 grants to female graduate students in Canada to assist them with university studies, which will qualify them for careers, which will improve the quality of women's lives. Applicant must be: 1) a female, 2) a Canadian citizen or landed immigrant, 3) registered in a graduate or graduate -level or professional program of studies in an accredited Canadian university, 4) pursuing a course of studies which will lead to a career mainly of service to women, 5) intending to spend a minimum of two years in such a career in Canada 6) intending to use the award in the academic year following receipt of it.

Contact: E. Jean Farquharson, Manager, S.F.C. Grants for Women, Western Canada, 1055 Comox Road, Courtenay, BC, V9N 3P7.

Elizabeth Greenshields Foundation Award

Deadline: unknown

Terms of reference: The objective of the Foundation is to promote an appreciation of the traditional expression in painting, drawing, sculpture and the graphic arts by aiding worthy art students, artists or sculptors who need further training or other assistance during their formative years. Awards are limited to candidates in the early stages of their careers working in the following: painting, drawing, printmaking, sculpture. Work must be representational or figurative. The terms of the Foundation's Charter preclude abstract or non-representational art. To be eligible for a grant candidates must have already started or completed training at an established school of art and/or demonstrate, through past work and future plans, a commitment to making art a lifetime career. Refer to application form for application instructions. The Foundation welcomes applications throughout the year.

Contact: Elizabeth Greenshields Foundation, 1814 Sherbrooke Street West, Suite #1, Montreal, QC, H3H 1E4, Tel: (514) 937-0225, Fax: (514) 937-0141.

E-mail: egreen@total.net

Gulf and Fraser Credit Union – Robert F. Long Educational Award

Deadline: September 1

Terms of reference: It is a prerequisite that the applicant be a member, or the child of a member, of Gulf & Fraser Credit Union, and that the successful applicant be enrolled at a University or Technical Institute. An official transcript of your most recent marks must be submitted.

Contact: Gulf and Fraser Credit Union, 803 East Hastings Street, Vancouver, BC, V6A 1R8, Tel: (604) 254-7270, Fax: (604) 254-7332.

Heart and Stroke Foundation of B.C. and Yukon

Deadline: February 15

Terms of reference: The Heart and Stroke Foundation is now offering a limited number of Summer Research Studentship positions to academically excellent university students not currently registered in or undertaking studies toward a graduate degree. The objective of this program is to allow talented students to become acquainted with cardiovascular and cerebrovascular related research. To be eligible for this program, the student must currently be registered in a British Columbia university or college. It is open to undergraduate and medical students with a GPA of 3.5 or higher.

Contact: Research Department, Heart and Stroke Foundation of B.C. & Yukon, 1212 West Broadway, Vancouver, BC, V6H 3V2, Tel: (604) 736-3401, Toll Free: 1-888-473-4636, Fax: (604) 736-8732.

E-mail: kjang@hsf.bc.ca, Web: www.hsf.bc.ca

Heroes of Our Time

Deadline: June 15

Terms of reference: There are seven awards in the amount of $2,000 each for First Nations citizens at the post-secondary school level who have completed at least one year and have demonstrated exceptional academic abilities. Applicants must be actively involved within the First Nations community.

Contact: Assembly of First Nations Resource Centre, Heroes of Our Time Awards, 10th Flr, 1 Nicholas Street, Ottawa, ON, K1N 7B7, Tel: (613) 241-6789.

Husky Oil Education Awards for Native People

Deadline: June 15

Terms of reference: There are 4 awards in the amount of $3,000 each for students who have lived in B.C., Alberta or Saskatchewan for at least one year prior to applying, who are in need of financial assistance and demonstrate a serious interest in the oil industry. 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: (403) 298-6111.
Imperial Oil Resources – Native Educational Awards Program
Deadline: June 15
Terms of reference: Three awards of up to $4,500 each are given to people of First Nations ancestry beginning post-secondary studies. The awards are designed to cover tuition and other compulsory fees, text books and supplies and a portion of the student’s living expenses during the academic year. The purpose of the awards is to encourage and assist students in any field of study who are residents of B.C., Alberta, Saskatchewan, the Yukon or the Northwest Territories for at least one year prior to applying for the award; those who can provide proof of acceptance to an eligible post-secondary educational institution; those who will pursue studies in the following disciplines: Engineering, Commerce/Business, Geology, Geophysics, Computer Science or Petroleum Land Management. Those who will register in a program of studies leading to either a recognized degree, certificate or diploma; those who are in need of financial assistance to pursue post-secondary studies; those who are academically qualified.
Contact: Native Educational Awards Coordinator, Imperial Oil Resources Ltd., 37 Fourth Avenue S.W., Calgary, AB, T2P 0H6, Tel: (403) 237-3737, Fax: (403) 237-4017.

Indian and Northern Affairs Canada Post-Secondary Student Support Program
Deadline: February 28
Terms of reference: To be eligible you must be Inuit or registered as Indian, have lived only in Canada for the past year and have met a university or college’s entrance requirements. The student must 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 post-graduate or professional degree student payments of up to $1,500 for continuing with program.
- Strategic Scholarships – for students of commerce, public or business administration, economics, applied and physical science, mathematics, computer science, forestry and engineering scholarships of up to $3,500 annually.
- Academic Achievement Scholarships – undergraduate students who have at least a B average may apply for scholarships of up to $1,000 annually.
Contact: If you have Band Membership, apply to your Band or Tribal Council office. If you are not a Band Member, you can apply at the Native Education Centre, 285 E. 5th Avenue, Vancouver, BC, V5T 1H2.

International Space University – Summer Program
Deadline: December 15
Terms of reference: The International and Canadian Programs Division of the Association of Universities and Colleges of Canada (AUCC) has been appointed by the CFISU 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 graduate degree holders. Fourth year students of an undergraduate program may also apply if they have been accepted to a Master’s degree program for September. Candidates must be conversant in English and in one other language.
Contact: David Grogan, Program Officer, Scholarships and Exchanges Program, International and Canadian Programs Branch, Association of Universities and Colleges of Canada (AUCC), 600-350 Albert Street, Ottawa, ON, K1R 1B1, Tel: (613) 563-3961, ext. 321 Fax: (613) 563-9745, E-mail: dgrogan@aucc.ca, Web: www.aucc.ca

Japan Foundation
Deadline: unknown
Terms of reference: The Japan Foundation (Kokusai Koryu Kikin) was founded in 1972 as a non-profit, special legal entity, in order to further international mutual understanding through the promotion of cultural exchange between Japan and other countries. A wide range of programs is conducted in more than 180 countries. These programs can be categorized as: 1) Support for Exchange Persons, 2) Support for Japanese-Language Education, 3) Support for Japanese Studies, 4) Support for Arts-Related Exchange and 5) Support for Media Exchange. Refer to program guide for detail information.
Contact: The Japan Foundation Toronto, 131 Bloor Street West, Suite 213, Toronto, ON, M5S 1R1, Tel: (416) 966-1600, Fax: (416) 966-9733, E-mail: info@jftor.org, Web: www.japanfoundationcanada.org

The Japan Exchange and Teaching Program (JET)
Deadline: November 26
Terms of reference: The Japan Exchange and Teaching (JET) Program invites young college and university graduates from overseas to participate in international exchange and foreign language education throughout Japan. Established in 1987, the program has earned a high reputation, both in Japan and overseas, for its efforts in human and cultural exchanges, and has become one of the largest cultural exchange programs in Japan. The JET participants are invited to Japan, and are placed in host institutions throughout the country. The JET participants sign contracts with their host institutions.
Contracts are for one year. The JET program offers three types of positions: Co-ordinator for International Relations (CIR), Assistant Language Teacher (ALT) and Sports Exchange Advisor (SEA). For further information, please contact Embassy of Japan or Consulate General of Japan.
Contact: Consulate General of Japan, 900-1177 West Hastings Street, Vancouver, BC, V6E 2K9, Tel: (604) 684-5868 ext. 240, 255, Fax: (604) 684-6939, E-mail: programs@consljunvcan.com, Web: www.embasy@japanacad.org

The Killam Program of the Canada Council For The Arts
Deadline: November 1
Terms of reference: One prize of $100,000 is awarded annually in each of three areas: natural sciences, engineering and health sciences. Killam Prizes are not related to a particular achievement, but rather are given in recognition of a distinguished career and exceptional contributions to one of these fields. Only Canadian citizens are eligible. Candidates must be nominated by three experts in their field.
Contact: Marcelle Menard, Killam Program, The Canada Council for the Arts, 350 Albert Street, P.O. Box 1047, Ottawa, ON, K1P 5V8, Tel: 1-800-263-5588, ext. 4231, or (613) 566-4308, Fax: (613) 566-4407, E-mail: killam@canadacouncil.ca, Web: www.canadacouncil.ca

Frank Knox Memorial Fellowships Program
Deadline: March 28
Terms of reference: The fellowship will enable students from Canada to spend one academic year at Harvard University. Fields of study include Arts and sciences (including engineering), business administration, design, divinity studies, education, law, public administration, medicine, dental medicine and public health. The fellowships are open to Canadian citizens or permanent residents of Canada who are Canadian university graduates or about to graduate from an educational institution which is a member, or affiliated with a member, of AUCC.
Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert St., Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745, E-mail: awards@aucc.ca, Web: www.aucc.ca

Pam Koczapska Memorial Award
Deadline: May 1
Terms of reference: Up to $1,000 awards, the Pam Koczapska Memorial Award will honor students planning a career in education or in any professional field that will benefit the Upper St. Lawrence. Financial need is considered. Applications must include a transcript of grades or a letter from someone from your school stating your grades, a letter of recommendation and a letter explaining your goals and expectations.
Contact: sto:lo Sitel Advisory Committee, Coqualeetza Centre, Box 370, Sardis, BC, V2R 1A7, Tel: (604) 858-9431, Fax: (604) 858-8488.

Kodak Fellowship in Film Preservation – Association of Moving Image Archivists
Deadline: May 1
Terms of reference: The Kodak Fellowship is designed to advance the education and training of a student of merit who intends to pursue careers in the profession of moving image archiving. The student who is selected will receive a scholarship of $4000, up to $2000 reimbursements to cover cost for attending the AMIA conference and a six week paid internship at Kodak and other film restoration facilities. To be considered the applicant must be enrolled in a graduate level or other advanced program in moving image studies or production, library or information studies, archival administration, museum studies or a related discipline; or must be accepted into such a program for the next academic year. The applicant must have a GPA of 3.0 (on a 4.0 scale) in his/her most recently completed academic program. The applicant must have strong organizational and interpersonal skills, and a demonstrated interest in pursuing a career in moving image archival field. The applicant must be at least 21 years of age and must possess a valid driver’s license. The applicant must submit an application form, an official transcript from the most recent academic program, an essay of no more than 1000 words describing the applicant’s major field of study, interest in moving image archiving, relevant experience and/or education, and career goals. Two letters of recommendation.
Contact: AMIA, 8949 Wiltshire Boulevard, Beverly Hills, CA 90211, Tel: (310) 550-1300, Fax: (310) 550-1363, E-mail: amia@amianet.org, Web: www.amianet.org

Learning Through Service Program
Deadline: June 30
Terms of reference: The goal of the program is to provide hands-on experience of living and working in developing countries, increasing knowledge of development, other cultures, traditions and practices
among Canadian students. The program is sponsored by the Canadian International Development Agency (CIDA).

Raymond A. LeClair Memorial Scholarship Award (Coquitlam Foundation)
Deadline: May 11
Terms of reference: The successful applicant must be a resident of the City of Coquitlam, demonstrate financial need, have a history of school and/or community involvement, show that he or she can successfully undertake a program of studies, attend an interview with the selection committee and begin designated studies within six months of formal notification of selection. Applications must include a letter of application, which should include a statement outlining why the applicant merits the award, a resume, a copy of appropriate school transcript and two letters of reference which address the student’s ability to complete the course of studies proposed.

Contact: Glenn Hara, Secretary, Coquitlam Foundation, 300 Guildford Way, Coquitlam, BC, V3B 7N2, Tel: (604) 927-3003, Fax: (604) 927-3015.

Minerva Foundation For B.C. Women Education Award
Deadline: August 15
Terms of reference: The purpose of the fund is to provide financial assistance to mature single women for graduate or undergraduate studies at Simon Fraser University. The award will be granted on the basis of financial need and academic proficiency, with preference given to a single mother.

Undergraduate students must be registered in a minimum of nine semester hours of normal graded courses. Graduate students must be registered for residence credit in an approved full-time program. The award will be granted in two installments. To be eligible for the second installment, the recipient must maintain a minimum cpga of 2.00. Apply to Minerva Foundation by August 15 of the given year.

Contact: Danna Murray, Executive Director, Minerva Foundation, c/o Bull, Housser & Tupper, 3000 Royal Centre, PO Box 11130, 1055 West Georgia Street, Vancouver, BC, V6E 3R3, Tel: (604) 844-5439.

The Department of National Defence (NDF) Security and Defence Forum
Deadline: February 1
Terms of reference: The Department of National Defence offers a number of awards in studies relating to current and future Canadian national security and defence issues, including their political, international, historical, social, military and economic dimensions. Applicants must be Canadian citizens or permanent residents of Canada.

a) MA Scholarship Program,

b) PhD Scholarship program (including Dr. Ronald Baker Doctoral Scholarship),

c) Internship Program,

d) Post-Doctoral Fellowship Program (including R.B. Byers Fellowship).

Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert St., Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745, E-mail: awards@aucc.ca, Web: www.aucc.ca

Northern Scientific Training Program
Deadline: December 1
Terms of reference: Indian and Northern Affairs Canada offers the Northern Scientific Training Program for students undertaking studies in the North.

Contact: The University's Northern Studies Committee chairperson or NSTP at Tel: (819) 997-0660, E-mail: nstp@inac.gc.ca

NSERC Aboriginal Student Research Awards
Deadline: November 1
Terms of reference: The Natural Sciences and Engineering Research Council of Canada (NSERC) is encouraging Aboriginal participation in four different awards programs. These programs are open to all Inuit, Metis, Status and Non-Status First Nation people.

THE UNDERGRADUATE STUDENT RESEARCH AWARDS (USRA) programs offers qualified undergraduate students the opportunity to work on a challenging research project in a university or industrial environment for up to four months (minimum salary of $5000 for 16 weeks). This is a great summer job opportunity for students registered in an honours bachelor's degree program in natural sciences or engineering.

THE POSTGRADUATE SCHOLARSHIPS (PGS) program provides financial assistance ($17,300 to $19,100 per year) for up to four years to students pursuing a master's or doctoral degree in the natural sciences or engineering.

THE POSTDOCTORAL FELLOWSHIPS (PDF) program provides financial support ($35000 per year) for up to two years to the most promising young researchers in the natural sciences and engineering.

THE UNIVERSITY FACULTY AWARDS (UFA) program is open to any Inuit, Metis, Status and Non-Status First Nation people who are being considered for university faculty positions. This program is administered by the Department of National Defence and offers awards of $2,000. A second place award of $500 will be awarded in the event of a tie for first place. Applicants must be Canadian citizens or permanent residents of Canada. Preference will be given to applicants who hold a Master's degree and who would normally be pursuing doctoral studies.

Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert St., Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745, E-mail: awards@aucc.ca, Web: www.aucc.ca

Office of Critical Infrastructure Protection and Emergency Preparedness Research Fellowship Program
Deadline: March 28
Terms of reference: The purpose of the fellowship is to encourage disaster research and emergency planning in Canada by developing a greater number of qualified professionals in this field. Fields of study include all aspects of disaster and emergency studies, preferably in urban and regional planning, economics, civil engineering, earth sciences, risk analysis and management, systems science, social science, business administration and health administration. Candidates in the latter two areas must have completed their master's degree.

Multidisciplinary studies are encouraged. Candidates must be Canadian citizens or permanent residents of Canada. Preference will be given to applicants who hold a Master's degree and who would normally be pursuing doctoral studies.

Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert St., Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745, E-mail: awards@aucc.ca, Web: www.aucc.ca

Okanagan Historical Society Student Essay Contest
Deadline: April 30
Terms of reference: To increase the interest in the history of Okanagan area and to encourage research in the subject, the Okanagan Historical Society is inaugurating an essay contest at the post secondary school level. The topic must be in some aspect of Okanagan history. The Okanagan is defined as the geographic boundaries and society of Okanagan, Shuswap and Simikameen Valleys. The length is to be 2000-3000 words and suitable for publication in Okanagan Report. This competition is open to all post secondary students registered in a Canadian university.

Contact: Mrs. Enabelle Gorek, RR#1, S-31A, C-10, Summerland BC, V0X 1Z0

Lewis Perinbam Award in International Development: Recognizing the Accomplishments of Ordinary Canadians (CBIE)
Deadline: September 24
Terms of reference: This award is given to a Canadian in recognition of excellence and imaginative leadership in a social or economic area pertaining to development in the Third World. The Award recognizes grassroots achievements in improving life in developing countries and expanding awareness of those countries among the Canadian public. The Award seeks to commend individuals who make volunteer contributions to international development rather than those who work in a paid professional capacity in this arena. However someone who works in the field but undertakes voluntary commitments over and above his or her employment would also be considered for the Award.
Financial Assistance and Awards 105

Volunteer Recognition Awards
Deadline: February 25
Terms of reference: Volunteer Vancouver's Volunteer Recognition Awards celebrate the spirit of volunteerism and showcase the voluntary efforts of countless individuals and groups. Recognizing specific individuals or organizations, these awards also focus public attention on the vast spectrum of voluntary service and community participation that sustains the vibrant and caring community in which we live. Awards are presented in five categories.

THE VOLUNTEER VANCOUVER AWARD FOR LEADERSHIP: This award is designed to recognize individuals that have demonstrated exceptional leadership in the non-profit sector.

THE VOLUNTEER VANCOUVER AWARD FOR INNOVATION: This award is designed to recognize organizations that have furthered their objectives while responding to the changing needs of the community with exceptional creativity and innovation.

THE LEADERS OF TOMORROW AWARDS: These awards honour exceptional individuals and use their examples to inspire others to similar service. These awards recognize youth 17 years of age and under, and separately, youth age 18-25 years.

THE CARING COMPANIES AWARDS: These awards recognize the support for voluntary activity among employees and for the financial support provided to community organizations.

THE COMMUNITY SERVICE AWARDS: These awards honour volunteers or volunteer groups for their invaluable service and focus public attention on the similar works of countless others.

Volunteer Vancouver, #301-3102 Main Street, Vancouver, BC, V5T 3G7, Tel: 875-9144, Fax: 875-0710, E-mail: volvan@volunteer.ca

Weyerhaeuser Canada Diversity Education Awards
Deadline: June 30
Terms of reference: Weyerhaeuser Canada Diversity Education Awards Program offers up to four financial awards annually which may continue for two to four years, depending on the recipient's program of study. You are eligible to apply if you are: a person of aboriginal ancestry (status and non-status Indian, Metis or Inuit); female; a person with a disability (as defined by the Canada Employment Equity Act); or, a member of a visible minority (as defined by the Canada Employment Equity Act). You must also be a Canadian citizen or permanent resident who has resided in BC for the past 12 months. Preference will be given to individuals residing in BC communities where Weyerhaeuser has operation. You must also demonstrate acceptance to a recognized BC post-secondary educational institution as a full-time student in a two year diploma or a university degree program.

Contact: Diversity Education Awards Program, Weyerhaeuser Canada Ltd., PO Box 800, Kamloops, BC, V2C 5M7, Tel: (250) 828-7387, Fax: (250) 828-7380.

The Women's Opportunity Award (Soroptimist International)
Deadline: December 15
Terms of reference: The Women's Opportunity Awards Program was established by Soroptimist International of the Americas in 1972 to assist women seeking to improve their employment status by gaining additional education and skills. Women's Opportunity Awards are designed to provide financial assistance.
assistance to women who provide the primary source of financial support for their families. The Women's Opportunity Awards program begins at the community level, where award amounts vary. Local winners then become eligible to receive region level awards. First place region winner becomes eligible to receive a $10,000 international finalist award. Applicants must: 1) be female head of household, with primary financial responsibility for supporting their families; 2) be attending, or have been accepted to, a vocational/skills training program, or an undergraduate degree program; 3) have financial need; 4) be motivated to achieve their educational and career goals.

Contact: Teresa Wyile, Soroptimist International of Burnaby-New Westminster, Tel: (604) 435-4280; or Joan Jeffries, Soroptimist of the Tri Cities, Tel: (604) 936-9572; or Ms Eva Macintyre, Soroptimist International of White Rock, 12719-15A Avenue, Surrey BC, V4A 1L9.

Web:www.soroptimist.org

External Awards for Applied Sciences Students

**Cable Telecommunications Research Fellowship Program**

**Deadline:** March 28

Terms of reference: The Cable Telecommunications Research Institute has established graduate fellowships to encourage students at the Master or Ph.D. level to tackle topics in the engineering of communications systems for video, voice and data signals or for computer applications to cable TV requirements. Candidates must be Canadian citizens or permanent residents and enrolled or planning to enrol in a Canadian university. Candidates must intend to use the fellowship to assist them in completing a graduate degree which includes a thesis on a topic in the engineering of broadband communications systems or computer science. (In this context, a broadband system can be analogue or digital, or a combination, but must be capable of transporting upwards of 10 video channels.)

Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert St., Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745.

E-mail: awards@aucc.ca

Web:www.aucc.ca

**Caribou Research Award – Canadian Northern Studies Trust**

**Deadline:** January 31

Terms of reference: The Beverly and Qamanirjuaq Caribou Management Scholarship Fund provides awards of up to $3,000 to full-time students enrolled in a recognized Canadian community college or university pursuing studies that will contribute to the understanding of Barren Ground Caribou (and its habitat) in Canada. Preference will be given to individuals who are normally resident in one of the caribou-using communities on the range of the Beverly or Qamanirjuaq Caribou. These awards may be held concurrently with a Special Bursary for Northern Residents.

Contact: Association of Canadian Universities for Northern Studies (ACUNS), 17 York Street, Suite 405, Ottawa, ON, K1N 9J6, Tel: (613) 562-0515, Fax: (613) 562-0533, E-mail: acuns@cyberus.ca, Web:www.uottawa.ca/associations/acuns-acuns

**CIPS Computing Co-op Award**

**Deadline:** unknown

Terms of reference: The Vancouver section of the Canadian Information Processing Society provides an award valued at $750 to a third or fourth year MSSC student who has major or minor in Mathematics or Computing Science. A scholarship of $250 is available to a runner-up student. Applicants must have at least a 3.00 CGPA and have completed at least two co-op terms.

Contact: The applicable department for application procedures.

**Engineering Students’ Project Award – Canadian Engineering Memorial Foundation**

**Deadline:** January 4

Terms of reference: The Engineering Students Project Award is a $5,000 award offered annually and regionally, one in each of British Columbia, the Prairie provinces, Ontario, Quebec, and the Atlantic provinces. This award is offered to the team of engineering students which develops and implements the outreach programme deemed most effective at attracting senior high school students, particularly women, to engineering.

Contact: Canadian Engineering Memorial Foundation, Engineering Students Project Award, c/o Canadian Council of Professional Engineers, 1100-160 Eglinton Street, Ottawa, ON, K2P 2K3, Tel: (613) 232-2474, Fax: (613) 230-5759.

E-mail: memorial.foundation@ccpe.ca, Web:www.ccpe.ca

**Esso Resources Canada Limited – Native Education Award**

**Deadline:** June 15

Terms of reference: Two $4,500 awards are available to students enrolled in full-time, petroleum industry related studies and have financial need. Your grades will be considered. You must have been living in B.C., Alberta, Saskatchewan, the Yukon or the Northwest Territories for 12 months before applying.

Contact: Coordinator, Native Education Awards Program, Human Resources Department, Esso Resources Canada Limited, 237 Fourth Avenue S.W., Calgary, AB, T2P 0H6.

**NSERC Undergraduate Student Research Awards**

**Deadline:** unknown

Terms of reference: NSERC Undergraduate Student Research Awards are valued at $4,000 (plus a 25 per cent supplement from the host university or company) and are normally held for 16 weeks. Students must be registered full-time in a bachelor’s degree program in the natural sciences or engineering and have successfully completed their first year of undergraduate studies with a minimum average of “B.”

Contact: Scholarships and Fellowships Division, Natural Sciences and Engineering Research, Council of Canada, 350 Albert Street, Ottawa, ON, K1A 1H5, Tel: (613) 995-5521, Fax: (613) 996-2580.

Contact: schol@nserc.ca, Web:www.nserc.ca/programs/schol1_e.htm

**Society of Automotive Engineers Awards**

**Deadline:** April 1

Terms of reference: The Society of Automotive Engineers is offering several awards to students in engineering: the SAE Doctoral Scholars Forgivable Loan Program, the Yanmar/SAE Scholarship and the SAE Long Term Member Sponsored Scholarship. Eligible applicants will be entering their senior year of undergraduate engineering or enrolled in a postgraduate engineering or related science program. Applicants must be pursuing a course of study or research related to the conservation of energy in transportation, agriculture & construction, and power generation, with emphasis on internal combustion engine. Printable applications are available on the SAE website.

Contact: Society of Automotive Engineers, SAE Education Relations, 400 Commonwealth Drive, Warrendale, PA 15099-0001, Tel: 1-724-772-4047.

E-mail: sae@sae.org, Web:www.sae.org

**External Awards for Arts Students**

**Award for Ukrainian Art in Alberta (URDC)**

**Deadline:** November 30

Terms of reference: This award is available annually to any qualified applicant (individual or group) who, through an exhibit, tour, festival, educational program or special project, fosters a greater awareness of Ukrainian arts in Alberta. Works in progress and/or recently completed works will be considered. Applicants must submit a portfolio and/or visual or audio sample of the Ukrainian art being promoted, along with a written proposal outlining the intended exhibit, tour, festival, educational program or special project, 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 Award, c/o Ukrainian Resource and Development Centre (URDC) Grant MacEwan Community College, Box 1796, Edmonton, AB, T5J 2P2, Tel: (780) 497-4374, Fax: (780) 497-4377.

**Canadian Association of Geographer’s Annual Award**

**Deadline:** Spring

Terms of reference: The Canadian Association of Geographers will award in Spring semester, a prize to the outstanding student in Geography.

Contact: No application is necessary.

**Churchill Communication Challenge – Sir Winston Spencer Churchill Memorial Fund**

**Deadline:** April 15

Terms of reference: The annual Churchill Communication Challenge essay/term paper competition, established by the Rt. Hon. Sir Winston Spencer Churchill Society, offers two prizes ($600 and $200) to students majoring in History or Political Science and International Relations. Each university/college may submit up to 6 essays/term papers selected by faculty members in charge in May/June each year and decision will be made by end of November. The topics of the essays/term papers are not restrictive. They look for topics of contemporary relevance and interest and prefer topics that make reference to the statesmanship or politics of Churchill, but is not essential.


**Maria Mae and Sergei Eremenko Music Award (URDC)**

**Deadline:** November 30

Terms of reference: This scholarship is available annually to any qualified applicant (individual or group), who is planning to pursuing further studies in the field of Ukrainian music. Courses of study or workshops, either in progress or recently completed, will be considered. Applicants must submit a written description of the course of study or workshop, along with an explanation of how the course or workshop will help the applicant in promoting the awareness and development of Ukrainian music in Alberta. The application should be approximately one page in length, and may include information about the applicant’s past accomplishments and experiences.

Contact: Ukrainian Resource and Development Centre (URDC), Grant MacEwan Community College, Box 1796, Edmonton, AB, T5J 2P2, Tel: (780) 497-4374, Fax: (780) 497-4377.

Web:www.gmcc.ab.ca/nw/urdc/scholars.htm

**HBK-Savings Bank Prize**

**Deadline:** June 30

Terms of reference: HBK Savings Bank awards a prize in order to encourage the scientific study on workers’ financial participation and democracy in enterprises. This study deals with economic ownership and/or industrial participation in enterprises. Candidates have to hold a...
university degree. A typewritten or printed copy of their work as well as a curriculum vitae mentioning their studies, degrees, professional activities and publications have to be sent to HBK Savings Bank. The study has to be written in one of the following languages: English, French, German or Dutch.

Contact: HBK-Banque d’Epargne, Lange Lozenastraat 250, B-2018 Antwerpen, Belgium, Tel: 32-3-2475501, Fax: 32-3-2475399.

Anna Pidruchney Award for New Writers (URDC)

Deadline: November 30

Terms of reference: Awarded annually to a novice writer for a literary work which includes Ukrainian Canadian characters or is based on a Ukrainian Canadian theme. Only completed works will be considered. All genres of writing (including novels, short stories, poems, essays, and dramatic works) are acceptable. Open to Grant MacEwan Community College students and other authors. Preference will be given to young writers who have not yet had their works published on a regular basis, and who are considering writing as a profession. The award will be for an English language work. In even numbered years, beginning in 1991, the award will be for an English language work. In odd numbered years, beginning in 1992, the award will be for a Ukrainian language work. Applications are considered in the year prior to that when the award is granted.

Contact: Anna Pidruchney Award for New Writers, c/o Ukrainian Resource & Development Centre (URDC) Grant MacEwan Community College, Box 1796 Edmonton, AB, T5J 2P2, Tel: (780) 497-4374, Fax: (780) 497-4377, Web:www.gmcc.ab.ca/nw/urdc/scholars.htm

Prize of French Consulate in Vancouver

Deadline: summer

Terms of reference: Several book prizes and medals have been donated to Simon Fraser University to be awarded to students for outstanding achievement in French.

Contact: Applicants must be recommended to the French Consulate in Vancouver by the Department of French, Simon Fraser University.

Vancouver Foundation – Advanced Arts Study Awards

Deadline: May 31

Terms of reference: The Vancouver Foundation initiated the Advanced Arts Study Awards to help develop talent from B.C. Awards will range from $3,000 to $5,000.

Detailed Terms of the Awards (all conditions must apply):
• for a program of advanced study in music, dance or theatre,
• at a recognized institution or with an established professional within or outside of British Columbia,
• student has shown talent and demonstrated a high level of achievement,
• financial assistance is required to enable the student to take up the study opportunity,
• student is a B.C. resident and a Canadian citizen or landed immigrant,
• student has not received more than one previous award from this program.

Contact: Vancouver Foundation Advanced Arts Study Awards, Mary Olson, Administrator, Vancouver Academy of Music, 1270 Chestnut Street, Vancouver, BC, V6J 4R9, Tel: (604) 734-2301, Fax: (604) 731-1920.

External Awards for Business Administration Students

British Columbia Export Excellence Award International Business Studies

Deadline: September 21

Terms of reference: The International Business Study Award, sponsored by the Export Development Corporation (EDC), recognizes a student who has shown leadership and excelled in international studies while contributing to British Columbia’s export community. The recipient will have an excellent academic standing and have shown initiative in seeking opportunities and putting into action what they have learned in their studies. This may include, but not to be limited to research projects, work terms with export oriented companies or development of concepts and ideas that have benefited BC’s exporting community. EDC will present the winner with a $3,000 scholarship for continuing his/her studies. All undergraduate students who have a demonstrated interest in International Business and Trade are encouraged to apply for the BC Export Excellence Award.

Contact: Financial Assistance, Simon Fraser University.

HBK-Savings Bank Prize

Deadline: June 30

Terms of reference: HBK Savings Bank awards a prize in order to encourage the scientific study on workers’ financial participation and democracy in enterprises. This study deals with economic (ownership) and/or industrial (participation) democracy in enterprises. Candidates have to hold a university degree. A typewritten or printed copy of their work as well as a curriculum vitae mentioning their studies, degrees, professional activities and publications have to be sent to HBK Savings Bank. The study has to be written in one of the following languages: English, French, German or Dutch.

Contact: HBK-Banque d’Epargne, Lange Lozenastraat 250, B-2018 Antwerpen, Belgium, Tel: 32-3-2475501, Fax: 32-3-2475399.

External Awards for Education Students

The Prime Minister's Awards for Teaching Excellence

Deadline: unknown

Terms of reference: The Prime Minister’s Awards honour elementary and secondary school teachers across Canada who have prepared students for the challenges of a changing society and knowledge based economy. The awards, offered at the Certificate of Excellence and Certificate of Achievement levels, carry a prize of $5000 and $1000, respectively, given to recipients’ schools to be spent under their direction. Nominees must be practising classroom teachers with a minimum of three years experience.

Nominees can be anyone with direct knowledge of the educator’s contribution, including principals, parents, students and colleagues.

Contact: Prime Minister’s Awards for Teaching Excellence, Tel: 1-800-288-6686, E-mail: pmawards@ic.gc.ca, Web:www.schoolnet.ca

External Awards for Science Students

Cable Telecommunications Research Fellowship Program

Deadline: March 28

Terms of reference: The Cable Telecommunications Research Institute has established graduate fellowships to encourage students at the Master or PhD level to tackle topics in the engineering of communications systems for video, voice and data signals or for computer applications to cable TV requirements. Candidates must be Canadian citizens or permanent residents and enrolled or planning to enrol in a Canadian university. Candidates must intend to use the fellowship to assist them in completing a graduate degree which includes a thesis on a topic in the engineering of broadband communications systems or computer science. (In this context, a broadband system can be analogue or digital, or a combination, but must be capable of transporting upwards of 10 video channels.)

Contact: Canadian Awards Program, Association of Universities and Colleges of Canada (AUCC), 350 Albert St, Suite 600, Ottawa, ON, K1R 1B1, Tel: (613) 563-1236, Fax: (613) 563-9745, E-mail: awards@aucc.ca, Web:www.aucc.ca

Canadian Association of Geographer’s Annual Award

Deadline: Spring

Terms of reference: The Canadian Association of Geographers will award in Spring semester, a prize to the outstanding student in Geography.

Contact: No application is necessary.

Caribou Research Award – Canadian Northern Studies Trust

Deadline: January 31

Terms of reference: The Beverly and Qamanjuaq Caribou Management Scholarship Fund provides awards of up to $3,000 to full-time students enrolled in a recognized Canadian community college or university pursuing studies that will contribute to the understanding of Barren Ground Caribou (and its habitat) in Canada. Preference will be given to individuals who are normally resident in one of the caribou-using communities on the range of the Beverly or Qamanjuaq Caribou. These awards may be held concurrently with a Special Bursary for Northern Residents.

Contact: Association of Canadian Universities for Northern Studies (ACUNS), 17 York Street, Suite 405, Ottawa, ON, K1N 9J6, Tel: (613) 562-0515, Fax: (613) 562-0533, E-mail: acuns@cyberus.ca, Web:www.uottawa.ca/associations/acuns-acuns

CIPS Computing Co-op Award

Deadline: unknown

Terms of reference: The Vancouver section of the Canadian Information Processing Society provides an award valued at $750 to a third or fourth year MSSC student who has major or minor in Mathematics or Computing Science. A scholarship of $250 is available to a runner-up student.

Contact: The applicable department for application procedures.

Esso Resources Canada Limited – Native Education Award

Deadline: June 15

Terms of reference: Two $4,500 awards are available to students enrolled in full-time, petroleum industry related studies and have financial need. Your grades will be considered. You must have been living in B.C., Alberta, Saskatchewan, the Yukon or the Northwest Territories for 12 months before applying.

Contact: Coordinator, Native Education Awards Program, Human Resources Department, Esso Resources Canada Limited, 237 Fourth Avenue S.W., Calgary, AB, T2P 0H6.

NSERC Undergraduate Student Research Awards

Deadline: unknown

Terms of reference: NSERC Undergraduate Student Research Awards are valued at $4,000 (plus a 25 per cent supplement from the host university or company) and are normally held for 16 weeks. Students must be registered full-time in a bachelor’s degree program in the natural sciences or engineering and have successfully completed their first year of undergraduate studies with a minimum average of “B.”

Contact: Scholarships and Fellowships Division, Natural Sciences and Engineering Research Council of Canada, 350 Albert Street, Ottawa, ON, K1A 1H5, Tel: (613) 995-5521; Fax: (613) 996-2589, E-mail: schol@nserc.ca, Web:www.nserc.ca/programs/schol1_e.htm
Science Council of BC-Central Interior 2nd Year Science Award
Deadline: August 30
Terms of reference: $1,000 to students who graduated from a high school in the central interior region who are proceeding to a second year of studies at a Canadian university, college or institute in the field of science and/or technology. Based on high scholastic achievement (80% minimum) plus personal qualities and activities. Must provide two letters of reference, one from a science teacher, and include high school transcript and first year transcript attached to application.
Contact: K. Steadman, Science Council of BC Central Interior, Box 3010, Kamloops, BC, V2C 5V2 (UC Campuses), Tel: (250) 371-9751, Fax: (250) 828-5492. E-mail: ksteadman@cariboo.bc.ca

External Loans
British Columbia Youth Foundation Loan
Deadline: unknown
Terms of reference: The Foundation is prepared to make available bona fide British Columbia residents under the age of 30, interest free loans to assist in the pursuance of further education. This assistance is afforded to students who are not eligible for Canada Student Loans. The Foundation will require a co-signer if this private loan is granted; normally, the student’s parents would be asked to do this.
Contact: Further details may be obtained from Financial Assistance.

Canadian Forces Personnel Assistance Fund (CFPAF)
Deadline: June 30
Terms of reference: The Canadian Forces Personnel Assistance Fund offers an Education Assistance Loan Program to assist serving and former members and their dependents with costs of post secondary education. To be eligible for a low interest loan of $1,200, $1,500, $2,000 or $2,500 the serving or former member must have served in the Canadian Forces, after 1st October 1944, or in the Canadian Forces, after 31 January 1968, and have a minimum of 5 years Regular Force military service. The loans are repayable over a twelve or twenty four month period. The application must be submitted by the service member on behalf of the student. Applications will be accepted throughout the year until the funds allotted for the EAP are exhausted.
Contact: Canadian Forces Base Financial Counsellors, district offices of Veterans Affairs Canada, and the Provincial Command offices of the Royal Canadian Legion. CFPAF, 234 Laurier Avenue West, Ottawa, ON, K1P 6K6, Tel: (613) 760-3447, 1-888-753-9828, Fax: (613) 223-5907, Email: cfpafl@cfpafl.com

PEO Sisterhood Educational Loan Fund
Deadline: Unknown
Terms of reference: Loans are available to women students in second to fourth year of a university course, and may be requested at any time. The maximum amount of a loan to any student is $2,000. Fourth year or graduate students may be granted loans and draw the maximum loan of $2,000 for two or more years of study, but may draw only $1,000 of the loan in one academic year. Students must complete satisfactorily one semester’s work before making application. Interest at a 6% rate is to be paid annually, and the student is expected to begin payment of the principal as soon as she is out of university and employed.
Contact: International Student Advisor, PEO International Peace Scholarship Fund, PEO Executive Office, 3700 Grand Avenue, Des Moines, Iowa, USA, 50312-3820, Tel: (515) 255-3153, Fax: (515) 255-3820.

Royal Canadian Naval Benevolent Fund
Deadline: October 31
Terms of reference: This fund recognizes the need of financial assistance for educational purposes of former members of the Naval Forces of Canada and Canadian Merchant Navy Veterans. This program is not only for university but for vocational and other special training as well. Financial assistance for dependants is limited to cover tuition, student fees, books and supplies.
Contact: Royal Canadian Naval Benevolent Fund, PO Box 505 Station “B”, Ottawa, ON, K1P 5P6, Tel: (613) 996-5087, Fax: (613) 236-8830.

Government Administered Programs

Canadian Armed Forces Subsidization Plans

Admission Requirements
An applicant must be a Canadian citizen; be physically fit for enrolment in the Canadian Forces; and be at least 16 years of age on the first day of January of the year the student commences first year studies at university.

How to Apply
Individuals interested in obtaining more information on, or wishing to make application for, any of these plans are requested to contact: Commanding Officer, Canadian Forces Recruiting Centre, 757 West Hastings Street, Vancouver, BC, V6C 1A1.

Government Loans
A loan is a sum of money borrowed by a student who proves financial need on a promise to repay at some specified time.

Canada Student Loan/BC Student Assistance
The purpose of the Canada Student Loan/BC Student Assistance Program is to assist students whose resources are insufficient to provide the cost of full time studies at the post secondary level of education. Therefore, funds under the program are granted only where the financial resources available to students from parents, summer or other employment, part time work, or other sources, are insufficient to meet their estimated educational costs. Normally, the funds provided under this program will be disbursed through a combination of the Canada Student Loan and BC Student Assistance. Students who have more than 8 months (34 weeks) of previous post-secondary study but less than 32 months (136 weeks) of undergraduate study receiving student financial assistance at a post-secondary institution may be eligible for grant funding either in the form of a BC grant or Canada Millennium Scholarship grant. Some students with dependent children may qualify for Canada Study Grant funding. A detailed booklet describing the program in full is available at Financial Assistance.

Eligibility
Applicants must be Canadian citizens or permanent residents (landed immigrants) to be eligible. Assistance will be provided to eligible registered full time students taking a minimum of 60% or nine regular credit hours (40% or six for students with permanent disabilities) of a full program of study leading to a certificate, diploma or undergraduate degree, or registered full time (part time for students with permanent disabilities) graduate students. The amount of assistance awarded will be based on assessed need as determined by the provincial authority.

Currenty, single full time students are eligible for a maximum of $4,675 in BCSAP each semester. The maximum for students with dependent children is $7,395 a semester. You can apply for BCSAP for either one semester or two semesters at once (e.g. fall only, spring only, fall and spring).

A student in need of a Canada Student Loan/BC Student Assistance must first 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 from the Student Services Branch in Victoria. After receiving this notification, the student’s Canada Student Loan document will be mailed to the student from the Student Services Branch and the student will then take the loan document to a lending institution for negotiation.

If the student is also eligible for BC Student Assistance, the loan certificate and grant cheques (BC/Millennium Scholarship cheques) will be mailed to the student from the Student Services Branch, usually at the midpoint of the period of study for which assistance was awarded, and the student will then take the loan certificate to a lending institution for negotiation. Students are advised to keep in constant touch with the bank, or lending institution, from which they secure their loans.

Students should note the summary of obligations on the reverse side of the loan certificate prior to negotiating the loan. Interest on the loan is paid by the federal or provincial government as long as the student is registered as a full time student. Students should contact their lending institution (bank, credit union, service provider) for information regarding the current interest rate and repayment schedule for Student Loans. Students who have previously received Canada Student Loans or BC Student Loans, but who do not negotiate one for their immediate period of study, should submit a Schedule 2 and/or Certificate 2 to their lending institution in order to retain payment free status. Students must be undertaking a minimum of nine regular credit hours (six for students with permanent disabilities) in the current semester, be a registered full time (part time for students with permanent disabilities) graduate student, or enrolled in a co-op education work term to be considered eligible for payment free status. A copy of these forms may be obtained from the lending institution or Financial Assistance.

For appeals, reassessments or other concerns, please contact Financial Assistance.

The provincial government has a loan remission program available to some graduating students. For more information, contact: Loan Remission and Management Unit, Student Services Branch, Ministry of Advanced Education, Training and Technology.

Mailing address: PO Box 9173 Stn Prov Govt, Victoria, BC, V8W 9H7.
Location address: Second Floor, 1106 Cook Street, Victoria, BC.
In Victoria, call (250) 387-6100, in the Lower Mainland, call 660-2610, in Canada, call toll-free 1-800-561-1818, TTY (250) 952-6832, Fax (250) 356-5440, www.bcsap.bc.ca
International Student Loans

United States Students

Citizens (or eligible non-citizens) of the United States attending the university may apply for funding through the US Department of Education Student Financial Assistance Program. A Free Application for Federal Student Aid (FAFSA) must be completed by the student and submitted to the Federal Student Aid Programs. A Student Aid Report (SAR) is then issued to the student. To receive Stafford loans, the student must submit the SAR to the Simon Fraser University Financial Assistance office, with an application and promissory note, which is available from the student's lender or state guarantee agency. Financial Assistance calculates the student's costs, completes the school section of the application, and then forwards the application to the appropriate agency for processing.

For more information regarding financial aid from the US Department of Education, call: 1-800-4-FED-AID (1-800-433-3243), or www.ed.gov/offices/OSFAP/Students.

Students with permanent resident status may be eligible to apply for Canada Student Loans. See section International Students.

Students from other countries

Students who are not Canadian citizens or Permanent Residents, and who will require financial assistance to attend Simon Fraser University must arrange such assistance in their country of origin prior to arrival in Canada.

Simon Fraser University permits non-Canadian students to compete for scholarships once they have enrolled at the University on the basis of course work undertaken at Simon Fraser University. It must be stressed that non-Canadian students should not predicate their tuition and living expense estimates upon these sources. Non-Canadian students are normally not permitted to work in Canada. Such students are expected and required by federal law to have sufficient funds guaranteed for their education prior to arrival in Canada.

Government Part-time Grants/Loans

If you are a part time student with demonstrated financial need, you may qualify for a federal study grant of up to $1,200. Grants are targeted to students with dependents and possibly other students with special circumstances who are not able to take full time studies.

Federal students loans up to $4,000 are also available to part time students with financial need. These loans supplement other financial resources such as earnings, scholarships and bursaries.

Part time students who are Canadian citizens or landed immigrants and who are not in default of previous federal student loans or grants may apply for both the grant and loan programs.

Applications and information are available from Financial Assistance. The deadline for applications is eight weeks before the end of each semester.

Grants for Students with Permanent Disabilities

A federal grant program is available to students with permanent disabilities. Check with the service co-ordinator 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

See the Financial Assistance website at www.reg.sfu.ca/fa for information.

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

Index

Note, this index is compiled in simple alphabetical order according to the first word of the scholarship, award, or bursary. For example, the Al Eisenring Gerontology Award appears under “A”, not “E”.

3M Canada Company Bursary in Business Administration 64
A. John Ellis Bursary in Business Administration 64
ABF Legal Opportunity Scholarship Fund 79
Aboriginal Veterans’ Memorial Scholarship Trust Fund 79
Accenture Scholarship in Business Administration 55
Adeline May Clark Bursary 63
AGF Financial Life Skills Scholarship Program 77
Aird Dundas Flavelle Memorial Bursary 63
Aird Dundas Flavelle Memorial Endowment Fund 79
Al Eisenring Gerontology Award 70
Alex W. Fisher Bursary 59
Alexander Fraser Award in Piping and Drumming 67
Alfred William Davidson Bursary 59
All Nations Trust Company/All Nations Development Corporation Endowment Fund Awards 79
Alumni Association of SFU Annual Bursary 58
Alumni Association of SFU Annual Scholarship 52
Alumni Association Outstanding Student Leadership Award 67
Alumni Scholarship and Bursary Endowment Fund 52
Alumni Scholarship and Bursary Endowment Fund 58
Aurie and Arthur Fowke Bursary in Publishing Studies 62
Anna Pedirchuey Award for New Writers (URDC) 107
Anna Stukus Award in Football 76
Ann Reed Stenhouse Inc. Athletic Award 73
Aquaculture Award 73
ARC Arts Council Individual Grants program 79
Archaeometry Prize 69
Archaeometry Prize 72
Arctic Cooperatives Bursary 96
Arthur and Eva Bell Award in Business Administration or Economics 54
Arthur and Eva Bell Award in Business Administration or Economics 55
As Prime Minister Awards 99
Assoc. of Professional Engineers and Geoscientists of BC Scholarships 77
Associated Medical Services Bioethics Studentship 99
Associated Medical Services Hannah Institute Studentship 79
Association of First Nations Women Scholarship 79
Association of Moving Image Archivists Scholarships 91
Association of Professional Biologists Scholarship 94
Association of Professional Engineers and Geoscientists 52
Association of Universities and Colleges of Canada Awards 77
Athlete Assistance Awards 73
Athletic and Recreation Awards 73
Athletic Entrance Awards 73
Austrian Scholarship Award Program 91
Award for Ukrainian Art in Alberta (URDC) 106
B and B Silvertz Bursary 61
B.C. Central Credit Union Athletic Award 73
B.C. Shopping Centre Association Bursary 62
B.C. Sugar Achievement Award 67
Bank of Montreal Undergraduate Scholarship in Business Administration 55
Bank of Nova Scotia Football Award 73
Barbara J. Towiss Award in Women's Basketball 76
Barry and E. Anne MacDonald Asia-Canada Awards 70
Baxter and Alma Ricard Foundation Scholarship 87
Baxter Corporation Jean Goodwill Scholarship 94
BC Arts Council Scholarship Awards 92
BC Athlete Assistance Program 73
BC Bearing Engineers Limited Award 67
BC Bond Dealers Association Bursary 64
BC Exchange Teachers' Association Bursary 65
BC Government and Service Employees' Union 95
BC Historical Federation Scholarship 92
BC Hydro Aboriginal Scholarships 80
BC Hydro Scholarships 80
BC Indian Arts and Welfare Society Memorial Bursary 95
BC Lions Football Award 73
BC Ministry of Aboriginal Affairs – First Citizen's Fund 95
BC Nursing Education Bursary Program 96
BC Paraplegic Foundation Scholarships/Bursaries 80
BC Paraplegic Foundation Scholarships/Bursaries 96
BC Press Council Prize 100
BC Wrestling Association Alumni Award 73
BCTV Broadcasting System Ltd Athletic Award 73
Beedie Construction Company Ltd (Keith & Betty Beedie) Award in Women's Softball 74
Bel-Par Industries Limited Bursary 58
Best Facilities Services Ltd Athletic Award 74
Betty Lambert Memorial Prize 70
Bice Caple Awards 70
Bill and Elsie More Indian Bursary 97
Bill De Vries Athletic Award 57
Bing Sum Yip Bursary in Business Administration 65
Biological Sciences Merit Award 72
Birks Family Foundation Bursaries 58
Blyaye and Sharon Johnson Bursary 59
Bob Ackles Sports Administration Award 73
Bob Spray Rugby Awards 76
BOMA Undergraduate Bursary in Urban Studies 62
BOMA Undergraduate Scholarship in Urban Studies 54
Book Promoters' Association of Canada Bursary 100
Brian Williamson Memorial Award in Archaeology 71
Bridget Walsh Scholarship for Single-Parent Irish Women 89
Brit Townsend Women's Track and Field Award 76
British Columbia Asia Pacific Students' Awards 79
British Columbia Export Excellence Award 107
British International Business Studies 107
British Columbia Health Care Bursaries 95
British Columbia Heritage Trust University Scholarships 80
British Columbia Psychological Association Award 69
British Columbia Youth Foundation Loan 108
Bruce and Lis Welch Bursary in Business 65
Bruce Howe Memorial Scholarship in International Business 55
Bruce McKelvie Endowment Bursary 63
Bud Smith Scholarship (ILWU Local 517) 83
Bureau des Quebec Book Prizes in Quebec Studies 70
Burnaby Historical Society Scholarship 92
Burnaby Savings Credit Union Scholarship 80
Burrard Charitable Foundation Bursary 58
Business Administration Students Endowment Fund Prizes 71
C.D. Howe Memorial Foundation Engineering Awards Program 90
C.D. Nelson Memorial Prize 67
<table>
<thead>
<tr>
<th>Award Name</th>
<th>Institution Name</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caribou Research Award</td>
<td>Canadian Northern</td>
<td></td>
</tr>
<tr>
<td>Caribou Research Award</td>
<td>Canadian Northern</td>
<td></td>
</tr>
<tr>
<td>CARB Sales &amp; Marketing Award – Canadian Association of Broadcasters 90</td>
<td>CARB Sales &amp; Marketing Award – Canadian Association</td>
<td></td>
</tr>
<tr>
<td>CARB Sales &amp; Marketing Award – Canadian Association of Broadcasters 93</td>
<td>CARB Sales &amp; Marketing Award – Canadian Association</td>
<td></td>
</tr>
<tr>
<td>Caribou Research Award – Canadian Northern Studies Trust 106</td>
<td>Caribou Research Award – Canadian Northern Studies</td>
<td></td>
</tr>
<tr>
<td>Caribou Research Award – Canadian Northern Studies Trust 107</td>
<td>Caribou Research Award – Canadian Northern Studies</td>
<td></td>
</tr>
<tr>
<td>Caribou Research Award</td>
<td>Canadian Northern</td>
<td></td>
</tr>
<tr>
<td>Caribou Research Award</td>
<td>Canadian Northern</td>
<td></td>
</tr>
<tr>
<td>CARB Sales &amp; Marketing Award – Canadian Association of Broadcasters 90</td>
<td>CARB Sales &amp; Marketing Award – Canadian Association</td>
<td></td>
</tr>
<tr>
<td>CARB Sales &amp; Marketing Award – Canadian Association of Broadcasters 93</td>
<td>CARB Sales &amp; Marketing Award – Canadian Association</td>
<td></td>
</tr>
<tr>
<td>Caribou Research Award – Canadian Northern Studies Trust 106</td>
<td>Caribou Research Award – Canadian Northern Studies</td>
<td></td>
</tr>
<tr>
<td>Caribou Research Award – Canadian Northern Studies Trust 107</td>
<td>Caribou Research Award – Canadian Northern Studies</td>
<td></td>
</tr>
</tbody>
</table>

### Award Details:

- **Caribou Research Award**: Canadian Northern
- **CARB Sales & Marketing Award – Canadian Association of Broadcasters 90**: CARB Sales & Marketing Award – Canadian Association of Broadcasters 90
- **CARB Sales & Marketing Award – Canadian Association of Broadcasters 93**: CARB Sales & Marketing Award – Canadian Association of Broadcasters 93
- **Caribou Research Award – Canadian Northern Studies Trust 106**: Caribou Research Award – Canadian Northern Studies Trust 106
- **Caribou Research Award – Canadian Northern Studies Trust 107**: Caribou Research Award – Canadian Northern Studies Trust 107
<table>
<thead>
<tr>
<th>Financial Assistance and Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bureau for International Education 84</td>
</tr>
<tr>
<td>Lui Passaglia Football Award 75</td>
</tr>
<tr>
<td>Lydia McCombie Memorial Bursary 63</td>
</tr>
<tr>
<td>Lynn and Florence Sully Award in Women’s Basketball 76</td>
</tr>
<tr>
<td>Lynn K. Sully Athletic Award 76</td>
</tr>
<tr>
<td>Mackenzie and Feimann Limited Scholarship 57</td>
</tr>
<tr>
<td>Madeleine Nelson/Megan Thomas Bursary 60</td>
</tr>
<tr>
<td>Madeline Bronson Rowan Endowment Fund 105</td>
</tr>
<tr>
<td>Madge Hogarth Bursaries 59</td>
</tr>
<tr>
<td>Madge Hogarth Scholarships in Education 56</td>
</tr>
<tr>
<td>Mahatma Gandhi Humanitarian Scholarship 54</td>
</tr>
<tr>
<td>Management and Systems Science Prize 72</td>
</tr>
<tr>
<td>Manchester Graduate School of Social Science – School of Law Scholarship 84</td>
</tr>
<tr>
<td>Marcia Scholarship in Electroacoustics 70</td>
</tr>
<tr>
<td>Margaret A. Mitchell Bursary in Political Science 63</td>
</tr>
<tr>
<td>Margaret A. Mitchell Bursary in Women’s Studies 64</td>
</tr>
<tr>
<td>Margaret Anne Paterson Bursary 60</td>
</tr>
<tr>
<td>Margaret J. Menzel Memorial Scholarship 54</td>
</tr>
<tr>
<td>Margaret Lawson McTaggart-Cowan Alumni Bursary 66</td>
</tr>
<tr>
<td>Margaret Ormsby History Prize 70</td>
</tr>
<tr>
<td>Maria Kuchar Accounting Scholarship 55</td>
</tr>
<tr>
<td>Maria Mae and Sergei Eremenko Music Award (URDC) 106</td>
</tr>
<tr>
<td>Mark and Nancy Brooks Computing Science Innovation Award 88</td>
</tr>
<tr>
<td>Mary Batchelor Memorial Scholarship 104</td>
</tr>
<tr>
<td>MATCH International Centre Bursaries in honour of Rosemary Brown 63</td>
</tr>
<tr>
<td>Mattinson Endowment Fund Scholarship for Disabled Students 85</td>
</tr>
<tr>
<td>Maureen Pollard Memorial Bursary 65</td>
</tr>
<tr>
<td>Maurice S. Dodge Bursary 64</td>
</tr>
<tr>
<td>Maxine Sevack Memorial Grant 105</td>
</tr>
<tr>
<td>May Bennett Bursary 65</td>
</tr>
<tr>
<td>McCavour Family Bursary in Criminology 63</td>
</tr>
<tr>
<td>McDonald’s Restaurants Athletic Award 75</td>
</tr>
<tr>
<td>MDSI Mobile Data Solutions Inc. / Peter Kam Scholarship 53</td>
</tr>
<tr>
<td>Mensa Canada Scholarship 85</td>
</tr>
<tr>
<td>Merle L. Smith Bursary 61</td>
</tr>
<tr>
<td>Mike Jones Wrestling Award 74</td>
</tr>
<tr>
<td>Mildred Wittansen Scholarship in Business 56</td>
</tr>
<tr>
<td>Minerva Foundation For B.C. Women Education Award 104</td>
</tr>
<tr>
<td>Ministry of Education – Official Language Programs 97</td>
</tr>
<tr>
<td>Ministry of Health – Native Health Bursary 97</td>
</tr>
<tr>
<td>Moira Colbourne Field Hockey Award 74</td>
</tr>
<tr>
<td>Monsanto Native Forestry Scholarship 91</td>
</tr>
<tr>
<td>Monsanto Native Forestry Scholarship 94</td>
</tr>
<tr>
<td>Morris J. and Dena Work Bursary 61</td>
</tr>
<tr>
<td>Motorola Wireless Data Communications Scholarship 53</td>
</tr>
<tr>
<td>Mr. and Mrs. Erwin Sommer Scholarship in Geography 54</td>
</tr>
<tr>
<td>Mr. and Mrs. Erwin Sommer Scholarship in Geography 57</td>
</tr>
<tr>
<td>Mr. and Mrs. Leslie Chu Bursary 58</td>
</tr>
<tr>
<td>Mr. Sub Scholarship in Business Administration 56</td>
</tr>
<tr>
<td>Mrs. Rosalie Segal Endowment Fund for Students 71</td>
</tr>
<tr>
<td>With Special Needs 60</td>
</tr>
<tr>
<td>Mungo Martin Memorial Award 104</td>
</tr>
<tr>
<td>Murray Farr Bursary in Performing Arts 63</td>
</tr>
<tr>
<td>Murray Pezim Award in Football 75</td>
</tr>
<tr>
<td>Muslim Students’ Association Award 67</td>
</tr>
<tr>
<td>National Aboriginal Achievement Foundation 85</td>
</tr>
<tr>
<td>Aboriginal Health Careers Program 85</td>
</tr>
<tr>
<td>National Aboriginal Achievement Foundation Arts Scholarship Program 92</td>
</tr>
<tr>
<td>National Aboriginal Achievement Foundation Post-Secondary Education Awards Program 85</td>
</tr>
<tr>
<td>National Bank Financial Award in Kinesiology 69</td>
</tr>
<tr>
<td>National Congress of Italian-Canadians, Pacific Regions Scholarships 85</td>
</tr>
<tr>
<td>National Federation of the Blind: Advocates for Equality 85</td>
</tr>
<tr>
<td>Navy League of Canada University Entrance Scholarship Program 78</td>
</tr>
<tr>
<td>New Brunswick Arts Scholarships 92</td>
</tr>
<tr>
<td>Nick Kiniski Wrestling Award 75</td>
</tr>
<tr>
<td>Nick Kravatis Memorial Scholarship in Hellenic Studies 70</td>
</tr>
<tr>
<td>Nikitman/Chan Bursary 60</td>
</tr>
<tr>
<td>Noel Archambault Memorial Award in Film 69</td>
</tr>
<tr>
<td>Northern British Columbia Softball Award in Women’s Softball 75</td>
</tr>
<tr>
<td>Northern Scientific Training Program 104</td>
</tr>
<tr>
<td>NRC-CNRC Women in Engineering and Science Program 91</td>
</tr>
<tr>
<td>NRC-CNRC Women in Engineering and Science Program 94</td>
</tr>
<tr>
<td>NSERC Aboriginal Student Research Awards 104</td>
</tr>
<tr>
<td>NSERC Undergraduate Student Research Awards 106</td>
</tr>
<tr>
<td>NSERC Undergraduate Student Research Awards 107</td>
</tr>
<tr>
<td>Nuu-Chah Nulth Post-Secondary Scholarships 86</td>
</tr>
<tr>
<td>Oakley Family Endowed Bursary in Science 66</td>
</tr>
<tr>
<td>Office of Critical Infrastructure Protection and Emergency Preparedness Research Fellowship Program 104</td>
</tr>
<tr>
<td>Office of the Registrar Bursary for Physically Challenged Students 60</td>
</tr>
<tr>
<td>Okanagan Historical Society Student Essay Contest 104</td>
</tr>
<tr>
<td>Olga and Richard Murray Bursary in Applied Sciences 62</td>
</tr>
<tr>
<td>Ontario Graduate Scholarship Program 86</td>
</tr>
<tr>
<td>Osmiath Club Bursary 60</td>
</tr>
<tr>
<td>Orville Erickson Memorial Scholarship Fund 82</td>
</tr>
<tr>
<td>P.E.O. International Peace Scholarship Fund for Women 86</td>
</tr>
<tr>
<td>Pacific Coast Fishermen’s Mutual Marine Insurance Company 97</td>
</tr>
<tr>
<td>Pacific National Foundation Endowment Bursary 62</td>
</tr>
<tr>
<td>Pacific National Foundation Endowment Bursary 65</td>
</tr>
<tr>
<td>Pacific National Foundation Endowment Bursary 65</td>
</tr>
<tr>
<td>Pacific National Foundation Endowment Bursary 66</td>
</tr>
<tr>
<td>Pam Kaczynska Memorial Award 103</td>
</tr>
<tr>
<td>Patrick Duncan McTaggart-Cowan Award in Physical Science 57</td>
</tr>
<tr>
<td>Paul and Ethel Selfter Linguistics Bursaries 64</td>
</tr>
<tr>
<td>Paul and Helen Trussell Science Scholarship Fund 53</td>
</tr>
<tr>
<td>Paul and Helen Trussell Science Scholarship Fund 57</td>
</tr>
<tr>
<td>Paul Coté Endowment Scholarship in Engineering 53</td>
</tr>
<tr>
<td>Paul Nemeth Wrestling Award 75</td>
</tr>
<tr>
<td>Paul W. Wildman Scholarship Program – Southwestern University School of Law 88</td>
</tr>
<tr>
<td>Pauline Jewett Scholarship 54</td>
</tr>
<tr>
<td>PEO Sisterhood Educational Loan Fund 108</td>
</tr>
<tr>
<td>Permanent Bursary Endowment Plan 60</td>
</tr>
<tr>
<td>Peter R.B. Armstrong/Rocky Mountaineer Award for Entrepreneurship 71</td>
</tr>
<tr>
<td>Peterhouse-Cambridge Friends of Peterhouse Bursary 97</td>
</tr>
<tr>
<td>Peterhouse-Cambridge Research Studentships 105</td>
</tr>
<tr>
<td>Petro-Canada Graduate Research Award Program 86</td>
</tr>
<tr>
<td>Phi Delta Kappa Scholarship in Education 72</td>
</tr>
<tr>
<td>Philippa Polsen Memorial Prize 71</td>
</tr>
<tr>
<td>Phillips, Hager &amp; North Ltd Scholarship 56</td>
</tr>
<tr>
<td>Phyllis P. Harris Scholarship 83</td>
</tr>
<tr>
<td>Prostate Foundation Bursary 98</td>
</tr>
<tr>
<td>Piping Industry Journeymen Training and Industry Promotion Fund Scholarship 78</td>
</tr>
<tr>
<td>PMC-Sierra Incorporated Scholarship in Engineering 53</td>
</tr>
<tr>
<td>Port Moody Ecological Society Scholarship 95</td>
</tr>
<tr>
<td>Prize of French Consulate in Vancouver 107</td>
</tr>
<tr>
<td>Prize of the Ambassador of Switzerland in Canada 71</td>
</tr>
<tr>
<td>Professional Development Program Awards of Excellence 72</td>
</tr>
<tr>
<td>Province of BC International Year of Physically Challenged Persons Bursaries 98</td>
</tr>
<tr>
<td>Psychology Alumni Honors Prize 71</td>
</tr>
<tr>
<td>Public Works Association of British Columbia 86</td>
</tr>
<tr>
<td>Putnam Awards 72</td>
</tr>
<tr>
<td>Queen Elizabeth II British Columbia Centennial Scholarship 86</td>
</tr>
<tr>
<td>Queen Elizabeth Silver Jubilee Endowment Fund For Study in a Second Official Language Award Program 83</td>
</tr>
<tr>
<td>Quota International District 11 Speech and Hearing Bursary 98</td>
</tr>
<tr>
<td>R. Bruce Coles Memorial Scholarship 56</td>
</tr>
<tr>
<td>R.B. Shaw Bursaries 98</td>
</tr>
<tr>
<td>R.J. McMaster Memorial Scholarship (Credit Union Foundation of B.C.) 65</td>
</tr>
<tr>
<td>Rabin Scholarship for the Advancement of Peace and Tolerance 86</td>
</tr>
<tr>
<td>Radio Station CHMB AM1320 Award in Communication 69</td>
</tr>
<tr>
<td>Rae/Suart Alumni Athletic Award in Men’s Basketball 75</td>
</tr>
<tr>
<td>Rae/Suart Alumni Athletic Award in Women’s Basketball 75</td>
</tr>
<tr>
<td>Ralph Kerr Memorial Bursary 62</td>
</tr>
<tr>
<td>Ralph Kerr Memorial Bursary 66</td>
</tr>
<tr>
<td>Ralph Scruton Memorial Scholarship (ILWU Local 506) 83</td>
</tr>
<tr>
<td>Rama Reddy Political Science Award 71</td>
</tr>
<tr>
<td>Ravinder Purewal Memorial Scholarship in Computing Science 53</td>
</tr>
<tr>
<td>Raymond A. LeClair Memorial Scholarship Award (Coquitlam Foundation) 104</td>
</tr>
<tr>
<td>Raytheon Systems Canada Ltd. Scholarship 53</td>
</tr>
<tr>
<td>Raytheon Systems Canada Ltd. Scholarship for Native Students 52</td>
</tr>
<tr>
<td>Recreation Leadership Awards 75</td>
</tr>
<tr>
<td>Research Support Opportunity in Arctic Environmental Studies – Canadian Northern Studies Trust 87</td>
</tr>
<tr>
<td>Retail Loss Prevention Association of British Columbia/Deborah Singer Memorial Bursary 64</td>
</tr>
<tr>
<td>Retail Wholesale Union Local 580 – Stan Colbert Bursary 76</td>
</tr>
<tr>
<td>Retail Wholesale Union Local 580 Bursary 78</td>
</tr>
<tr>
<td>Retail Wholesale Union, Local 517, Scholarship 78</td>
</tr>
<tr>
<td>Rhodes Scholarships 87</td>
</tr>
<tr>
<td>Richard Morgan Memorial Book Prize 70</td>
</tr>
<tr>
<td>Richard P. Brolley Prize 69</td>
</tr>
<tr>
<td>Rick Hansen Athletic Award 74</td>
</tr>
<tr>
<td>Rick Jones Memorial Award 75</td>
</tr>
<tr>
<td>Richmond Rafter Bursary Fund 98</td>
</tr>
<tr>
<td>Robbie Robertson Scholarship 54</td>
</tr>
<tr>
<td>Robert C. Brown Award 69</td>
</tr>
<tr>
<td>Robert E. Oliver Scholarship (Advertising Standards Canada) 94</td>
</tr>
<tr>
<td>Robert F. Harrison &amp; Partners Athletic Award 74</td>
</tr>
<tr>
<td>Robert H. Lee Scholarship in Business Administration 55</td>
</tr>
<tr>
<td>Robert L Stanfield Book Prize 71</td>
</tr>
<tr>
<td>Robert Markle Scholarship 92</td>
</tr>
<tr>
<td>Robert Rogow Bursary in Business Administration 65</td>
</tr>
<tr>
<td>Robert Rogow Scholarship 56</td>
</tr>
<tr>
<td>Robin Mercer Memorial Bursary in Archaeology 63</td>
</tr>
<tr>
<td>Roger Charest, Sr. Award for Broadcast &amp; Media Arts (URDC) 100</td>
</tr>
<tr>
<td>Roger G. Welch Alumni Prize 68</td>
</tr>
<tr>
<td>Roger Ward Award for Students With a Learning Disability 61</td>
</tr>
<tr>
<td>Rogers Communications Inc. Award in Communication 69</td>
</tr>
<tr>
<td>Rogers Sugar Ltd. Bursaries 65</td>
</tr>
<tr>
<td>Rogers Sugar Ltd. Bursaries 66</td>
</tr>
<tr>
<td>Roman Soatykewych Music Scholarship (URDC) 105</td>
</tr>
<tr>
<td>Ron MacLeod Scholarship in Environmental Science 57</td>
</tr>
<tr>
<td>Ross C. Purse Doctoral Fellowship – CNIB 86</td>
</tr>
<tr>
<td>Rosslyn and Mary Penney Bursary in the Faculty of Arts 64</td>
</tr>
<tr>
<td>Rotary Club of Vancouver Community Service Bursary 80</td>
</tr>
<tr>
<td>Rotary Club of Vancouver Sunrise Entrance Bursary 60</td>
</tr>
<tr>
<td>Rotary Foundation Ambassadorial Scholarships 87</td>
</tr>
</tbody>
</table>
W. Lorne Davies Athletic Excellence Award 74
W. Lorne Davies Senior Graduation Award 74
W. Norman Burgess Scholarship 80
Water Polo Award 76
Watson Wyatt & Company Scholarship in Actuarial Mathematics 57
Wayne Holm Football Scholarship 74
Webber Chemistry Co-op Book Prize 73
Welch Foundation Scholarship 89
West Coast Reduction Ltd Athletic Award 77
Western Businesswomen’s Association Bursary 61
Westminster Savings Barry Butler Memorial Scholarship 56
Weyerhaeuser Canada Diversity Education Awards 105
White Rock Renegades Women’s Softball Awards 77
White Spot Limited Bursary 99
William A. (Bill) Stewart Volunteer Leadership Award 68
William and Amelia McMahan Scholarships 57
William and Jane Saywell Bursary 60
William Gordon Memorial Bursary 59
William L. Hurford Memorial Scholarship (ILWU) 78
Winnie Topping Memorial Prize 71
Wolfe Chevrolet Oldsmobile Scholarship in Marketing 56
Women’s Athletic Awards (She Can Play!) 77
Xerox Aboriginal Scholarships Program 89
Yolande D. Anderson Women’s Basketball Award 73
Zajac Scholarship – Centre For Ability Association 89
Faculty of Applied Sciences


Dean
B.S. Lewis BA (Hamilton Coll), MA, PhD (Iowa)

Associate Deans
R.D. Cameron BA, Sc, PhD (Br Col)
W.S. Parkhouse BPE (Alta), MPE, PhD (Br Col)

Director, Diversity and Recruitment
H. Matsui MSc (London School of Economics)

Advisors
R. D. Cameron BA, Sc, PhD (Br Col), 9861 Applied Sciences Building, (604) 291-4724 Tel
J. Van Snellenberg BA (S Fraser), 9861 Applied Sciences Building, (604) 291-4684 Tel

The Faculty of Applied Sciences offers programs in communication, computing science, engineering science, kinesiology, and resource and environmental management. Bringing together the University's educational and research activities in the applied sciences, the faculty is concerned with major areas of applied science and technology, as well as human and social aspects of the application of science.

Undergraduate Degrees Offered
Bachelor of Applied Science (Honors)
Bachelor of Science
Bachelor of Arts (Honors)
Bachelor of Arts
Bachelor of General Studies (Applied Sciences)
Bachelor of Science (Honors)
Bachelor of Science
Bachelor of Science (Kinesiology) (Honors)
Bachelor of Science (Kinesiology)

Diplomas and Certificates Offered
Certificate in Applied Human Nutrition
Certificate in Computing Studies
Certificate in Health and Fitness Studies
Post Baccalaureate Diploma
Post Baccalaureate Diploma in Communication
Post Baccalaureate Diploma in Computing Science
Post Baccalaureate Diploma in Kinesiology

Residency Requirements
Simon Fraser University may award substantial transfer credit for course work completed elsewhere. These transfer credits reduce the amount of work that need to be completed at Simon Fraser University for a credential, subject to minimum residency requirements for work completed at SFU. In addition to University-wide residency requirements, the Faculty of Applied Sciences also defines program-based residency requirements for each of its programs.

Overall, the residency requirements define three conditions that apply to every program offered through the Faculty of Applied Sciences.

• At least one half of the total credit hours in the program must be earned through study at Simon Fraser University.
• At least two thirds of the total upper division credit hours in the program must be earned through study at Simon Fraser University.
• At least two thirds of the upper division credit hours in the courses of a school offering (or jointly offering) a program must be earned through that school at Simon Fraser University.

These conditions apply to all undergraduate degree programs, post baccalaureate programs and certificate programs offered through the Faculty of Applied Sciences. The conditions also apply to the Faculty of Applied Sciences major, honors, minor, extended minor program and specialist programs that form part of an overall degree program, whether the degree program is offered by the Faculty of Applied Sciences or by any other faculty.

School of Communication

Director
M. Laba BA (York), MA, PhD (Nfld)

Professors
R.S. Anderson BA (Br Col), MA, PhD (Chic)
R.S. Gruneau BA (Guelph), MA (Calg), PhD (Mass)
R.A. Hackett BA (S Fraser), MA, PhD (Qu)
L.M. Harasim BA, MA (Alta), PhD (Tor)
S. Kline BA (Tor), PhD (Lond)
B.S. Lewis BA (Hamilton Coll), MA, PhD (Iowa)
R.M. Lorimer BA, MA (Manit), PhD (Tor)
W.D. Richards, Jr. BA (Mich State), MA, PhD (Stan)
B.D. Truax BSc (Qu), MMus (Br Col)*

Associate Professors
P.S. Anderson BGS, MA (S Fraser)
E. Balka BA (Was), MA, PhD (S Fraser)
A.C.M. Beale BA, MA, PhD (McG)
P.M. Howard BA, MA (Regina), PhD (S Fraser)
M. Laba BA (York), MA, PhD (Nfld)
C.A. Murray BA, MA (Wat), PhD (Qu)
R.K. Smith BA (Car), MA, PhD (S Fraser)

Assistant Professors
Z. Druiak BA (C'dia), MA, PhD (York)
G.W. Faurshou BA (Winn), MA, PhD (York)
G. McCarron BA (S Fraser), MA, PhD (S Fraser)
Y. Zhao BA (Beijing Broadcasting Institute), MA, PhD (S Fraser)

Senior Lecturer
D. Guststein BArch, MArch (Br Col)

Advisors
Ms. L. Menkveld, 6137 Robert C. Brown Hall, (604) 291-3520 Tel, menkveld@sfu.ca
Dr. W. Richards, 6236 Robert C. Brown Hall, (604) 291-4119 Tel, richards@sfu.ca
Ms. M. Shimizu, 6139 Robert C. Brown Hall, (604) 291-3862 Tel, mshimizu@sfu.ca
Ms. E. Wah, 6145 Robert C. Brown Hall, (604) 291-5542 Tel, ewah@sfu.ca

*joint appointment with contemporary arts

Faculty members are also available for student consultations.

Faculty and Areas of Research
The study of communication has recently emerged as an identified academic discipline. At the same time, a number of the traditional disciplines in the social sciences, the humanities, and the natural sciences employ communication approaches in various areas. Communication perspectives are also becoming prominent in the professions, notably in law, medicine, counselling, business, labour, education, trade, diplomacy, advertising, broadcasting, etc. As a social science, communication is distinctively trans-disciplinary.

The school has drawn on a number of perspectives, but is most readily distinguished by the fact that it treats communication as a humanistic social science, and is concerned with the contexts within which information in all its diverse forms is created, coded, communicated, and controlled. This approach provides students with wide opportunities to explore both communication theory and communication practice, as well as the relationship between the two. It encourages the concrete application of theory and research to modern society, its historical origins, its dominant values, its institutions and policies, its present structure, its current problems and its potential for change.

See “School of Communication” on page 320 for faculty’s areas of research.

Program of Studies
The school offers a specialized program leading to a bachelor of arts major or honors degree. It also offers a minor program and a variety of courses in communication for students in other degree programs in the University.

Students with a degree in communication can seek employment opportunities in the following:

• management or research connected with communication industries, such as radio, television, book publication and telecommunications (few courses in media production or journalism are offered, however)
• research or policy development in government or industry related to the use of media, public information, public policy formation or the introduction of communications technologies in organizations or in international development
• research or development related to the field of marketing or advertising and social marketing (in conjunction with a specialization in business administration) or political communications
• public education, information or relations; specialized research or production in acoustic and video communication

The school is interdisciplinary in its approach. It offers a concentrated program of study in a variety of loosely-structured streams. Courses in each of the streams are listed below for the guidance of students, but students are encouraged to take courses from more than one stream in the School of Communication.

Streams
Applied Media Studies

Cultural Industries, Public Information and Policy

History, Theory and Critical Media Studies
CMNS 205, 210, 220, 221, 235, 240, 259, 304, 310, 321, 324, 331, 359, 422, 428, 437

Information Technology and Society
CMNS 253, 342, 353, 354, 362, 408, 435, 436, 446, 453, 454, 455, 456, 458

International Communication

Political Economy
Enrolment Limitations
Admission to the upper division of the major, minor, honors and related joint programs is limited. Space in upper division communication courses is mostly reserved for students who have been formally accepted into such a program; only such students will be able to obtain the upper division courses necessary to complete the program. Exceptions to this rule may be made by instructors in consultation with the director of the school.

With approval of the Dean of Applied Sciences Office, the school will establish a yearly quota — the number of students that can be accommodated in the major/ honors, joint major or minor programs. This quota will be established on the basis of projected available course space and school resources.

The school admits a limited number into its programs each semester, consistent with the overall quota, on the basis of minimum CGPA announced two semesters in advance of the Fall semester each year. The school will determine this annual minimum requirement for entry on the basis of the number of places available. Every applicant for a major, minor or joint major program whose CGPA is greater than, or equal to, the annually announced requirement will be admitted; under normal circumstances admission to a program will not be granted to any applicant who has a CGPA which is less than the admission CGPA set by the school.

These requirements apply equally to a transfer or second degree student.

Course Prerequisite Requirements
Registration in any communication course normally requires that students obtain a C- grade (or better) in each prerequisite.

A minimum cumulative grade point average of 2.25 and approval as a communication major, minor or publishing minor is required for entry into most communication upper division courses.

Transfer Credit and Residency Requirements
Transfer students are advised that residency requirements apply to all programs offered or jointly offered by the School of Communication. See “Residency Requirements” on page 115.

Major Program
Entry Requirements
Admission to the School of Communication is highly competitive.

Entry to the communication major program is possible via direct admission from high school, via college or university transfer, or via internal transfer if admitted to another department or program at Simon Fraser University.

In the fall of 2001, entry to the School of Communication was offered to applicants who had secondary school averages of 85% and better, to college or university transfer applicants who had grade point averages of B or better, and to internal transfer applicants who had a minimum 2.25 CGPA upon completion of the lower division requirements below.

Continuation Requirement
Once approved for a major in communication, a student will be required to maintain a minimum CGPA of 2.25 to remain in good standing in the program (that is, to retain eligibility to continue in the program).

Lower Division Requirements
Students must complete the following core courses.

CMNS 110-3 Introduction to Communication Studies
CMNS 130-3 Explorations in Mass Communication
CMNS 260-3 Introduction to Empirical Communication Research Methods
CMNS 261-3 Documentary Research in Communication

Students must also complete nine credit hours of additional CMNS 200 level course work for a total of 21 lower division credit hours in communication.

A grade of C- or better is required in each of the required lower division CMNS courses.

In addition, students must complete a course in social science research methods, chosen from the following:

- BUEC 232-3 Elementary Economic and Business Statistics I
- CRIM 220-3 Research Methods in Criminology
- EDUC 222-3 Research Methods in Educational Psychology
- GEOG 251-3 Methods in Spatial Analysis
- PHIL 244-3 Introduction to the Philosophy of Natural and Social Science
- POL 201-3 Research Methods in Political Science
- PSYC 201-4 Research Methods in Psychology
- PSYC 210-4 Data Analysis in Psychology
- SA 255-4 Introduction to Social Research (SA)
- SA 355-4 Quantitative Methods (SA)
- SA 356-4 Ethnography and Qualitative Methods (SA)
- SA 358-4 The Philosophy of the Social Sciences (SA)
- STAT 101-3 Introduction to Statistics
- STAT 301-3 Statistics for the Life Sciences

Upper Division Requirements
Seven upper division (normally four credit) courses in communication must be completed. At least two of these shall be 400 level courses. Directed study and field placement courses may not be used to meet this requirement.

Normally, upper division courses may not be taken unless lower division course work has been completed, and normally, 75 credit hours must be taken prior to enrolment in 400 level courses.

External Requirements
In addition to CMNS courses, at least 60 credit hours must be chosen from disciplines other than communication. These 60 credit hours may include a course in social science research methods, identified in Lower Division Requirements above, and must also include the following additional course work.

- a minimum of 12 credit hours chosen from Asia-Canada, contemporary arts, English, First Nations, French, general studies, history, humanities, Latin American studies, linguistics, philosophy, Spanish or other languages,
- a minimum of six credit hours chosen from biochemistry, biological sciences, chemistry, computing science, earth sciences, engineering science, environmental sciences, kinesiology, management and systems science, mathematics, molecular biology and biochemistry, physics, resource and environmental management, statistics, at least three credit hours of which must be from the Faculty of Applied Sciences (CMPT, ENSC, KIN, REM), and
- at least three credit hours of upper division course work (plus lower level prerequisites, if any) chosen from archaeology, business administration, BUEC, Canadian studies, community economic development, criminology, economics, education, geography, gerontology, political science, psychology, sociology and anthropology, women’s studies.

A minimum total of 45 upper division credit hours is required for the degree. This includes the required upper division CMNS courses, any additional upper division CMNS courses taken, and any upper division courses taken to fulfill the required 60 credit hours outside CMNS.

Communication Minor Program
Entry Requirements
Acceptance into the minor program is subject to enrolment limitations. In the fall of 2001, applicants were accepted who had a minimum CGPA or transfer GPA of 2.25, upon completion of the lower division requirements.

Lower Division Requirements
Students must earn a grade of C- or better in each of the following courses.

CMNS 110-3 Introduction to Communication Studies
CMNS 130-3 Explorations in Mass Communication

Continuation Requirement
Once approved for a minor in communication, a student must maintain a minimum CGPA of 2.25 to remain in good standing.

Upper Division Requirements
Four upper division courses in communication must be completed (together with lower division prerequisites, if any). Directed study and field placement courses may not be used to meet this requirement.

Publishing Minor Program
Entry Requirements
Acceptance into the publishing minor program is subject to enrolment limitations. In the fall of 2001, applicants were accepted who had a minimum CGPA or transfer GPA of 2.25, upon completion of the lower division requirements.

Lower Division Requirements
Four of the following courses must be completed, each with a grade of C- or better. No more than two courses from each discipline can be counted.

CMNS 110-3 Introduction to Communication Studies
CMNS 130-3 Explorations in Mass Communication
CMNS 230-3 Introduction to Communication Media
CMNS 240-3 The Political Economy of Communication
CMNS 371-4 The Structure of the Book Publishing Industry in Canada
CMNS 372-4 The Publishing Process
CMNS 373-4 Magazine Publishing
CMNS 374-4 Book Industry in Canada
CMNS 375-4 Publishing Minor Program
CMNS 471-4 Media Democratization: From Critique to Transformation
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

Note: upper division CMNS courses taken for credit toward the publishing minor may not be counted as part of CMNS credit hours needed for an honors, joint
Communication Extended Minor Program

A communication extended minor program may be part of a BA degree in the Faculty of Arts, which includes two extended minors. Consult the Faculty of Arts section for specific details about this option.

Entry Requirements

Acceptance into the extended minor program is subject to enrolment limitations. In the fall of 2001, applicants were accepted who had a minimum CGPA or transfer GPA of 2.25, upon completion of the lower division requirements.

Lower Division Requirements

Students must complete the following courses.

- CMNS 110-3 Introduction to Communication Studies
- CMNS 130-3 Explorations in Mass Communication
- CMNS 260-3 Introduction to Empirical Communication Research Methods
- CMNS 261-3 Documentary Research in Communication

Students must also complete nine credit hours of additional CMNS course work at the 200 level (for a total of 21 lower division credit hours in Communication).

A grade of C- or better is required in each of the required lower level CMNS courses. In addition, students must complete a course in social science research methods, chosen from the following:

- BUEC 232-3 Elementary Economic and Business Statistics I
- CRIM 220-3 Research Methods in Criminology
- EDUC 222-3 Research Methods in Educational Psychology
- GEOG 251-3 Methods in Spatial Analysis
- PHIL 244-3 Introduction to the Philosophy of Natural and Social Science
- POL 201-3 Research Methods in Political Science
- PSYC 201-4 Research Methods in Psychology
- PSYC 210-4 Data Analysis in Psychology
- SA 255-4 Introduction to Social Research (SA)
- SA 355-4 Quantitative Methods (SA)
- SA 356-4 Ethnography and Qualitative Methods (SA)
- SA 358-4 The Philosophy of the Social Sciences (SA)
- STAT 101-3 Introduction to Statistics
- STAT 301-3 Statistics for the Life Sciences

Continuation Requirement

Once approved for an extended minor in communication, a student must maintain a minimum CGPA of 2.25 to remain in good standing.

Upper Division Requirements

Four upper division courses in communication must be completed (together with lower division prerequisites, if any). Directed study and field placement courses may not be used to meet this requirement.

Joint Major in Communication and Business Administration

See “Joint Major in Business Administration and Communication” on page 182 for requirements.

Joint Major in Communication and Canadian Studies

See “Joint Major Programs” on page 134.

Joint Major in Communication and Latin American Studies

See “Communication” on page 162 for requirements.

Joint Major in Communication and Sociology/Anthropology

See “Joint Major in Sociology or Anthropology and Communication” on page 172 for requirements.

Honors Program

Entry Requirements

Communication majors wishing to apply to the honors program should obtain the appropriate application form from the general office. The deadlines for application submission are March 15, July 15 and November 15 each year. The main difference between the regular communication program and the honors program is that honors students complete an honors project (described below). The application form requires the student to describe the proposed honors project and obtain approval signatures: a communication faculty member who agrees to supervise the execution of the project, one other faculty member who agrees to be on the student’s supervisory committee, and the honors co-ordinator.

The school reserves the right to limit the number of honors students if faculty resources are not available for supervision. In such cases, priority for registration in the honors program will be given to students with a higher CGPA.

Students who have difficulty finding an honors supervisor should contact the school’s honors co-ordinator.

Other admission requirements are as follows:

- completion of 75 credit hours of course work including the lower division requirements of the CMNS major,
- completion of at least one of CMNS 362 or 363,
- a minimum CGPA of 3.0 on all CMNS courses, and
- a minimum CGPA of 3.0 on all Simon Fraser University courses.

Continuation

To remain in this program, students must maintain a minimum CGPA of 3.0 or higher for all courses (including communication courses) taken in each semester. Students who do not meet this requirement may be dropped from the program but may apply for readmission at a later date.

Graduation Requirements

To receive an honors in communication, students must

- meet the graduation requirements of the communication major program
- meet the honors graduation requirements of the University and the Faculty of Applied Sciences including at least 60 credits at the upper level
- successfully complete an honors project (CMNS 497 and 498)
- obtain certification by the undergraduate studies committee that the program has been satisfactorily completed.

Honors Project

Students must have completed at least 90 credit hours of university work with at least 20 credit hours in upper division communication courses before enrolling in the honors project. A plan must be approved by the faculty supervisors and by the honors co-ordinator before work is begun. A pamphlet describing the requirements for the honors project can be obtained from the School of Communication general office.

The honors project is carried out in two stages: CMNS 497 and 498. CMNS 497 is offered every semester. Students may enrol in CMNS 498 in any semester subsequent to the one in which they complete CMNS 497.

Post Baccalaureate Diploma in Communication

This program is available for students who have already completed a degree.

Requirements

Successful completion of an approved program comprised of 30-32 credit hours of upper division or graduate level courses (normally eight 4-credit courses numbered 300 or above). Courses must be selected 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, see “Continuing Studies” on page 214.

Co-operative Education Program

Co-operative education is a system which combines work experience with academic studies. The student spends alternate semesters on campus and in paid, study-related jobs.

Arrangements for the work experiences are made through the school’s co-op co-ordinators and the University’s Office of Co-operative Education. For further details, students should see “Continuing Studies” on page 214.

School of Computing Science


Director

Z.N. Li BSc (Chinese Sci & Technol), MSc, PhD (Wis)

Professors Emeriti

T.W. Calvert BSc(Eng) (Lond), MSEE (Wayne), PhD (Carnegie Tech), PEng
R. Harrop BA, MA, PhD (Camb)
T.D. Sterling BA, MA (Chic), PhD (Tulane)
J.J. Weinkam BS (Xavier), MS (Chic), DSc (Washington U)

Professors

M.S. Atkins BSc (Nott), MPhil (Warw), PhD (Br Col)
B.K. Bhattacharya MSc (Calc), MSc, PhD (McG)
F.W. Burton BSc, MA (Colorado), PhD (England)
R.D. Cameron BASc, PhD (Br Col), Associate Dean of Applied Sciences
V. Dahl MSc (Buenos Aires), PhD Aix-Marseilles I, Dipl d’Et App Aix-Marseilles II
J.P. Delgrande BSc, MSc, PhD (Tor)
B.V. Funt BSc, MSc, PhD (Br Col)
R.F. Hadley BA (Virginia), MSc (S Fraser), PhD (Br Col)
J.W. Han Diploma (China), MS, PhD (Wis)
P. Heil BSc (Prague), MSc (McM), PhD (Montr)*
The School of Computing Science offers a general program leading to a BSc and BA degree with major or honors in computing science, and specialist programs leading to a BSc degree with a major in computing science. It also contributes to a wide variety of programs that combine studies in computing science with studies in other academic disciplines. Formal joint programs include the joint major in computer systems in business administration and computing science, the mathematics and computing science joint honors program, the cognitive science program (in co-operation with the Departments of Linguistics, Philosophy, and Psychology), and the Management and Systems Science Program (in co-operation with the Department of Mathematics, the Department of Economics, and the Faculty of Business Administration). The school also offers a minor program that may be taken in conjunction with other major or honors programs or a general degree program.

Co-operative Education Program

Co-operative education is a system which combines work experience with academic studies. The student spends alternate semesters on campus and in paid, study related jobs.

Arrangements for the work experiences are made through the school’s co-op co-ordinators and the University’s Office of Co-operative Education. For further details, students should see “Continuing Studies” on page 214.

Transfer Credit and Residency Requirements

Transfer students are advised that residency requirements apply to all programs offered or jointly offered by the School of Computing Science. See “Residency Requirements” on page 115.

Prerequisite Grade Requirement

Registration in any computing science course normally requires that students obtain a C- or better in each prerequisite. A minimum CGPA of 2.25 is required for entry into upper division computing courses.

Admission Requirements

Entry into computing science programs is possible via:

• direct admission from high school
• direct transfer from a recognized post secondary institution, or
• internal transfer from within Simon Fraser University

Admission is competitive. A separate admission average for each entry route is established each semester, depending on the number of spaces available and subject to the approval of the Dean of Applied Sciences. Admission averages are calculated over a set of courses satisfying particular breadth constraints.

See “Admission and Readmission” on page 29. Here you will find the provisions governing direct entry from high school or direct transfer from another post secondary institution.

Internal Transfer

SFU students applying for admission to the School of Computing Science are selected on the basis of an admission GPA calculated over seven courses chosen to satisfy the following breadth constraints.

• one writing course: PHIL 001 or any 100 level ENGL course
• two mathematics courses chosen from: MACM 101, 201, MATH 151, 152 and 232
• two computing courses chosen from: CMPT 101, 150/ENSC 150, 201, 250 and 275
• one physical sciences course: BISC 101, 102, CHEM 120, 121, KIN 142, PHYS 101, 102, 120 or 121
• one social sciences course: ARCH 105, CMNS 110, 130, CINS 160, CRIM 101, ECON 103/105, HIST 106, POL 100, PSYC 100, SA 101, 150 or WS 101

All seven courses used for this calculation must have been taken at Simon Fraser University. At least five of the seven courses must have been taken in the one year period preceding the admission application. No course may be included in the average if it is considered a duplicate of any previous course taken at Simon Fraser University or elsewhere. Students are encouraged to take additional courses. The admission grade point average is calculated over the best seven courses that satisfy the constraints.

Continuation Requirements

Students in computing science programs are expected to maintain a cumulative GPA of 2.4 or better. Students whose CGPA falls below 2.4 will be placed on probationary standing with the school. The number of courses available to probationary students may be limited. Each semester, probationary students are required to consult an advisor prior to course registration and must achieve either a semester GPA of at least 2.4 or an improvement in CGPA to at least 2.4. Reinstatement from probationary standing occurs when the CGPA improves to 2.4 or better.

A student may not take, for further credit, any course offered by the School of Computing Science which is a prerequisite for a course the student has already completed with a grade of C- or higher, without permission of the department.

Major and Honors Programs

These programs are organized so that students may take advantage of a number of options. Among these are preparation for employment in computer related positions in government, business, or industry, and for computing science graduate studies or a related area. A computing science undergraduate degree also is an appropriate preparation for other areas where computers play a major role, especially business administration, economics, and science.

Lower Division Requirements

Students who plan to undertake a major, or honors in computing science must obtain credit for the following lower division courses (or equivalents).

one of
CMPT 101-4 Introduction to Computer Programming
CMPT 104-2 Computer Programming

plus all of
CMPT 150-3 Introduction to Computer Design
CMPT 201-4 Data and Program Abstraction
CMPT 250-3 Introduction to Computer Architecture
CMPT 275-4 Software Engineering I
MACM 101-3 Discrete Mathematics I
MACM 201-3 Discrete Mathematics II
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 232-3 Elementary Linear Algebra
PHIL 001-3 Critical Thinking

and one of
BUED 232-3 Elementary Economic and Business Statistics I
STAT 270-3 Introduction to Probability and Statistics I

plus completion of at least two courses satisfying the School of Computing Science external breadth requirement

43-45 credit hours

Notes

Approval of calculus courses in place of MATH 151 or 152 will be based on corresponding approval within the Department of Mathematics and Statistics.
Any 100 level English course may alternatively be used to satisfy the requirement for PHIL 001. A grade of C- or better is required in PHIL 001 or its alternative.

It is recommended that students with normal entry complete the above courses within the first four semesters.

**Upper Division Requirements**

Major and honors students are required to consult an advisor before commencing their upper division course requirements.

The primary upper division requirements for a major or honors are structured according to the areas of concentration shown in table I. Elective courses that may be used to fulfill further requirements are shown in tables II and III.

**Table I – Computing Science Concentrations**

<table>
<thead>
<tr>
<th>Artificial Intelligence</th>
<th>CMPT 310-3 Artificial Intelligence Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMPT 411-3 Knowledge Representation</td>
<td></td>
</tr>
<tr>
<td>CMPT 412-3 Computational Vision</td>
<td></td>
</tr>
<tr>
<td>CMPT 413-3 Computational Linguistics</td>
<td></td>
</tr>
<tr>
<td>CMPT 414-3 Model-Based Computer Vision</td>
<td></td>
</tr>
<tr>
<td>CMPT 417-3 Intelligent Systems</td>
<td></td>
</tr>
<tr>
<td>CMPT 419-3 Special Topics in Artificial Intelligence</td>
<td></td>
</tr>
<tr>
<td>Computer Graphics and Multimedia</td>
<td>CMPT 361-3 Introduction to Computer Graphics</td>
</tr>
<tr>
<td>CMPT 363-3 User Interface Design</td>
<td></td>
</tr>
<tr>
<td>CMPT 365-3 Multimedia Systems</td>
<td></td>
</tr>
<tr>
<td>CMPT 461-3 Advanced Computer Graphics</td>
<td></td>
</tr>
<tr>
<td>CMPT 466-3 Animation</td>
<td></td>
</tr>
<tr>
<td>CMPT 469-3 Special Topics in Computer Graphics</td>
<td></td>
</tr>
<tr>
<td>Computing Systems</td>
<td>CMPT 300-3 Operating Systems I</td>
</tr>
<tr>
<td>CMPT 371-3 Data Communications and Networking</td>
<td></td>
</tr>
<tr>
<td>CMPT 379-3 Principles of Compiler Design</td>
<td></td>
</tr>
<tr>
<td>CMPT 400-3 High-Performance Computer Architecture</td>
<td></td>
</tr>
<tr>
<td>CMPT 401-3 Operating Systems II</td>
<td></td>
</tr>
<tr>
<td>CMPT 471-3 Networking II</td>
<td></td>
</tr>
<tr>
<td>CMPT 479-3 Special Topics in Computing Systems</td>
<td></td>
</tr>
<tr>
<td>CMPT 499-3 Special Topics in Computer Hardware</td>
<td></td>
</tr>
</tbody>
</table>

**Information Systems**

| CMPT 301-3 Information Systems Management |  |
| CMPT 354-3 Database Systems I |  |
| CMPT 370-3 Information System Design |  |
| CMPT 454-3 Database Systems II |  |
| CMPT 459-3 Special Topics in Database Systems |  |
| CMPT 470-3 Web-based Information Systems |  |
| CMPT 475-3 Software Engineering II |  |

**Programming Languages and Software**

| CMPT 383-3 Comparative Programming Languages |  |
| CMPT 384-3 Symbolic Computing |  |
| CMPT 480-3 Foundations of Programming Languages |  |
| CMPT 481-3 Functional Programming |  |
| CMPT 487-3 Software Engineering Tools and Environments |  |
| CMPT 489-3 Special Topics in Programming Languages |  |

**Theoretical Computing Science**

| CMPT 307-3 Data Structures and Algorithms |  |
| CMPT 308-3 Computability and Complexity |  |
| CMPT 405-3 Design and Analysis of Computing Algorithms |  |
| CMPT 406-3 Computational Geometry |  |
| CMPT 407-3 Computational Complexity |  |
| CMPT 408-3 Theory of Computer Networks/Communications |  |
| CMPT 409-3 Special Topics in Theoretical Computing Science |  |
| MACM 300-3 Introduction to Formal Languages and Automata with Applications |  |

**Table II – Intensive Application Courses**

| CMPT 305-3 Computer Simulation and Modelling |  |
| CMPT 340-3 Computers in Biomedicine |  |

**Table III – Computing Mathematics Courses**

| MACM 316-3 Numerical Analysis I |  |
| MACM 401-3 Symbolic Computation |  |
| MATH 308-3 Linear Programming |  |
| MATH 343-3 Combinatorial Aspects of Computing |  |
| MATH 408-3 Discrete Optimization |  |
| MATH 416-3 Numerical Analysis II |  |

**Upper Division Requirements for 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 including 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, to at least 50 upper division credit hours in CMPT courses.

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.
- one concentration of 15 credit hours in a Faculty of Arts discipline (department) including 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 may be used to meet this requirement.

CMPT 320-3 Social Implications of a Computerized Society

CMNS 353-4 Social Contexts of Information Technology 3 or 4 credit hours

Other courses may be approved on submission of a detailed course outline to the school.

**External Breadth Requirement**

The school 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 in addition to PHIL 001. 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.

**Graduating Requirements**

For all major programs in computing science, a grade point average of 2.0 must be obtained on the 30 to 40 credit hours of upper division CMPT/MACM/MATH courses used to fulfill the above requirements.

For a major in computing science, 120 credit hours must be completed, with an overall minimum of 45 credit hours of upper division credit.

For all computing science majors, at least 30 hours of upper division CMPT courses must be counted towards the major and cannot at the same time be counted towards the credit hour requirements of any other program. Those hours beyond 30 can be applied to other major or minor programs.

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 (page 25).

**Specialist Programs**

Students must consult an advisor before commencing a specialist program, preferably early in their second year.

All students in specialist programs must satisfy the external breadth requirement as specified above under Upper Division Requirements for a Major.

**Specialist Program in Multimedia Computing**

**Lower Division Requirements**

Students must complete all lower division requirements for the computing science major program (40-42 credit hours) plus FPA 111-3 Issues in the Fine and Performing Arts plus at least two of CMNS 259-3 Acoustic Dimensions of Communication I

FPA 147-3 Introduction to Electroacoustic Music

FPA 247-3 Electroacoustic Music I

FPA 289-3 Special Topics in the Fine and Performing Arts I

FPA 290-3 Video Production I

**Upper Division Requirements**

Students must complete at least 39 credit hours of computing science upper division courses, which should include CMPT courses in the following required and elective courses.

Students must complete all of CMPT 300-3 Operating Systems I

CMPT 307-3 Data Structures and Algorithms

CMPT 320-3 Social Implications of a Computerized Society

CMPT 361-3 Introduction to Computer Graphics

CMPT 363-3 User Interface Design

CMPT 365-3 Multimedia Systems

At least six of the following are required, three of which must be at the 400 level, three must be
designated CMPT and at least two must be non-CMPT courses.
CMNS 358-4 Sound Tape Recording: Theory and Uses
CMNS 359-4 Acoustic Dimensions of Communication II
CMPT 310-3 Artificial Intelligence Survey
CMPT 354-3 Database Systems and Structures
CMPT 371-3 Data Communications and Networking
CMPT 412-3 Computational Vision
CMPT 414-3 Model-Based Computer Vision
CMPT 461-3 Advanced Computer Graphics
CMPT 466-3 Animation
CMPT 469-3 Special Topics in Computer Graphics
FPA 311-5 The Arts in Context: Selected Topics
FPA 353-3 Playmaking IV
FPA 390-3 Video Production II

Relevant FPA lower and upper division special topics courses may be applied to the above requirement with the approval of the director of undergraduate studies in the School of Computing Science.

Some FPA courses listed above require prerequisites that are not included here. Where possible, prerequisites for FPA courses will be waived or adjusted so that computing science students in this specialist program can gain access.

Eligible FPA courses taken to satisfy the upper division requirements may also be used to satisfy the external breadth requirement.

**Specialist Program in Software Engineering**

**Note:** The bachelor of science degree in computing science with the completion of a specialist program in software engineering is not a professional engineering degree. The program is not certified by professional engineering societies. Instead, it is an area of study recognized by computing science.

**Lower Division Requirements**

These requirements are identical to those of the major and honors program listed above.

**Upper Division Requirements**

**Required Courses**

Students must complete all seven of the following courses.

- CMPT 300-3 Operating Systems I
- CMPT 307-3 Data Structures and Algorithms
- CMPT 320-3 Social Implications of a Computerized Society
- CMPT 354-3 Database Systems I
- CMPT 363-3 User Interface Design
- CMPT 371-3 Data Communications and Networking
- CMPT 475-3 Software Engineering II

**Elective Courses**

Students must complete five or more courses chosen from the following list, at least three of which are at the 400 level.

- CMPT 301-3 Information Systems Management
- CMPT 370-3 Information System Design
- CMPT 379-3 Principles of Compiler Design
- CMPT 383-3 Comparative Programming Languages
- CMPT 401-3 Operating Systems II
- CMPT 454-3 Database Systems II
- CMPT 470-3 Web-based Information Systems
- CMPT 471-3 Networking II
- CMPT 487-3 Software Engineering Tools and Environments
- ENSC 351-4 Real Time and Embedded Systems

Additional upper CMPT courses are required to bring the total CMPT credits to 45 or more (ENSC 351 is treated as CMPT credit for this purpose).

**Minor Program**

The procedure for applying for admission as a minor in computing science is the same as the admission requirements state at the beginning of the School of Computing Science section (see “Admission Requirements” on page 118).

**Lower Division Requirements**

Students who plan to undertake a minor in computing science should normally have credit for the following lower division courses.

- one of CMPT 101-4 Introduction to Computer Programming
- CMPT 104-2 Computer Programming
- CMPT 250-3 Introduction to Computer Architecture

plus all of CMPT 150-3 Introduction to Computer Design

**Notes**

Approval of a calculus course in place of MATH 151 will be based on corresponding approval within the Department of Mathematics and Statistics.

Any 100 level English course may alternatively be used to satisfy the requirement for PHIL 001. A grade of C- or better is required in PHIL 001 or its alternative.

**Upper Division Requirements**

For a minor, students must complete fifteen credit hours of upper division CMPT or MACM courses.

**Joint Major in Information Systems in Business Administration and Computing Science**

In co-operation with the Faculty of Business Administration, the school offers a joint major in information systems in business administration and computing science. See “Joint Major in Information Systems in Business Administration” on page 202 for more details about the requirements.

**Management and Systems Science Program**

In co-operation with the Department of Mathematics, the Department of Economics and the Faculty of Business Administration, the school contributes to this program in management and systems science, leading to a BSc degree. See “Mathematical Physics Program” on page 202 for more details about the requirements.

**Certificate in Computing Studies**

This program provides both part time and full time students with an opportunity to understand the fundamentals of computers and programming without necessarily specializing in computing science. Admission is governed by Simon Fraser University admission regulations.

**Program Requirements**

This certificate requires completion of from 25 to 27 credit hours of required course work and electives, as follows.

**Required Courses**

- CMPT 150-3 Introduction to Computer Design
- CMPT 201-4 Data and Program Abstraction
- CMPT 275-4 Software Engineering I
- CMPT 300-3 Operating Systems I
- MACM 101-3 Discrete Mathematics I
- CMPT 414-3 Model-Based Computer Vision
- 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 Smalltalk
- CMPT 115-3 Introduction to Object-Oriented Programming in Smalltalk
- CMPT 117-3 Introduction to Internet Programming – Java
- CMPT 118-3 Special Topics in Computer and Information Technology
- MACM 165-3 Introduction to Multimedia and the Internet
- CMPT 212-3 Object-Oriented Applications Design in C++
- plus one additional three credit CMPT course at the 300 or 400 level.
School of Engineering Science


Director
M. Saif BSc, MSc, PhD (Cleveland), PEng

Professors Emeriti
T.W. Calvert BSc(Eng) (Lond), MSEE (Wayne), PhD (Carnegie Tech), PEng
V. Cuperman MSc (TI Bucharest), SB, MS, PhD (Carnif), PEng
D.A. George BEng (McG), MS (Stan), ScD (MIT), PEng

Professors
J.S. Bird BASc (Br Col), PhD (Car), PEng
C.R. Bolognesi BEng (McG), MEng (Car), PhD (Carnif)**
J.K. Cavers BASc, PhD (Br Col), PEng
G.H. Chapman BSc, MSc (Ota), PhD (McM), PEng
J.C. Dill BASc (Br Col), MS (N Carolina), PhD (Cal Tech), PEng
W.A. Gruver BSEE (Penn), Dic (Lond), MSEE, PhD (Penn)
K.K. Gupta BTech (IIT Delhi), MEng, PhD (McG), PEng
R.H.S. Hardy BSc(Eng), PhD (Alta), PEng
P.K. M. Ho BSc, BE (Sask), PhD (Ou), PEng
R.F. Hobson BSc (Br Col), PhD (Wat)***
J.D. Jones BSc (Sus), PhD (Reading), PEng
A.M. Leung BS, MS, PhD (Case W Reserve), PEng
M. Parameswaran BE (Madr), MSc, PhD (Alta)
S. Payandeh BSc, MS (Akron), MASC, PhD (Tor), PEng
A.H. Rawicz MSc (Cracow), PhD (Gliwice)
M. Saif BSc, MSc, PhD (Cleveland), PEng
S.P. Stapleton BEng, MEng, PhD (Carleton), PEng
M. Syrzycki MSc, PhD (Warsaw)

Associate Professors
J.D. Jones BSc (Sus), PhD (Reading), PEng
L. Trajkovic Dipl (Pratina, Yugoslavia), MS & MS (Syracuse), PhD (Colif)
J. Vaisey BSc (Manit), MSc (Ou), PhD (Carif), PEng

Adjunct Professors
D. Connor BASc, MSc, PhD (Br Col)
D. Gelbart BSc, MSc (Technion, Israel)
M. Hope BPE (Calg), MEd (S Fraser)

A.B.S. Hussain BSc (Eng) (Bangladesh), PhD (Br Col)
B. Keefer BEng (RMCO, PhD (Br Col), PEng
D. Kiel BSc, MSc (Alta), PhD (Carnif)
D. Kotak MSIE (Calif), BEng (Bom)
J.A. McEwen BASc, PhD (Br Col), PEng
K.A. Spencer BASc (Br Col), PhD (Br Col), MBA (S Fraser)
S.A. Wessel BSc, PhD (S Fraser)
J. Wu MSc (Coventry), PhD (Wales)

Associate Members
P.N.S. Bawa, Kinesiology
R.F. Frindt, Physics
J.A. Hoffer, Kinesiology
E. Love, Business Administration
S. Robinovitch, Kinesiology

Senior Lecturers
S.A. Stevenson BA, MA (Br Col)
S. Whitemore BA (Nelson), MA (S Fraser)

Laboratory Instructors
P. Leung BSEE (Texas Tech), PEng
L. One BSc (S Fraser)

Advisors
Ms. T. Behrisch, co-op co-ordinator, 9825 Applied Sciences Building, (604) 291-5680, behrisch@sfu.ca
Mr. A. Jenkins, co-op co-ordinator, 9827 Applied Sciences Building, (604) 298-7050, djenkins@sfu.ca
Ms. A. Radics, 9847 Applied Sciences Building, (604) 291-4295, radics@sfu.ca

*joint appointment with computing science
**joint appointment with physics

Programs Offered

Some key changes to the engineering science program were not available at the time of printing. Please refer to the on-line Calendar at http://www.reg.sfu.ca/calendar for the most current program information.

Engineering Science Program

This program includes a BASc or BASc (Honors) degree.

Transfer to Engineering Science

A limited number of places are available for students who wish to transfer into engineering science from other departments and institutions. Successful applicants usually attain a CGPA of 3.25 or equivalent in a full course load of relevant courses prior to entry.

Minor in Computer and Electronics Design

This program is available to all non-engineering science majors at Simon Fraser University who have 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. 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 ensch-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 and Residency Requirements

Transfer students are advised that residency requirements apply to all programs offered by the School of Engineering Science. See “Residency Requirements” on page 115.

BASc Program

Engineering science students develop skills in systems design along with a high level of scientific knowledge. The program is demanding and is aimed at the superior student. The goal of the program is to produce well educated, innovative engineer/scientists who have entrepreneurial skills and attitudes and who are oriented to the new technologies. Entry to the program is on a competitive basis.

Students must maintain both a cumulative grade point average (CGPA) and an upper division grade point average (UDGPA) of at least 3.0 to remain in the honors program. The honors program requires an undergraduate thesis.

The general degree program substitutes a final year project for the undergraduate thesis and requires a CGPA and UDGPA of at least 2.4 for continuation. If either GPA falls below 2.4, the student is placed on probationary standing with the school. Courses available to probationary students may be limited. Each semester, probationary students are required to consult an advisor prior to course registration. Reinstatement from probationary standing occurs when both CGPA and UDGPA return to 2.4 or better. Continuation of probationary standing requires a semester GPA of at least 2.4.

Students undertake a basic core of pure, applied and engineering sciences followed by studies in a specialized option. The program may be completed in four years for a general BASc, which includes eight semesters of course work. A BASc (honors) typically requires an additional two semesters for thesis completion.

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, students emphasize learning, conceptualization, design and analysis. Built into the program are courses on social impacts of technology, finance, management, design methods and entrepreneurship intended to complement scientific studies. A special, integrated communications course taken throughout the program ensures that all engineering science graduates have the communication skills necessary to be effective engineers.

Industrial Experience

Every student must complete a co-operative education program of at least three work semesters (not including ENSC 194). After the first year, students typically alternate between academic and
work semesters. This results in a combination of work in an industrial or research setting with study in one of the four engineering options.

Students may also participate in additional work semesters for further valuable experience and the chance to investigate career choices. The engineering science co-op program is administered through the School of Engineering Science by the school's co-op co-ordinators whose responsibility it is to find and maintain appropriate work placements.

Toward the end of academic studies and under the direction of a practicing engineer or scientist, honors students work on a major project in an industry or research setting. This forms the basis for the honors thesis. A thesis proposal is typically submitted in the ninth semester and all thesis requirements are completed by the end of the tenth semester.

**BASc Requirements**

All requirements of one of the four options must be completed. Each option provides a mix of basic science, general studies, engineering science, specialized engineering and science, plus project and laboratory work. For an honors degree in conjunction with any option, a third year project (ENSC 340) and an undergraduate thesis (ENSC 498 and 499) must be completed. For a general degree in conjunction with any option other than engineering physics, a capstone project course (ENSC 440) must be completed. The engineering physics option is only available with the honors degree.

Graduation with BASc (honors) requires both a cumulative grade point average (CGPA) and an upper division grade point average (UDGPA) of at least 3.0. Graduation in the general BASc program requires both a CGPA and a UDGPA of at least 2.4.

Students must complete a three semester co-operative education program of practical experience in an appropriate industrial or research setting leading to a project under the technical direction of a practicing engineer or scientist. The internship may take place within the University but in most cases the work site is off campus. A member of the external organization and a faculty member from the school jointly supervise the project.

Specialized study is completed in one of four options: systems, electronics engineering, computer engineering and engineering physics (see below).

Although there is no strict requirement to follow these course sequences, taking less than the designated load may lead to 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 with fewer than 15 credit hours requires prior approval by the director.

The general studies section of the program consists of non-technical courses which broaden education and develop awareness of social, economic and managerial factors affecting engineering and scientific work. All units of the engineering communication course must be completed. In complementary studies, at least one course must deal with science and technology within society and one must deal with central issues, methodologies and thought processes of humanities and social sciences. Other complementary studies courses may deal with these subjects or may be chosen from business, arts, humanities and social sciences. Permission may be required from the appropriate department, school or faculty to register in some of these courses. A pre-approved list of complementary studies courses is available from the school. Other courses may be acceptable with the approval of the undergraduate curriculum committee chair.

### Engineering Science Common Core

#### Courses and Typical Schedule

**Semester One (Fall)**

- CHEM 121-4 General Chemistry and Laboratory I
- ENSC 100-3 Engineering Technology and Society*  
- ENSC 101-1 Writing Process, Persuasion and Presentations
- ENSC 150-3 Introduction to Computer Design*  
- MATH 151-3 Calculus I*
- PHYS 120-3 Modern Physics and Mechanics*  
- 17 credit hours

**Semester Two (Spring)**

- CMPT 101-4 Introduction to Computer Programming*  
- ENSC 102-1 Form, Style and Professional Genres*  
- ENSC 151-2 Digital and Computer Design Laboratory*  
- ENSC 250-3 Introduction to Computer Architecture*  
- MATH 152-3 Calculus II*  
- PHYS 121-3 Optics, Electricity and Magnetism*  
- PHYS 131-2 General Physics Laboratory B*  
- 18 credit hours

**Semester Three (Fall)**

- ECON 103-3 Principles of Microeconomics
- ENSC 220-3 Electric Circuits I*
- ENSC 350-3 Digital Systems Design (C,E)
- MACM 101-3 Discrete Mathematics I* (C,S)
- MATH 232-3 Elementary Linear Algebra*
- MATH 251-3 Calculus III* (E,P,S)
- PHYS 310-3 Introduction to Ordinary Differential Equations*  
- PHY 211-3 Intermediate Mechanics* (P)  
- 18 credit hours

**Semester Four (Summer)**

- CMPT 201-4 Data and Program Abstraction* (C,S)
- ENSC 204-1 Graphical Communication for Engineering*
- ENSC 201-3 The Business of Engineering
- ENSC 225-4 Microelectronics I*
- MATH 251-3 Calculus III* (C)
- MATH 252-3 Vector Calculus* (P,E)
- PHYS 221-3 Intermediate Electricity and Magnetism* (P,E,S)
- STAT 270-3 Introduction to Probability and Statistics*  
- 18 credit hours (C,S); 17 credit hours (RE)  
- *should be taken in the designated semester; consequences of deviating from this schedule are the responsibility of the student.

Italicized courses are only required by the program option that appears in parenthesis next to them: C (computer engineering option), E (electronics engineering option), P (electronics physics option), and S (systems option). As an example, a student in the systems option in his/her third semester would be expected to carry 18 credit hours and should take MACM 101, and MATH 251 from the courses that appear in italic type.

### Electronics Engineering Option

This specialization within electrical engineering directly relates to microelectronics and its applications in communications, control and computing. Engineers in this field are involved with the design and fabrication of systems utilizing electronic components and subsystems.

#### Courses and Typical Schedule

The courses and typical schedule for both the general degree and the honors degree are listed below. The notation (G) is used for requirements applying to the general degree only, while the notation (H) is used for requirements applying to the honors degree only.

**Semester Five (Spring)**

- ENSC 304-1 Human Factors and Usability Engineering*
- ENSC 320-3 Electric Circuits II*
- ENSC 330-4 Engineering Materials
- ENSC 351-4 Real Time and Embedded Systems*  
- ENSC 380-3 Linear Systems*  
- PHYS 324-3 Electromagnetics  
- 18 credit hours

**Semester Six (Fall)**

- Cmpl I-3 first complementary elective (G)  
- ENSC 305-1 Project Documentation and Team Dynamics* (H)  
- ENSC 325-4 Microelectronics II*  
- ENSC 327-4 Communication Systems*  
- ENSC 340-3 Engineering Science Project* (H)  
- ENSC 383-4 Feedback Control Systems*  
- Sci I-3 science elective (G)  
- 18 credit hours (G); 17 credit hours (H)

**Semester Seven (Spring)**

- Cmpl I-3 first complementary elective (H)  
- ENSC 305-1 Project Documentation and Team Dynamics* (G)  
- ENSC 440-4 Capstone Engineering Science Project* (G)  
- ENSC I-4 first Engineering Science elective2  
- ENSC II-4 first Engineering Science elective2  
- ENSC 406-2 Social Responsibility and Professional Practice*  
- MACM 316-3 Numerical Analysis I  
- Tech I-3 technical (computing science, science or math) elective  
- Tech II-3 second technical (computing science, science or math) elective (H)  
- 18 credit hours (G); 19 credit hours (H)

**Semester Eight (Fall)**

- Cmpl II-3 second complementary studies elective  
- Ensc III-3 third Engineering Science elective2  
- Ensc IV-4 fourth Engineering Science elective2  
- Ensc V-4 fifth Engineering Science elective2  
- Sci I-3 first science elective1  
- Tech I-3 technical (computing science, science or math) elective (G)  
- Tech II-3 or Ensc V-4 (H)  
- 18 credit hours (G); 18 credit hours (H)

### Other Requirements

- ENSC 498-3 Engineering Science Thesis Proposal* (H)  
- ENSC 499-9 Undergraduate Thesis (H)  
- Total 142 credit hours (G); 154 credit hours (H)

*should be taken at this point in the program; consequences of deviations from this schedule are the responsibility of the student.

**must be an approved course. A pre-approved list of complementary studies courses is available from the School of Engineering Science.

*chosen from ENSC 424, 425, 426, 427, 428, 429, 450, 481, 483, 488, 489, 495. With permission of the undergraduate curriculum committee chair, students may replace one of their engineering science electives by either a directed study or a special project laboratory course. Special Topics courses that have been approved by the undergraduate curriculum committee chair and the director may be counted here.

**must be an approved course; consult pre-approved electives list available from the school. Under special circumstances, approval for other courses from the undergraduate curriculum committee chair may be granted.

### Note

In the typical schedule shown above, honors students will start their thesis work (ENSC 498 and 499) between semesters seven and eight. This work can be done on or off campus, either integrated with an optional (or mandatory) work term or as independent work with appropriate supervision.
Computer Engineering Option

The dynamic, ongoing 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

The courses and typical schedule for both the general degree and the honors degree are listed below. The notation (G) is used for requirements applying to the general degree only, while the notation (H) is used for requirements applying to the honors degree only.

Semester Five (Spring)
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 383-4 Feedback Control Systems*  
Scie I-3 first science elective1 (G) 18 credit hours (G); 17 credit hours (H)

Semester Six (Fall)
Cmpl I-3 first complementary elective1 (G)  
ENSC 305-1 Project Documentation and Team Dynamics* (H)  
ENSC 325-4 Microelectronics II*  
ENSC 327-4 Communication Systems*  
ENSC 340-4 Engineering Science Project* (H)  
ENSC 383-4 Feedback Control Systems*  
Scie I-3 first science elective1 (G) 18 credit hours (G); 17 credit hours (H)

Semester Seven (Spring)
Cmpl I-3 first complementary elective1 (H)  
CMPT 300-3 Operating Systems I  
ENSC 305-1 Project Documentation and Team Dynamics* (G)  
ENSC 440-4 Capstone Engineering Science Project (G)  
Ensc I-4 first Engineering Science elective  
ENSC 406-2 Social Responsibility and Professional Practice*  
MACM 316-3 Numerical Analysis I  
Scie I-3 first science elective1 (H) 17 credit hours (G); 18 credit hours (H)

Semester Eight (Fall)
Cmpl II-3 second complementary studies elective  
Ensc II-4 second Engineering Science elective  
ENSC 450-4 VLSI Systems Design  
Scie II-3 second science elective2  
Scie III-3 third science elective2 17 credit hours (G); 17 credit hours (H)

Other Requirements
ENSC 498-3 Engineering Science Thesis Proposal (H)  
ENSC 499-9 Engineering Science Undergraduate Thesis (H)  
Total 140 credits (G); 152 credits (H)

*should be taken in the designated semester; consequences of deviating from this schedule are the responsibility of the student.
1 must 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, 481, 483, 488, 489, 495. With permission of the undergraduate curriculum committee chair, students may replace one of their engineering science electives by either a directed study or a special project laboratory course. Special Topics courses that have been approved by the undergraduate curriculum committee chair and the director may be counted here.
3 must be an approved course; consult pre-approved electives list available from the School of Engineering Science.
4 chosen from ENSC 424, 425, 426, 427, 428, 429, 450, 481, 483, 488, 489, 495. With permission of the undergraduate curriculum committee chair, students may replace one of their engineering science electives by either a directed study or a special project laboratory course. Special Topics courses that have been approved by the undergraduate curriculum committee chair and the director may be counted here.

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

The courses and typical schedule for the honors degree are listed below. The Engineering Physics option is not available through the general degree.

Semester Five (Spring)
Cmpl I-3 first complementary elective1 (G)  
ENSC 304-1 Human Factors and Usability Engineering*  
ENSC 320-3 Electric Circuits II*  
ENSC 351-4 Real Time and Embedded Systems*  
ENSC 383-4 Feedback Control Systems*  
PHYS 233-2 Introductory Physics Laboratory A*  
PHYS 324-3 Electromagnetics 19 credit hours

Semester Six (Fall)
ENSC 305-1 Project Documentation and Team Dynamics*  
ENSC 325-4 Microelectronics II*  
ENSC 327-4 Communication Systems*  
ENSC 340-4 Engineering Science Project*  
ENSC 383-4 Feedback Control Systems* 17 credit hours

Semester Seven (Spring)
Cmpl II-3 second complementary elective1  
Ensc I-4 first Engineering Science elective  
ENSC 406-2 Social Responsibility and Professional Practice*  
PHYS 344-3 Thermal Physics  
PHYS 383-3 Semiconductor Device Physics  
PHYS 385-3 Quantum Physics 18 credit hours

Semester Eight (Fall)
Ensc II-4 second Engineering Science elective  
ENSC 383-4 Feedback Control Systems*  
PHYS 332-3 Intermediate Laboratory  
PHYS 384-3 Methods of Theoretical Physics  
PHYS 395-3 Optics  
Phys 4XX-3 physics elective 20 credit hours

Other Requirements
ENSC 498-3 Engineering Science Thesis Proposal  
ENSC 499-9 Engineering Science Thesis Proposal  
Total 156 credits (G); 152 credits (H)

Systems Option

This option prepares for careers in the design and integration of computer-controlled machines and devices, and provides for graduate study in robotics, control and mechatronic systems. Students integrate knowledge from electronic engineering, mechanical engineering, and computer engineering into the fundamental design process. This focused program includes study of mechanical structures and mechanisms, electro-mechanical sensors and actuators, control engineering, and real-time systems. Electives may be used to tailor curriculum to specific interests.

Courses and Typical Schedule

The courses and typical schedule for both the general degree and the honors degree are listed below. The notation (G) is used for requirements applying to the general degree only, while the notation (H) is used for requirements applying to the honors degree only.

Semester Five (Spring)
ENSC 230-4 Introduction to Mechanical Design*  
ENSC 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 383-4 Feedback Control Systems* 19 credit hours

Semester Six (Fall)
Cmpl I-3 first complementary elective1 (G)  
ENSC 305-1 Project Documentation and Team Dynamics*  
ENSC 325-4 Microelectronics II*  
ENSC 327-4 Communication Systems*  
ENSC 340-4 Engineering Science Project*  
ENSC 383-4 Feedback Control Systems* 17 credit hours

Semester Seven (Spring)
Cmpl II-3 second complementary elective1  
Ensc I-4 first Engineering Science elective  
ENSC 406-2 Social Responsibility and Professional Practice*  
PHYS 344-3 Thermal Physics  
PHYS 383-3 Semiconductor Device Physics  
PHYS 385-3 Quantum Physics 18 credit hours

Semester Eight (Fall)
Ensc II-4 second Engineering Science elective  
ENSC 383-4 Feedback Control Systems*  
PHYS 332-3 Intermediate Laboratory  
PHYS 384-3 Methods of Theoretical Physics  
PHYS 395-3 Optics  
Phys 4XX-3 physics elective 20 credit hours

Other Requirements
ENSC 498-3 Engineering Science Thesis Proposal  
ENSC 499-9 Engineering Science Thesis Proposal  
Total 141 credits (G); 153 credits (H)
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.

**Program Requirements**

This program is comprised 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 Electric Circuits I
- ENSC 250-3 Introduction to Computer Architecture
- ENSC 305-1 Project Documentation and Group Dynamics
- ENSC 320-3 Electric Circuits II
- ENSC 340-3 Engineering Science Project
- ENSC 380-3 Linear Systems
- plus at least one of
  - ENSC 225-4 Microelectronics I
  - ENSC 351-4 Real Time and Embedded Systems
  - plus at least three, and no more than five (students cannot count the same course twice) of the following
    - ENSC 225-4 Microelectronics I
    - ENSC 325-4 Microelectronics II
    - ENSC 327-4 Communication Systems
    - ENSC 350-3 Digital Systems Design
    - ENSC 351-4 Real Time and Embedded Systems
    - ENSC 424-4 Multimedia Communications Engineering
    - ENSC 425-4 Electronic System Design
    - ENSC 427-4 Communication Networks
    - ENSC 428-4 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 2.4 or better. If this drops below 2.4, the student may be required to withdraw from the program.

**General Studies Program**


**Advisors**

R.D. Cameron BASc, PhD (Br. Col), 9861 Applied Sciences Building, (604) 291-4724 Tel
J. Van Snellenberg BASc (S. Fraser), 9861 Applied Sciences Building, (604) 291-4724 Tel

This is a non-specialist bachelor's degree program that offers students a broad education with an applied orientation. This program may be satisfied either through the general applied sciences option or through the double minor option.

**General Applied Sciences Option**

Students must complete 30 credit hours of upper division Faculty of Science and Faculty of Applied Sciences courses subject to the following.

- no more than nine credit hours of these courses may be from the Faculty of Science
- no more than 12 credit hours of these courses may be taken from any one school in the Faculty of Applied Sciences
- Faculty of Applied Sciences residency requirements must be satisfied. See "Residency Requirements" on page 115.
- a grade point average of 2.00 is required on the courses used for the general applied sciences option.

For the purposes of this requirement, MACM courses are counted as courses of the School of Computing Science.

**Double Minor Option**

Students may satisfy the double minor option by taking two minors (or extended minors), at least one of which must be in the Faculty of Applied Sciences. If the only minor from applied sciences is in communication, the second minor must be from the Faculty of Science.

**Overall Degree Requirements**

Students must complete 120 credit hours overall for the degree, including 45 upper division credit hours. A 2.00 graduation GPA is required ("Graduation Requirements" on page 26).

**Admission**

Faculty of Applied Sciences students may apply for admission to either the general applied sciences option or the double minor option at any time. Students in other faculties may apply for the double minor option upon acceptance into two qualifying minors by the schools or departments concerned.

In addition, limited spaces are available for students transferring to the general applied sciences option from other faculties. Admission is competitive, based on a GPA in upper division applied sciences courses. To be considered, students must have successfully completed at least nine credit hours of upper division applied sciences courses with a GPA of 2.25. Enrolment in the upper division courses of a particular school may be limited to those bachelor of general studies students who also meet the admission standards of that school. Admission to the BGS program may not be used to bypass the enrolment limitations of any other applied sciences program.

**School of Kinesiology**


**Director**

J.B. Morrison BSc, ARST (Glas), PhD (Strath)

**Professors Emeriti**

E.W. Banister BSc (Man), MPE (Br Col), PhD (Ill), FASC&M
N.M.G. Bhakthan BSc (Kerala), MSc, PhD (Bda)
A.P. Blaber BSc (Guelph), BEd (Wont), MSc (Cal)
D.T. Finegood BSChE (Mich), MS (Northwestern), PhD (Br Col)
A.J. Davison BSc (Toronto), MSc, PhD (Rutgers)
J.A. Hoffer BS (H Mudd College), PhD (J Hopkins)
J.B. Morrison BSc, ARST (Glas), PhD (Strath)

**Professors**

P.N.S. Bawa BSc, MSc (Panjab), MSc, PhD (Alta)
N.M.G. Bhakthan BSc (Kerala), MSc, PhD (Bda)
A.P. Blaber BSc (Guelph), BEd (Wont), MSc (Cal)
D.T. Finegood BSc (Mich), MS (Northwestern), PhD (Cal)
J.A. Hoffer BS (H Mudd College), PhD (J Hopkins)
J.B. Morrison BSc, ARST (Glas), PhD (Strath)
J.F. Minter BSc, MSc, PhD (Wat)
R.G. Marteniuk BPE, MA (Alta), EdD (Cal)
D.R. MacLean MD (Dal), LMCC, MA HealthSci (Tor)*
J.B. Morrison BSc, ARST, Glas, PhD (Strath)
W.S. Parkhouse BPE (Alta), MPE, PhD (Br Col)
M.P. Rosin BSc (Sask), PhD (Tor)
G.F. Tibbits BEd (McC), MS, PhD (Cal)

**Associate Professors**

C. Krieger MD (Tor), MSc (Montr), PhD (London)
T.E. Milner BSc, MSc, PhD (Alta)
D. Weeks BA (Windsor), MSc (McM), PhD (Auburn)

**Assistant Professors**

E.A. Accili BSc, MSc, PhD (Br Col)
A.P. Blaber BSc (Guelph), BEd (Wont), MSc (Guelph), PhD (Wat)
Facility of Applied Sciences – School of Kinesiology 125

S.N. Robinovitch BASc (Br Col), MSc (MIT), PhD (Harvard/MIT)
A.V. Vieira BSc (Calg), PhD (Alta)

Ad hoc Professors
J.M. Berry BSc (Wis), PhD (Br Col)
D.O Cheyne BSc, MA (S Fraser), PhD (Wat)
R.A. Eisen, MD (Leeds), FRCP (Ott)
B.D. Fisher BA (Hiram Coll), PhD (Calif)
K.M. Hamilton BA (FEI), MSc, PhD (York, Can)
A.J. Lomax MScB (Manc), DObst (Royal College of Obstetrics and Gynaecology), FRCS
G.I. Morariu Dipl. Eng. (Traian Vlaiu), PE (Amsterdam)
P Pretorius BSc, MSc (Potchefstroom), DSc
(Tor)
I.T. Smith BA (Wisc), MSc (Calg), PhD (Wisc)
L Zhang BDS (Western China), PhD (Tor)

Senior Lecturers
J. Anthony BSc, MSc (Madras), PhD (AIIMS, New Delhi)
R.C. Asmundson BSc, MSc (S Fraser)
S. Brown BSc, MSc (S Fraser)
A.J. Leyland BEd (Exe), MSc (S Fraser)
R. Ward BSc (Lough), MSc, PhD (S Fraser)

Advisors
Ms. V. Trong BA (S Fraser), co-ordinator, academic programs and services, K9633 Shrum Science Centre, (604) 291-3165
Ms. D. Heisler BSc (S Fraser), co-op education co-ordinator, K9620 Shrum Science Centre, (604) 291-4541

"joint appointment with kinesiology, sociology and anthropology, statistics and actuarial science

Mission
Our mission is to study human structure and function and their relation to health and movement. We seek to advance, apply and disseminate relevant knowledge and expertise.

The school builds on the basic sciences to link the study of movement, physiology and health with the broad scope of human endeavour. Our faculty comprises anatomists, biochemists, biologists, biomechanists, biophysicists, engineers, ergonomists, kinesiologists, physicians, physiologists and psychologists. We apply our knowledge to study structure and function throughout the life cycle in health and disease, in benign and extreme environments, at work, at home, at sports and at play. Our educational goals impart a sound knowledge base and to promote critical thinking, problem solving, research, technical and communication skills appropriate to the field, through our undergraduate, graduate and continuing studies programs.

To this end, we strive for excellence in teaching, research and service programs focused on the following aspects of the human condition.

• movement and its control
• regulation and adaptation of physiological systems
• growth, development and aging

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

Transfer Credit and Residency Requirements
Transfer students are advised that residency requirements apply to kinesiology programs. See “Residency Requirements” on page 115.

Programs
The school offers programs leading to a BSc (Kinesiology), BSc honors (Kinesiology), minor in kinesiology, post baccalaureate diploma in kinesiology, certificate in applied human nutrition, and certificate in health and fitness studies. Co-op education helps kinesiology majors gain valuable work experience during their undergraduate studies.

Areas of concentration offer cross-disciplinary undergraduate programs specializing in the following complementary areas.

• active health and rehabilitation kinesiology
• health and physiological sciences
• human factors/ergonomics

Choosing an area of concentration is not necessary to receive a BSc (Kinesiology); a general kinesiology option is available. The general option and the three areas of concentration include a common core covering basic anatomy, physiology, biomechanics and prerequisite knowledge from the biological, chemical, physical and mathematical sciences fundamental to understanding human structure and function. The 'core' refers to those aspects that are required for the degree, regardless of concentration.

Teaching Certification
Kinesiology students with appropriate courses can apply to the British Columbia College of Teachers (BCCT) to have their degree accepted for professional certification. BCCT reviews each application individually. Contact the School of Kinesiology for more information.

Major Program
Admission Requirements
Entry to the bachelor of science (kinesiology) program is possible via

• direct admission from high school
• transfer from a recognized post-secondary institution

or internal transfer from within Simon Fraser University

Admission is competitive. A separate admission average for each of the three entry routes is established each semester, depending on spaces available and subject to the Dean of Applied Sciences’ approval. Admission averages are calculated on five required courses from high school or 11 or more required post secondary courses. If one or more courses have been duplicated (repeated), the grades from all course attempts will be used equally in calculating the kinesiology admission GPA.

Direct Admission – High School and Direct Transfer, Post Secondary Institutions
See “British Columbia and Yukon Applicants” on page 32.

Internal Transfer
Simon Fraser students applying for admission to the School of Kinesiology must complete the following courses with a grade of C- or better:

BISC 101-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 281-4 Organic Chemistry I
KIN 142-3 Introduction to Kinesiology

MBB 221-3 Cellular Biology and Biochemistry

One of:
MATH 151-3 Calculus I
MATH 154-3 Calculus I for the Biological Sciences

One of:
MATH 152-3 Calculus II
MATH 155-3 Calculus II for the Biological Sciences

One of:
PHYS 101-3 General Physics I
PHYS 120-3 Modern Physics and Mechanics

one of:
PHYS 102-3 General Physics II
PHYS 121-3 Optics, Electricity and Magnetism

one of:
Pht 130-2 General Physics Laboratory A
PHYS 131-2 General Physics Laboratory B

Applicants are selected based on an admission GPA calculated over these 11 required courses together with any of the following four courses taken.

KIN 201-3 Biomechanics
KIN 205-3 Introduction to Human Physiology
KIN 207-3 Information Processing in Human Systems
STAT 201-3 Statistics for the Life Sciences

Students may apply for admission as soon as the 11 required courses have been completed. Unsuccessful applicants may take any of the four additional courses to improve the admission GPA. Students who do not meet the kinesiology admission GPA upon completion of all four additional courses will be advised regarding alternative degree options.

For students transferring some of the core courses from another post secondary institution:

• only courses completed at SFU (and not previously taken elsewhere) are used in the kinesiology admission GPA. Normally, at least 15 credits from core courses are required to establish a basis for the GPA calculation. Exceptions must be approved by the school.

Application Procedure
Students should complete a program approval form available at the kinesiology general office and submit it to the kinesiology advisor by July 1 for fall semester approval, November 1 for spring semester approval, or March 1 for summer semester approval.

Program Requirements
Please read descriptions of required courses before enrolling in the major or honors program (see "Kinesiology KIN" on page 270).

The basic credit hour requirements underlying the major are as follows.

Kinesiology (lower division specified) – 12 credit hours

Faculty of Science (lower division specified) – 34 credit hours

Kinesiology (upper division specified) – 13 credit hours

Kinesiology (upper division unspecified) – 27 credit hours

Electives (lower division partly specified) – 5 credit hours

Electives (upper division unspecified) – 3 credit hours

Free electives (upper or lower division unspecified) – 23 credit hours

Total 120 credit hours

Areas of Concentration
The School of Kinesiology has defined three 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 and rehabilitation kinesiology
• health and physiological sciences
• human factors/ergonomics

Details regarding the courses required for each area of concentration may be obtained from the School of Kinesiology.

Each area of concentration has a set of recommended courses outside the core. Core refers to those program aspects that are required, regardless of concentration area. Choosing an area of concentration is not necessary to receive a bachelor of science (kinesiology). A general option is available and is outlined below. For more information
on areas of concentration and their recommended courses, contact the general office.

Lower Division Requirements

Lower Division Core
The following courses are specified for all areas of concentration.

Biochemistry
MBB 221-3 Cellular Biology and Biochemistry 3 credit hours

Biological Sciences
BISC 101-4 General Biology 4 credit hours

Chemistry
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 281-4 Organic Chemistry I 10 credit hours

Kinesiology
KIN 142-3 Introduction to Kinesiology
KIN 201-3 Biomechanics
KIN 205-3 Introduction to Human Physiology
KIN 207-3 Information Processing in Human Motor Systems 12 credit hours

Mathematics
one of
MATH 151-3 Calculus I
MATH 154-3 Calculus I for the Biological Sciences
plus one of
MATH 152-3 Calculus II
MATH 155-3 Calculus II for the Biological Sciences 6 credit hours

Physics
one of
PHYS 101-3 General Physics I
PHYS 120-3 Modern Physics and Mechanics
plus one of
PHYS 102-3 General Physics II
PHYS 121-3 Optics, Electricity and Magnetism
plus one of
PHYS 130-2 General Physics Laboratory A
PHYS 131-2 General Physics Laboratory B 8 credit hours

Statistics
STAT 201-3 Statistics for the Life Sciences 3 credit hours

Lower Division Electives
Each area of concentration has its own set of recommended courses within the following framework.

A minimum of six credit hours must be selected from the Faculty of Arts. 6 credit hours

Total 46 credit hours

Upper Division Requirements

Upper Division Core
The following courses are specified for all areas of concentration and must each be completed with a grade of C- or higher.

Kinesiology
KIN 305-3 Human Physiology I
KIN 306-3 Human Physiology II
KIN 326-4 Functional Anatomy
and one of
KIN 301-3 Biomechanics Laboratory
KIN 407-3 Human Physiology Laboratory 13 credit hours

Upper Division Electives
Each area of concentration has its own set of recommended courses within the following framework.

Students must take a minimum of 27 credit hours of kinesiology upper division credit, chosen from the following.*

KIN 301-3 Biomechanics Laboratory
KIN 303-3 Kinanthropometry
KIN 304-3 Inquiry and Measurement in Kinesiology
KIN 310-3 Exercise/Work Physiology
KIN 311-3 Applied Human Nutrition
KIN 312-3 Nutrition for Fitness and Sport
KIN 320-3 Cultural Aspects of Human Movement
KIN 336-3 Microscopic Anatomy (Histology)
KIN 340-3 Active Health: Behavior and Promotion
KIN 343-3 Active Health: Assessment and Promotion
KIN 367-3 Psychology of Motor Skill Acquisition
KIN 375-3 Human Growth and Development
KIN 380-3 Occupational Biomechanics
KIN 381-3 Psychology of Work
KIN 382-3 Physical Hazards in the Workplace
KIN 383-3 Human-Machine and Human-Computer Interaction
KIN 402-3 Mechanical Behaviour of Tissues
KIN 407-3 Human Physiology Laboratory
KIN 412-3 Molecular and Cellular Cardiology
KIN 415-3 Neural Control of Movement
KIN 416-3 Control of Limb Mechanics
KIN 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 444-3 Cardiac Disease: Prevention and Rehabilitation
KIN 445-3 Cardiac Rehabilitation Laboratory
KIN 446-3 Neurobiology of Disease
KIN 448-3 Rehabilitation of Movement Control
KIN 461-3 Physiological Aspects of Aging
KIN 467-3 Human Motor Performance
KIN 481-3 Activity-Generated Musculoskeletal Disorders
KIN 484-3 Altitude and Aerospace Physiology
KIN 485-4 Human Factors in the Underwater Environment
KIN 486-3 Human Factors in Industrial Design
KIN 496-3 Directed Study I
KIN 498-3 Directed Study II

“Students may substitute MBB 321 to help satisfy this requirement”

27 credit hours

Students must also take five credit hours of upper division courses offered in any discipline within the University.

5 credit hours

Total 45 credit hours

Free Electives
A further 23 credit hours of free electives may be taken from any discipline within the University at either the lower or upper division level.

23 credit hours

Total 120 credit hours

Requirements to Transfer to Professional Schools
Students are eligible to receive a BSc (Kinesiology) degree after completion of the second year of professional study. Students must have completed at least 90 credit hours of Simon Fraser credit comprising the following.

• all lower division requirements
• 27 upper division credit hours in kinesiology (including KIN 305, 306, 326, and either 301 or 407)
• acceptance into an accredited professional program in dentistry, medicine, chiropractic, or veterinary medicine

Courses taken in the professional program must not duplicate courses already taken at 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 three areas of concentration are available from the kinesiology general office.

Typical First Year Course Schedule
Semester 1
KIN 142-3 Introduction to Kinesiology
BISC 101-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
MATH 154-3 Calculus I for the Biological Sciences
Semester 2
CHEM 122-2 General Chemistry II
CHEM 281-4 Organic Chemistry I
MATH 155-3 Calculus II for the Biological Sciences
PHYS 101-3 General Physics I

Honors Program
The honors program is designed for approved kinesiology major students who wish to pursue an advanced degree in kinesiology.

Application Requirements
Honors program application requires the following.

• completion of a minimum of 60 credit hours
• a minimum CGPA of 3.00
• submission of a completed program approval form, along with the student’s most recent unofficial record, to the undergraduate advisor.

Graduation Requirements
To graduate with honors, the student must successfully complete

• a minimum of 132 credit hours, with a minimum of 60 upper division credits of which at least 54 must be in kinesiology
• completion of all kinesiology major program requirements
• KIN 497-3 and KIN 499-12
• a minimum CGPA of 3.00

Physics and Physiology Honors Program
See “Physics and Physiology Honors Program” on page 209 for requirements.

Minor Program

Application Requirements
Application for a minor in kinesiology requires the following.

• completion of KIN 105 or 205, and KIN 142 and 143 with a minimum grade of C- in each course
• completion of two of KIN 110, 201, 207 or 241 with a minimum grade of C- in each
• submission of a program approval form to the undergraduate advisor.

Admission is competitive. An admission GPA is established each semester and will be calculated based on the five required courses listed above. If one or more courses have been duplicated (repeated), the grades from all course attempts will be used equally in calculating the kinesiology admission GPA.
Program Requirements
There is a maximum number of allowable transferable credits that count towards the minor program from any other institution, including the Open learning Agency. See “Residency Requirements” on page 115.

Students must complete one of
KIN 105-3 Fundamentals of Human Structure and Function
KIN 205-3 Introduction to Human Physiology and both of
KIN 142-3 Introduction to Kinesiology
KIN 143-3 Exercise Management
and two of
KIN 110-3 Human Nutrition: Current Issues
KIN 201-3 Biomechanics
KIN 207-3 Information Processing in Human Motor Systems
KIN 241-3 Sports Injuries — Prevention and Rehabilitation
and one of
KIN 301-3 Biomechanics Laboratory
KIN 325-3 Basic Human Anatomy
KIN 342-3 Active Health
KIN 343-3 Active Health: Assessment and Promotion
KIN 367-3 Psychology of Motor Skill Acquisition plus 12 additional credit hours or upper division kinesiology courses
A minimum GPA of 2.0 calculated over all kinesiology courses used to satisfy the requirements is required as well as a minimum upper division GPA of 2.0 calculated from those upper division kinesiology courses used to satisfy the requirements.

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 coordinator and the University’s Office of Co-operative Education. For further details on the co-op system, see “Continuing Studies” on page 214.

Post Baccalaureate Diploma in Kinesiology
This program is available for students who have already completed a degree. For information, see “Faculty of Applied Sciences” on page 115.

Requirements
Successful completion of an approved program comprised of 30 credit hours of upper division or graduate level courses, including the following courses.
KIN 304-3 Inquiry and Measurement in Kinesiology
KIN 305-3 Human Physiology I
KIN 306-3 Human Physiology II
KIN 326-4 Functional Anatomy
KIN 301-3 Biomechanics Laboratory
KIN 407-3 Human Physiology Laboratory
A minimum grade point average of 2.5 is required for courses that are applied toward the diploma. Courses must be selected from an approved list in consultation with a program advisor.

Students interested in this program normally hold a BSc or equivalent. Students are responsible for satisfying the necessary prerequisites.

Certificate in Applied Human Nutrition
This certificate is intended for professionals who are not dietitians or nutritionists, but are concerned with promotion of health and wellness, such as nurses, kinesiologists, professional coaches and personal trainers, teachers, trained food service supervisors, dietetic technicians, pharmacists and clinical psychologists. The purpose is to provide these professionals with an enhanced understanding of the relationships among food, body composition, health, and human performance.

Please note that this certificate does not qualify the individual as a registered dietician.

Admission is governed by the University’s admissions regulations. See “Admission and Readmission” on page 29. After being admitted to Simon Fraser University, submission of a completed program approval form to the kinesiology undergraduate advisor is required for formal acceptance in the program.

Requirements
There is a maximum number of allowable transferable credits that count towards the certificate from any other institution, including the Open learning Agency. See “Residency Requirements” on page 115.

Students must complete all of
KIN 105-3 Fundamentals of Human Structure and Function
KIN 110-3 Current Topics in Nutrition
KIN 140-3 Contemporary Health Issues
KIN 142-3 Introduction to Kinesiology
KIN 143-3 Exercise Management
and one of
KIN 342-3 Active Health
KIN 343-3 Active Health: Assessment and Promotion
KIN 367-3 Psychology of Motor Skill Acquisition
KIN 375-3 Physiological Basis of Growth and Development
KIN 375-3 Physiology of Motor Skill Acquisition
KIN 461-3 Physiological Aspects of Aging
KIN 489-3 Physiological Aspects of Aging

Students must also complete nine credit hours (three courses) of electives chosen from the following.
KIN 207-3 Information Processing in Human Motor Systems
KIN 221-3 Special Topics in Kinesiology
KIN 241-3 Sports Injuries — Prevention and Rehabilitation
KIN 303-3 Kinesanthropometry
KIN 310-3 Exercise/Work Physiology
KIN 312-3 Nutrition for Fitness and Sport
KIN 320-3 Cultural Aspects of Human Movement
KIN 325-3 Basic Human Anatomy
KIN 327-3 Psychology of Motor Skill Acquisition
KIN 375-3 Psychological Basis of Growth and Development
KIN 461-3 Psychological Aspects of Aging

Students must have a minimum 2.00 GPA calculated on courses counting toward the certificate, and a current cardiopulmonary resuscitation (CPR) certification at time of completion. The certificate is normally completed within five years of admission to the certificate program.

*courses available by distance education

Credits applied to one certificate may not be applied to another certificate or diploma.
Faculty of Arts

6168 Academic Quadrangle, (604) 291-4414 Tel, (604) 291-3033 Fax, www.sfu.ca/arts

Dean
J.T. Pierce BA (Tor), MA (Wat), PhD (Lond)

Associate Deans
A.R. Blackman BSc (Lond), BSc (Edin), MSc, PhD (McG)
T.A. Perry BA (Wabash), MA, PhD (Indiana)
J.H. Tietz BA (Pacific Lutheran), PhD (Claremont)

Advisor
Ms. M. Caufield, BA (S Fraser), 6170 Academic Quadrangle, (604) 291-3921

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

Student Responsibility
It is the responsibility of each student to be aware of faculty regulations as stated in this Calendar. Departmental and faculty advisors and staff are available for advice and guidance. However, the ultimate responsibility for completeness and correctness of course selection, for compliance with and completion of program and degree requirements and for observance of regulations and deadlines rests with the student.

Academic Advice
Each Faculty of Arts department provides an advisory service for assisting students to choose courses to satisfy degree requirements. Students who have made a formal program declaration should avail themselves of these services. Those who have not, but have completed 60 credit hours, will be advised by the faculty advisor in the Office of the Dean. Where specified, students should also consult the Office of the Dean of Arts regarding Arts regulations.

Students in all programs leading to Faculty of Arts bachelor's degrees must consult an advisor at the following times in their academic programs.
• prior to first registration at the University, and
• during that semester when they are taking their 45th credit hour, and
• during that semester when they are taking their 90th credit hour

Students in other programs such as certificate and post baccalaureate diploma programs are governed by the requirements of the specific programs.

Important Note
Students may count any SFU course for which credit is received toward the bachelor of arts degree with the exceptions of EDUC 401, 402, 405 and 406; ATHL, 201, 202, 203 and 204.

Only the first five course duplications will count toward a BA. A maximum of five will count toward all programs taken in the Faculty of Arts at SFU.

The maximum credit hours offered through the Tri-Education Summer Institute that count toward a Faculty of Arts degree or post baccalaureate program is nine.

Load Levels
Students who have not yet completed 60 credit hours require written consent of the dean's designate to register in more than 16 hours in one semester.
Students who have completed 60 credit hours require the written consent of the dean's designate to register in more than 18 credit hours in one semester.

Co-operative Education Program in Liberal Arts
6176 Academic Quadrangle, (604) 291-3041/5751/3776/5839 Tel

Co-ordinators
P. Johnston BA (S Fraser)
C. Rose BA (S Fraser)
E. Therkelsen BA (S Fraser)

This program is available for students who wish to acquire practical experience in conjunction with their studies in departments or programs in the Faculty of Arts. The student normally spends alternate semesters on campus and in paid, study-related jobs.

Refer also to Archaeology, Criminology, Economics, English, First Nations, History, Latin American Studies, Linguistics, Political Science, Psychology, Sociology, and Women's Studies as well as the Co-operative Education sections of this Calendar.

Requirements
To be admitted, students must have completed a minimum of 30 credit hours with a minimum CGPA of 2.75. Prior to admission, all students must complete ENGL 199-3 University Writing (or any two 100 division English courses)
PHIL 001-3 Critical Thinking

A quantitative research course in your area of interest is strongly recommended. Computer literacy is a requirement. See the Faculty of Arts co-op co-ordinators for further information.

Major Program
The following are recommended prior to entry in the co-op education program: one course from either set
2 or set 8 as listed under the certificate in liberal arts, and at least 12 hours of required lower division courses in the major program.

Undeclared Majors or Students Without Majors (BGS/8Ed)
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 SFU semester. College transfer students who participated in co-op programs elsewhere may be credited with the semesters already taken. Students contemplating transfer to the SFU Faculty of Arts co-op program should contact admissions advisor in the Office of the Registrar early.

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 bachelor of arts requirements in one of five ways: through a major program; or through a joint major program; or through two extended minors; or through an honors program; or through a joint honors program. In addition to the degree requirements set out below, students may also fulfill the requirements for an extended minor or a minor as noted under the Options headings.

Major Program
To concentrate in a subject area, students may take a major consisting of at least 30 upper division credit hours in that subject area. This, the most common program option chosen by students pursuing a bachelor of arts, provides a strong subject background and is preparation for a range of occupations, or for further study following graduation.

At least 120 credit hours are required including.
• at least 65 credit hours in arts subjects
• at least 45 upper division credit hours, including at least 30 upper division credit hours in an arts major program. No more than 15 upper division hours transferred from another institution may be used toward the requirements for a major.
• lower division requirements for at least one arts major
• satisfaction of the Faculty of Arts breadth requirements (see below)

Note: A department may designate up to eight credit hours of program-related upper division courses offered by other departments as being acceptable in fulfilling part of the required hours in a major program.
Joint Major Program
At least 120 credit hours are required which include
- at least 65 credit hours in Faculty of Arts subjects
- at least 45 credit hours in upper division courses which must include at least 20 upper division credit hours in each of the two joint major subjects. No more than 15 upper division credit hours transferred from another institution can be used toward this requirement.
- lower division prerequisites for both joint major programs
- satisfaction of the Faculty of Arts breadth requirements (see below)

Extended Minor Program
An extended minor consists of the lower division requirements for a major program, plus the upper division requirements for a minor program. At least seven upper division hours counted toward this requirement must be taken at Simon Fraser University.

Students wishing to prepare themselves in two subject areas and not desiring to undertake a major program may take an extended minor program consisting of the completion of two extended minors in the bachelor of arts degree.

At least 120 credit hours are required which include the following.
- at least 65 credit hours in Arts subjects
- at least 45 upper division credit hours, including 30 in two extended minor programs (at least 15 upper division credit hours in each of two extended minor programs). No more than 8 upper division hours transferred from another institution may count toward an extended minor.
- lower division requirements for at least two extended minor programs. The 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 be approved by the advisors in their two extended minor programs. The requirements for an extended minor program must be fulfilled.

Breadth Requirements
In addition to completing courses required for any Faculty of Arts degree, students must complete breadth requirements that provide knowledge and modes of thought outside a specialized discipline. These requirements may be met in a variety of ways. In completing them, students are encouraged to earn a certificate in liberal arts, a program tailored for breadth of learning. The requirements follow.

- a minimum of 30 credit hours outside the Arts honors, major or extended minor department (for this requirement, read ‘school’ as department)
- no fewer than five departments (other than the Arts honors, major or extended minor department) from the list below
- no more than nine credit hours from any one department may count toward the total of 30 required credit hours
- up to six credit hours of the 30 may be 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 (FFA)
- Chemistry (CHEM)
- Communication (CMNS)
- Community Economic Development (CED)
- Computing Science (CMPT)
- Criminology (CRIM)
- Earth Sciences (EASC)
- Economics (ECON and BUEC)
- Education (EDUC, except EDUC 401, 402, 405, and 406)
- Engineering Science (ENSC)
- English (ENGL)
- Environmental Studies: Environmental Science (EVSC), Resource and Environmental Management (REM)
- First Nations (FNST)
- French (FREN)
- Geography (GEOG)
- Gerontology (GERO)
- History (HIST)
- Humanities (HUM)
- Kinesiology (KIN)
- Languages: Chinese (CHIN), German (GERM), Italian (ITAL), Japanese (JAPN), Language (LANG), Spanish (SPAN)
- Latin American Studies (LAS)
- Linguistics (LING)
- Mathematics (MATH)
- Molecular Biology and Biochemistry (MBB)
- Philosophy (PHIL)
- Physics (PHYS)
- Political Science (POL)
- Psychology (PSYC)
- Science (SCI)
- Sociology and Anthropology (SA)
- Statistics (STAT)
- Women’s Studies (WS)

Course enrolment in some of these may be limited to those with approved programs in these subjects. Courses that are not clearly within the above ‘departments,’ or courses transferred from other institutions in subjects without direct SFU equivalence may count toward these requirements on an individual basis and upon application to the Dean of Arts Office (AQ 6168).

Whether or not students complete the certificate, they may take the faculty breadth requirements to explore study in advance of choosing a major discipline. Departments will advise students on specific courses to prepare for a major. A substantial proportion of these requirements may apply to many cross-disciplinary major, extended minor or minor programs within the faculty. To effectively plan ways to fulfill breadth requirements, students should seek advice from Student Academic Resources and in any departments in which they plan to major.

Program Declaration
Prior to or upon registering for the semester in which the 61st credit is taken, students must formally declare and be accepted into a major program or two extended minors and may, subject to the regulations below, apply for an honors program. The formal declaration establishes the exact major, or extended minor programs for graduation as they appear in the Calendar in effect at the time of declaration. Students are urged to keep a copy of this Calendar, known as the Graduating Calendar, for reference.

Degree programs may be changed any time prior to graduation. A new formal declaration must be approved by the new major department and the Dean of Arts Office if a faculty change is involved. The Calendar then in effect becomes the new Graduating Calendar, and the requirements it specifies for the major or extended minor must be fulfilled.

Honors Program
Program acceptance is contingent upon satisfying the entrance requirements of the department concerned. Applicants normally have a 3.0 GPA in subject(s) of the honors field. When admission is granted, the student then registers as an honors student. To continue, this 3.0 GPA must be maintained. Failure to do so will place the student in the corresponding general degree program. Students will still be subject to the regulations within the original graduating Calendar. If a student is subsequently reinstated into the honors program, the graduating Calendar is that which was in effect at the time of the original program acceptance.

Graduation Requirements
The graduation GPA is different from the cumulative GPA. Please see “Graduation Requirements” on page 26 for both the general and honors program.

General Program
In addition to the general requirements, the Faculty of Arts has the following requirements for the general program.

The minimum graduation requirement is a 2.0 graduation GPA and a GPA of 2.0 in all upper and lower division courses taken in the major, extended minor or minor department(s) except duplicate courses that are counted only once. University regulations governing duplication of courses are vigorously applied in the Faculty of Arts. Students who do not obtain the minimum GPA in their programs within the limits of five duplications will not be able to complete a major, extended minor or minor within the Faculty of Arts.
Bachelor of General Studies Degree
6170 Academic Quadrangle, (604) 291-5426 Tel, (604) 291-3033 Fax

Advisors
Ms. R. Lepp, (604) 291-5426
Ms. M. Caulfield, BA (S Fraser), (604) 291-5426

This non-specialist degree program, administered within the Faculty of Arts, is designed for students whose educational goals are not met by other, more structured, undergraduate degree programs. Students may complete one or more minors or extended minors (but no major), in any academic area(s) as part of the BGS degree. Students considering this program are strongly urged to consult the advisor before declaring the BGS as the goal.

The BGS program may not be used as a second or subsequent bachelor’s degree except by written approval of the Deans of Arts prior to admission. Students who hold a first degree and are interested in a program of general studies may wish to consider a post baccalaureate diploma program.

Requirements
Students must complete 120 credit hours, including at least 45 upper division credit hours. The graduation minimum is a graduation GPA of 2.0 and a cumulative GPA of 2.0 calculated on all upper division courses taken, except duplicate courses.

With the exception of EDUC 401, 402, 405 and 406, courses taken from any faculty may be used to satisfy the degree requirements, but admission to courses is subject to the prerequisite requirements of the various departments. The maximum credit hours offered through the Tri-Education Summer Institute that count towards the BGS is limited to nine.

Transfer
Special transfer regulations for the BGS degree provide broadened opportunities for degree completion for students who may have difficulty in availing themselves of courses.

In accordance with normal University regulations, 60 credit hours of transfer and/or course challenge credit may count toward a Simon Fraser University degree. In addition, a further 30 credit hours of transferable credit from a degree granting institution recognized and accepted by Simon Fraser University may be credited toward the BGS degree, provided that the student also completes at least 30 of the required 45 credit hours of upper division credit in Simon Fraser University courses.

Even within these special transfer regulations, students must complete a total of 45 upper division credit hours. Any minor program within the BGS must include at least seven upper division credit hours earned at Simon Fraser University. See “Admission and Readmission” on page 29 for regulations.

Integrated Studies Program
Information is available from the director of integrated studies, Continuing Studies, at Harbour Centre. Integrated Studies programs within the bachelor of general studies degree are highly structured cohort based programs designed to meet the educational needs of specific student groups. Such programs integrate liberal studies with knowledge and skills associated with a particular field of practice, or with a background common to its students. Students may undertake this degree option only through special admission to an individual program. Integrated studies programs will typically be designed and structured in consultation with external agencies or employers and may therefore have special locations, admission requirements and fee structures.

Because these programs may require and build upon varying levels of previous post-secondary education, related employment experience, and demonstrated intellectual maturity, the credit hours required to earn a degree may in some instances be less than the normal 120 credit hours. All such programs will require a minimum of 60 credit hours in designated Simon Fraser University courses offered within the program, to include at least 45 upper division credit hours.

Each integrated studies program will be governed by an academic steering committee. The curriculum, including both designated courses and total credit hour requirements, admission criteria, and any other special conditions for each individual integrated studies program will be approved in advance by the Faculty of Arts curriculum committee.

Post Baccalaureate Diploma Programs
The Faculty of Arts offers disciplinary and interdisciplinary post baccalaureate diplomas. See “Post Baccalaureate Diploma Program” on page 26 for further information.

Post Baccalaureate Diploma in Community Economic Development
2100 East Academic Annex, (604) 291-5850 Tel, (604) 291-5473 Fax, www.sfu.ca/cedc, cedadmin@sfu.ca E-mail

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.

New program application deadlines: May 1 for fall semester, October 1 for spring semester, February 1 for summer semester, Intercession and summer session.

Required Courses
Students must complete 30 upper division credit hours, including 16 hours in the following courses.
CED 301-4 Sustainable Community Development
CED 401-4 Concepts, Techniques and Principles for CED Practice
CED 403-4 Models and Cases in Community Economic Development
CED 404-4 Project

In addition to these required courses, students must complete at least 14 credits in elective courses.

Elective Courses
Select electives from the CED electives (CED 410, 412) and from a wide variety of departments, in consultation with the CED Centre’s academic supervisor. A list of pre-approved electives is available each semester, but students may also propose courses for approval. Courses must meet the following requirements.
• the proposed course must be an upper division course (300-400 level) or higher
• the elective proposal must be submitted to the CED Centre (CEDC) and approval obtained before the student registers. The request must be in writing and include a copy of the course description. We strongly advise students to consult their CED advisor before declaring the BGS as the goal.
based projects throughout the province and offers an undergraduate certificate and a post baccalaureate diploma, both available by distance education. This program offers basic accreditation in community-based social and economic development, or who seek an holistic, active, practical credential with an undergraduate degree. It offers theoretical and practical perspectives on alternate economic strategies and ecologically sustainable communities, both rural and urban. Students may take this certificate program with or without registration in a bachelor's degree program. General certificate regulations apply: courses taken toward this certificate may also be applied toward major or minor program requirements or toward a bachelor's degree under normal regulations governing those programs. This program may be taken by distance education.

**Admission Requirements**
General undergraduate admission to the university and formal application for program approval with the CED Centre. Students must normally complete 30 credit hours before applying for this program.

New program application deadlines: May 1 for fall semester, October 1 for spring semester, January 1 for summer semester, Intercession and summer session.

**Program Requirements**
Students must complete a minimum of 19 credit hours of required courses and approved elective courses, attain at least a C+ grade in CED 201 and CED 301 for program continuation, and must maintain at least a 2.5 CGPA in all CED courses to obtain the certificate.

Fifteen credit hours are earned by completed four core courses:
CED 201-3 Introduction to Community Economic Development
CED 301-4 Sustainable Community Development
CED 401-4 Concepts, Techniques and Principles for CED Practice
CED 403-4 Models and Cases in CED

The remaining minimum of four credit hours are selected from a list of multidisciplinary courses approved by the CED Centre or other electives approved by the director. These include CED 410 Special Topics, offered with a changing CED related topic annually. Under circumstances where fieldwork or work experience is not available as part of a student’s major, minor or co-op program, the student may apply to take CED 404 Project as their elective. Note that a choice of a three credit elective means that more than one elective will be required to fulfill the minimum credit hours for completion of the certificate. Electives may be either upper or lower division courses, but must be approved by the CED Centre. Courses in other departments may have prerequisites not included in this certificate program.

**Course Sets**
Applicable certificate courses 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 as described below. See “Distribution Requirements” on page 131. The sets, with brief descriptions of the kinds of courses in each, are as follows.

**Verbal Skills**
These courses enhance the mastery of some basic tools of verbal reasoning and expression. They include courses on writing and critical thinking, and introductory language courses. Students who take an introductory course in a language other than English are strongly urged to complete a second course in that language as part of their certificate program.

**The Study of Theory and Theory Building**
These courses introduce the nature of explanatory systems in various fields of inquiry. They include various discipline courses that focus on dynamics of theory construction and historical evolution of theory within that discipline. Courses in this set provide appreciation for ways in which the processes of reasoning, argument, observation and analysis are included within the development of disciplines.

**The Analysis of Contemporary Issues**
These courses examine some current social problems and controversies, emphasizing the application of appropriate conceptual and investigative methods to areas of public concern. Courses in this set will give students some appreciation for the ways in which careful reasoning and disciplinary knowledge can be applied in clarifying the discussion of public issues.

**The Study of Literature**
These courses introduce important literary works and to ways of understanding literary expression. They include courses on literature written in English and in other languages, as well as literature in translation.

**Fine and Performing Arts**
These courses familiarize students with non-literary modes of artistic expression and with important works of art. They include courses on the history and criticism of various arts forms.

**Studies in Culture and Civilization**
These courses introduce a wide study of cultures and civilizations. They include courses that consider the development of human values, and that take comparative and interdisciplinary approaches to culture, as well as historical studies that include substantial attention to cultural themes.

**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 for those who desire a breadth of learning program. It may be taken in conjunction with a degree program, or by students who are not seeking a degree. Those planning to obtain a BA within the Faculty of Arts may complete the certificate in such a way that most or all of the Faculty of Arts breadth requirements are fulfilled by the same courses.

The certificate requires ten courses comprising at least 30 credit hours from a designated courses list. 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.

**Distribution Requirements**
Eight of the required 10 courses must be distributed among the above sets as follows. (See course lists for applicable courses.)

- Two courses drawn from any two of the sets 1-3
- Two courses drawn from any two of the sets 4-6
- Two courses drawn from any two of the sets 7-9
- Two courses drawn from any two of the sets 10-12

The two additional courses required may be selected from any two sets.

Within these distribution requirements, students select any listed courses, and may tailor choices toward their academic needs and interests. Credits applied toward this certificate may not be applied to any other SFU certificate or diploma, but may be applied toward major or minor program requirements.

**Course Lists**
Courses within each set, published annually, are available at Student Academic Resources and the Dean of Arts office. Lists include courses approved by senate for program inclusion and occasional courses approved as certificate courses only for a single offering. Some have prerequisites. In most instances, the specific prerequisites may also be completed within the certificate program.

Consult the Calendar and course outlines to understand the nature of courses and prerequisites. Some may be very demanding for those without adequate preparation. Advice is available through departmental advisors, the Office of the Dean of Arts, and Student Academic Resources.

**Transfer Credit**
A 15 credit hour maximum is permitted. Normally, only credit assigned as directly equivalent to a course regularly listed within the program may be transferred.

**Relation to Faculty of Arts Breadth Requirements**
It is recommended that students planning to major within the Faculty of Arts complete the Faculty’s breadth requirements through the certificate program. Certificate completion does not ensure fulfillment of
Certificate for Senior Citizens
The program provides senior citizens with opportunities to participate in University life, to undertake study relevant to life goals, and to gain recognition for academic achievement. Each fall and spring the University offers courses for adults aged 60 and over at Harbour Centre. Courses may also be selected from regular University offerings.

Admission
Admission regulations apply, most as either secondary school graduates or under the terms of mature student entry (see “Admission and Readmission” on page 29). Also, applicants shall consult a program advisor concerning the demands of the program and their educational objectives.

Program Requirements
Successful completion, after age 60, of 30 credit hours, approved by the program co-ordinator or other official appointed by the Dean of Arts is required.

Note: Normally, all courses for the certificate must be taken at SFU and not more than six credit hours of approved transfer credit for university/college work may be applied toward certificate requirements.

Department of Archaeology
9635 Education Building, (604) 291-3135 Tel, (604) 291-5666 Fax, www.sfu.ca/archaeology
Chair
D.V. Burley BA, MA (New Br), PhD (S Fraser)
Professors Emeriti
R.L. Carlson BA, MA, PhD (Ariz)
R. Shutter, Jr. BA, MA, PhD (Calif)
Professors
D.V. Burley BA, MA (New Br), PhD (S Fraser)
J.C. Driver MA (Cam), PhD (Calg)
J.D. Nance BA, MA, PhD (Calif)
D.E. Nelson BSc (Sask), PhD (McM)
M.F. Skinner BA (Alta), PhD (Cam)
Associate Professors
A.C. D’Andrea BSc (Tor), MSc (Lond), PhD (Tor)
G.P. Nicholas BA (Franklin Pierce Coll), MA (Missouri), PhD (Mass)**
Assistant Professors
R.W. Jameson BSc (Trent), MA (William and Mary), PhD (Calg)
D. Lepofsky BA (Mich), MA (Br Col), PhD (Calif)
D. Yang BSc (Lanzhou), MSc (Chin Acad Sc), PhD (McM)
Adjunct Professors
P.M. Hobler BA (New Mexico), MA (Ariz)
A.D. McMillan BA (Sask), MA (Br Col), PhD (S Fraser)
A.D. Sutton BA, MA, PhD (Otago)
Instructor
E.C. Yellowhorn MA (S Fraser)*
Senior Lecturer
D. Lyons BA, MA (Calg), PhD (S Fraser)
Associate Members
J.M. D’Auria, Chemistry
D.J. Huntley, Physics
R.W. Mathewes, Biological Sciences

Advisor
Ms. A. Sullivan, 9633A Education Building, (604) 291-4687

• “joint appointment with First Nations studies
• “joint appointment with sociology and anthropology

The department offers various programs leading to the BA degree. Students must meet requirements for the degree (described in the Faculty of Arts section), should take courses in some complementary disciplines, and should seek departmental advice early in their university careers. Recommended courses: PHYS 181 (prerequisite for ARCH 311); STAT 203 (prerequisite for ARCH 376 which is recommended for majors and required for honors); and SA 101 (recommended for majors and honors).

Upper division archaeology courses are divided into the following groups.

Group I – Core Program
ARCH 372-5 Material Culture Analysis
ARCH 373-5 Human Osteology
ARCH 376-5 Quantitative Methods in Archaeology
ARCH 471-5 Archaeological Theory

Group II – Laboratory Courses
ARCH 335-5 Special Laboratory Topics in Archaeology
ARCH 340-5 Zooarchaeology
ARCH 349-5 Management of Archaeological Collections
ARCH 377-5 Historical Archaeology
ARCH 385-5 Paleoanthropology
ARCH 390-5 Archaebotany
ARCH 432-5 Advanced Physical Anthropology
ARCH 442-5 Forensic Anthropology
ARCH 485-5 Lithic Technology

Group III – Regional Courses
ARCH 321-3 Archaeology of the Old World
ARCH 330-5 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

Group IV – Topical Courses
ARCH 301-3 Prehistoric and Indigenous Art
ARCH 311-5 Archaeological Dating
ARCH 336-5 Special Topics in Prehistoric and Indigenous Art
ARCH 344-3 Primate Behavior
ARCH 365-3 Ecological Archaeology
ARCH 386-3 Archaeological Resource Management
ARCH 438-5 Geoarchaeology

Special topics and/or directed studies courses may substitute for group II, III, and IV requirements for the major, honors students complete all four group I courses, ARCH 498 and 499. See “Bachelor of Arts Degree” on page 128.

Minor Program
Archaeology minors must complete the following:

Lower Division Requirements
ARCH 131-3 Human Origins
ARCH 201-3 Introduction to Archaeology

and one of
ARCH 272-3 Archaeology of the Old World
ARCH 273-3 Archaeology of the New World

Upper Division Requirements
At least 16 hours of upper division archaeology are required including at least one course from each of groups I, II, III and IV listed above.

Extended Minor Program
This program consists of the lower division requirements for a major and the upper division requirements for a minor in archaeology. Students must have their program approved by the Department of Archaeology advisor.

Languages Other Than English
Those contemplating graduate work are advised to acquire a reading knowledge of at least one language other than English.

Joint Major in Archaeology and Latin American Studies
For requirements, see “Joint Major Programs” on page 162.

Joint Major in Archaeology and Anthropology
Advisors
Ms. A. Sullivan, Department of Archaeology, 9633A Education Building, (604) 291-4687
Ms. K. Payne, Department of Sociology and Anthropology, 5056 Academic Quadrangle, (604) 291-3726

This program explores inter-relationships between anthropology and archaeology. Students should plan their program in consultation with both advisors.

Lower Division Anthropology Requirements
Students must complete the following courses.
SA 101-4 Introduction to Anthropology
SA 201-4 Anthropology of Contemporary Life
Faculty of Arts – Asia-Canada Program 133

SA 255-4 Introduction to Social Research
SA 286-4 Aboriginal Peoples and British Columbia: Introduction

Lower Division Archaeology Requirements
Students must complete the following courses.
ARCH 131-3 Human Origins
ARCH 201-3 Introduction to Archaeology
ARCH 272-3 Archaeology of the Old World
ARCH 273-3 Archaeology of the New World

Upper Division Anthropology Requirements
At least 20 credit hours of upper division anthropology are required including the following.
SA 301-4 Contemporary Ethnography
SA 356-4 Ethnography and Qualitative Methods
SA 386-4 Native Peoples and Public Policy
plus SA 402-4 The Practice of Anthropology
and one other upper division anthropology course. SA 486 is strongly recommended.

Upper Division Archaeology Requirements
Students are required to complete at least 23 credit hours of upper division archaeology including one of
ARCH 301-3 Prehistoric and Indigenous Art
ARCH 386-3 Archaeological Resource Management
and all of
ARCH 360-5 Native Cultures of North America
ARCH 372-5 Material Culture Analysis
ARCH 471-5 Archaeological Theory
plus one group II archaeology course.
ARCH 378 and 385 are strongly recommended.

Co-operative Education Program
This program offers work experience in archaeology and physical anthropology and entails planned semesters of study and employment (term practicums) in an area of the student’s choice.

Requirements
To be admitted, a major must have been declared and the student must have at least 45 credit hours, with a minimum CGPA of 3.0. The following courses (or equivalent as approved by the department co-op education co-ordinator) are recommended.
both
ARCH 131-3 Human Origins
ARCH 201-3 Introduction to Archaeology
one of
ARCH 272-3 Archaeology of the Old World
ARCH 273-3 Archaeology of the New World
three of
ARCH 372-5 Material Culture Analysis
ARCH 373-5 Human Osteology
ARCH 376-5 Quantitative Methods in Archaeology
ARCH 377-5 Historical Archaeology
ARCH 386-3 Archaeological Resource Management
ARCH 442-5 Forensic Anthropology
To participate in co-op education, contact the co-op co-ordinator, undergraduate chair, and/or departmental assistant at least one semester before the first work semester. Please see “Co-operative Education” on page 216 regarding job competition, student employer responsibilities, student fees, pay rates and evaluation. During work semesters, co-op students are formally registered in a job practicum course and are assessed a fee.

Program and are assessed a fee.

To satisfy the remaining nine required credit hours, students must complete courses from the following. With prior permission from the director, students may count other Asia-Canada related courses at the upper division which do not appear on this list. Consult with the program advisor.

ASC 302-3 Selected Topics in Chinese Studies
ASC 303-3 Selected Topics in Japanese Studies
ASC 400-3 Senior Seminar in Asia-Canada Relations
ASC 401-3 Directed Studies
BUS 431-3 Business with East Asian Countries
ENGL 394-4 World Literature in English II: Designated by Topic*
HIST 365-4 Self and Society in Imperial China
HIST 471-3 Women in Modern Japanese History
HIST 474-4 Modern Chinese Identities
HIST 481-4 British India
HUM 340-4 Great Cities in Their Time*
HUM 350-4 Great Figures in the Humanities*
POL 335-4 Government and Politics: People’s Republic of China I
POL 336-4 Government and Politics: People’s Republic of China II
POL 381-4 Politics and Government of Japan I
POL 382-4 Politics and Government of Japan II
POL 430-4 Government and Politics: Selected Asian Nations
*when the topic is Asia-Canada related. Consult program advisor.

Note: Students are responsible for meeting the prerequisites for the upper division courses they are applying to the minor.

Certificate in Chinese Studies
This program offers students recognition for a course series related to contemporary China. Students receive an introduction to Chinese language and take other courses related to the program’s purpose. Part of the program involves courses (ASC 205 and six credits of language) that can be taken at a university in China during the Simon Fraser University Chinese summer field school. The field school requires extra travel and living expenditures. It is, however, not a requirement for the certificate program.

The program is offered by the Asia-Canada Program/Department of Humanities and is administered by the program steering committee appointed by the Dean of Arts. Interested students should contact the program advisor. Those who plan to do part of their program in China should contact the advisor at least two semesters before the field school.

Admission
There are no special admission requirements. However, China Field School students must apply to the SFU International office. Acceptance into this part will normally require that the student have completed 30 credit hours and be in good academic standing.

Program Requirements
Eighteen credit hours of which 12 are earned by completing four required core courses. The remaining six are selected from the list of electives below.

Core (12 hours)
Students must take one of
ASC 200-3 Introduction to Chinese Culture and History
ASC 305-3 Field Studies in Chinese Culture and
all of
CHIN 100-3 Mandarin Chinese I*
CHIN 101-3 Mandarin Chinese II*
HIST 255-3 China Since 1800
*Students who take CHIN 185-6 (Intensive Mandarin Chinese in the China Field School) can apply the credit towards either the core or elective requirements
or a combination thereof for complete or partial replacement of CHIN 100/101/200/201.

Elective (6 hours)
ASC 202-3 Studies in Chinese Culture
ASC 302-3 Selected Topics in Chinese Studies
CHIN 200-3 Mandarin Chinese III
CHIN 201-3 Mandarin Chinese IV
HIST 254-3 China to 1800
HIST 474-4 Modern Chinese Identities
HUM 203-3 Great Texts in the Humanities III*
HUM 382-4 Selected Topics in the Humanities II*
POL 335-3 Government and Politics: People’s Republic of China I
POL 336-3 Government and Politics: People’s Republic of China II
SA 275-4 China: Sociological and Anthropological Perspectives
*when the topic is China related. Consult the program advisor.

With prior permission from the director, students may count other China-related courses which do not appear on this list. Consult with the program advisor.

Centre for Canadian Studies
6067 Academic Quadrangle, (604) 291-4293 Tel, (604) 291-4786 Fax
Director
A. Seager BA, MA (McG), PhD (York)
Associated Faculty
Faculty of Applied Sciences
School of Communication

Faculty of Arts
Department of Archaeology
D.V. Burley, J. Driver, K.R. Fladmark, P.M. Hobler, M.F. Skinner
School for the Contemporary Arts
C. Browne
School of Criminology
Department of Economics
Department of English
G. Bowering, S. Djwa, C. Gerson, K. Mezei, R.A. Miki, D. Stouck, P.M. St. Pierre
Department of French
Department of Geography
N.K. Blomley, L.J. Evenden, A.M. Gill, M. Hayes, R. Hayter, P.M. Koroscil, J.T. Pierce, M. Roselain
Department of History
Department of Linguistics
N.J. Lincoln
Department of Political Science
Department of Sociology and Anthropology
D. Culhane, N. Dyck, K. Froshauer, E. Gee, A.T. McLaren, G.B. Teach

Department of Women’s Studies
M.G. Cohen, A. Lebowitz

Faculty of Business Administration
G.A. Mauser, J.G. Richards, W.C. Wedley, M. Wexler

Faculty of Education
J.D. Beynon, S.C. de Castell, J. Dawson, A.A. Obadia

Faculty of Science
Department of Biological Sciences
R.W. Mathewes

Library
J. Corse
Advisor
Ms. R. Jantzi, (604) 291-3588

The Centre for Canadian Studies promotes study and understanding of Canada from a comprehensive cultural, social, political and economic perspective, emphasizing both historical context and contemporaneous development. The centre fully utilizes programs developed by other academic departments that contain relevant Canadian subject matter, and offers limited interdisciplinary courses that integrate knowledge from several relevant disciplines.

For those with a predominant interest in Canadian studies, a major and honors program is provided. The centre also accommodates students whose primary interest is in another discipline. Such students may enrol in a joint major or honors program, combining specialization in the department of their choice with complementary work in Canadian studies.

A certificate in French Canadian studies may be taken concurrently with, and as part of, specialization in Canadian studies honors, major or minor programs, or it may be taken independent of such specialization. Details are given at the end of this section.

Major Program
The requirements are as follows. See “General Information” on page 25 for additional information.

Lower Division Requirements
Students must complete all of
CNS 160-3 The Social Background of Canada
CNS 210-3 Foundations of Canadian Culture
HIST 101-3 Canada Since Confederation

And one of
CNS 280-3 Canadian Political Economy
POL 221-3 Introduction to Canadian Government

And one of
POL 222-3 Introduction to Canadian Politics

Students must demonstrate a working knowledge of French determined by completing FREN 101, or the former FREN 298, or equivalent, or by passing a placement exam at this level.

Upper Division Requirements
one of
CNS 481-3 Special Regional Topics
CNS 491-3 Technology and Canadian Society

At least three other 300-400 level CNS courses must be completed plus 18 additional hours in upper division Canadian studies/Canadian content courses. No more than 12 credit hours of this requirement may be from curriculum of any single department or program other than Canadian studies.

Distribution Requirements
To ensure adequate breadth of knowledge, students must complete at least eight required key courses from at least five departments having courses recognized as carrying Canadian studies credit. These courses can be both upper and lower division.

Honors Program
For Canadian Studies honors, students take the same lower division courses and meet the same distribution requirements that apply to the Canadian Studies major, and must also complete the following courses.

Lower Division Requirements
HIST 101-3 Canada to Confederation
POL 221-3 Introduction to Canadian Government

Upper Division Requirements
CNS 490-5 The Canadian Intellectual Tradition
CNS 491-3 Technology and Canadian Society
CNS 495-5 Canadian Studies Honors Essay

At least two other 300-400 level CNS courses must be completed, plus 33 additional upper division credit hours in Canadian studies/Canadian content. No more than 18 hours of this requirement may be from curriculum of any single department or program other than Canadian studies.

Honors students must demonstrate functional bilingual English/French proficiency by completing FREN 202.

See below in the Joint Honors Program regarding level of entry and course challenge procedures.

Minor Program
Students must complete nine Canadian studies lower division credit hours which must include two of
CNS 160-3 The Social Background of Canada
CNS 210-3 Foundations of Canadian Culture
CNS 280-3 Canadian Political Economy

Also, 15 hours of upper division Canadian studies/Canadian content course work are required, one of which must be a CNS 300-400 level course.

Students taking the Canadian studies minor with a major, minor or honors in another department or program may not count any Canadian content course being used by that department or program as part of their Canadian studies minor requirement. A working knowledge of French is recommended. Students pursuing a Canadian studies minor do not have to satisfy any key course requirements.

Joint Major Programs
Joint majors with the Centre for Canadian Studies are available with the Departments of Archaeology, Criminology, Economics, English, Geography, History, Political Science, and Sociology and Anthropology, and with the School of Communication and the Faculty of Business Administration.

With the exception of a joint major in history (see page 135), students must complete all requirements for a Canadian studies major and the other subject. Any lower division course that counts toward the separate requirements for Canadian studies and for the other subject may be counted towards both. Up to 12 upper division credits in both Canadian studies and the other subject may be counted toward the upper division credit requirements of both. A joint major in Canadian studies and another subject that also specifies 30 upper division credit hours will therefore require a total of 48 upper division credit hours in the two subjects (30 Canadian studies plus 30 in the other subject minus 12 overlap).

Joint major students are required to complete all the key courses listed for the department in which they are pursuing the other major.
Joint Major in Canadian Studies and Business Administration and/or Economics

For a joint major with business administration and economics, there are three Canadian studies joint major combinations; business administration, economics or business administration and economics combined. For the latter combination, all requirements for the major in business administration and economics as well as those for the Canadian studies major must be met.

The total upper division requirement for the Canadian studies and business administration and economics joint major is 69 credit hours (30 Canadian studies plus 26 business administration plus 5 economics minus 12 overlap with Canadian studies).

Joint Major in Canadian Studies and Sociology and/or Anthropology

There are three joint major combinations of Canadian studies with sociology and anthropology. The total upper division credit requirement for this is 58 credit hours (30 Canadian studies plus 20 sociology plus 20 anthropology minus 12 overlaps).

Joint Major in Canadian Studies and History

Students must complete all requirements for a Canadian Studies major plus 24 upper division history credit hours, of which 12 credit hours must be at the 400 level. All upper division courses must be distributed within groups 1, 2 and 3. Students must take at least two from any two groups, and at least one from the remaining group. For a description of the three groups, see “Major Program” on page 158.

Joint Honors Program

Students complete all requirements for a Canadian studies major and honors in the other subject. Any lower division course that counts toward the separate Canadian studies requirements and the other subject may be counted towards both. Up to 15 upper division credit hours in both Canadian studies and the other subject may count towards the upper division requirements of both. Joint honors in Canadian studies and another subject that require 50 upper division credit hours will therefore require 65 upper division credit hours in the two subjects (30 CNS plus 50 in the other subject minus 15 overlap). For joint honors with business administration and economics, 75 upper division credit hours are required (30 CNS plus 30 ECON plus 30 BUS minus 15 overlap with CNS). For joint honors with sociology or anthropology, 75 upper division credit hours are required (30 CNS plus 28 sociology plus 28 anthropology plus four additional sociology or anthropology minus 15 overlap with Canadian studies).

Students must also complete the key overlap courses specified below for the Canadian studies joint major and the other subject, as well as the French language qualification specified above. To determine the level of entry in the French language program, students must take a Department of French placement test. Students may challenge FREN 151, 201, 202 and 206. Please see “Course Challenge” on page 41.

Extended Minor Program

This program consists of the lower division requirements for a major and the upper division requirements for a minor. Certain other criteria may be set by individual departments. Students must have their program approved by the advisor.

Canadian Studies Courses

There are two categories that carry Canadian studies credit. ‘Internal’ Canadian studies (CNS) courses are multidisciplinary or may be special topics courses, and are unique to the Canadian studies curriculum. See “Canadian Studies CNS” on page 227.

The other category comprises predominantly Canadian content courses offered by other departments. These are listed below. Some are considered key and are identified at the bottom of each departmental listing. Asterisked courses (*) taken for Canadian studies credit require the approval of the Centre for Canadian Studies director. Additional courses may be approved for Canadian studies credit while others may be dropped. Check with the Centre for Canadian Studies for a current list.

Faculty of Applied Sciences

School of Communication

CMNS 130-3 Explorations in Mass Communication
CMNS 230-3 Introduction to Communication Media
CMNS 235-3 Introduction to Journalism in Canada
CMNS 324-4 Media, Sports and Popular Culture
CMNS 331-4 Political Communication
CMNS 333-4 Broadcasting Regulation and Policy in Canada
CMNS 334-4 Cultural Policy
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 433-4 Issues in Communication and Cultural Policy
CMNS 436-4 Telecommunication Regulation in North America
CMNS 437-4 Media Democratization: From Critique to Transformation
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 the former FREN 298

Faculty of Arts

Department of Archaeology

ARCH 223-3 The Prehistory of Canada
ARCH 332-3 Special Topics in Archaeology I
ARCH 333-3 Special Topics in Archaeology II
ARCH 334-3 Special Topics in Archaeology III
ARCH 335-3 Special Laboratory Topics in Archaeology
ARCH 336-3 Special Topics in Prehistoric and Indigenous Art
ARCH 360-5 Native Cultures of North America
ARCH 378-3 Pacific Northwest North America

Key courses for Archaeology: ARCH 223, 360, 378

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 351-3 Advanced Criminal Law

CRIM 355-3 Human Rights and Civil Liberties
CRIM 419-3 Indigenous Peoples, Crime and Criminal Justice

Key courses for School of Criminology: CRIM 131, 135, 230, 231, 330, 335

School for the Contemporary Arts

FPA 236-3 Cinema in Canada

Key courses for the School for the Contemporary Arts: FPA 236

Department of Economics

BUEC 280-3 Introduction to Labor Economics
BUEC 384-3 Industrial Relations
BUEC 385-3 Collective Bargaining
BUEC 391-3 Law in the Economic Society
BUEC 396-3 The Structure of Industry
BUEC 397-5 Government and Business
BUEC 433-3 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 263-5 Economic History of Canada
ECON 362-4 Economics of Natural Resources
ECON 367-3 Transportation
ECON 368-3 Regional Economic Analysis
ECON 381-5 Labor Economics
ECON 390-3 Canadian Economic Policy
ECON 410-3 Seminar in Monetary Theory
ECON 468-3 Seminar in Regional Economic Development
ECON 480-3 Seminar in the Economics of Labor Market Policy
ECON 483-3 Selected Topics in Economics
ECON 484-3 Selected Topics in Economics
ECON 490-5 Seminar in Public Choice
ECON 496-3 Selected Topics in Economics
ECON 498-3 Directed Studies

Key courses for Economics: BUEC 391, ECON 353; any three of 381; BUEC 384, 485; ECON 390; BUEC 396, 397

Department of English

ENGL 354-4 Canadian Literature to 1920
ENGL 357-4 Canadian Literature Since 1920
ENGL 359-4 Literature of British Columbia
ENGL 360-4 Studies in Canadian Literature

Key courses for English: ENGL 354, 357, 359, 360

First Nations Studies Program

FNST 101-3 The Culture, Languages and Origins of Canada’s First Peoples
FNST 201-3 Canadian Aboriginal People’s Perspective on History

Key courses for First National Studies: FNST 101, 201

Department of French

FREN 230-3 Introduction to French-Canadian Literature
FREN 342-4 Literature in Translation from the Francophone World
FREN 422-3 Canadian French
FREN 430-3 The French-Canadian Novel and Theatre

FREN 480-2 Seminar I

Key courses for French: FREN 230, 422, 430, 480

Department of Geography

GEOG 162-3 Canada
GEOG 264-3 Canadian Cities
GEOG 265-3 Geography of British Columbia
GEOG 322-4 World Resources
GEOG 323-4 The Dynamics of Industrial Location and Regional Development
GEOG 421-4 Geography of Resource Development
GEOG 426-4 Industrial Change and Local Development
GEOG 441-4 Geography of Urban Regions
GEOG 444-4 Regional Development and Planning
GEOG 445-4 Urban Studies
GEOG 462-4 The Geography of the United States
GEOG 469-4 The Canadian North and Middle North
GEOG 470-4 The Geography of Western Canada

Key courses for Geography: GEOG 162, 462; one of 469, 470

Department of History
HIST 101-3 Canada to Confederation
HIST 102-3 Canada Since Confederation
HIST 201-3 The History of Western Canada
HIST 204-3 The Social History of Canada
HIST 326-4 The History of Native People of Canada
HIST 327-4 Canadian Labour and Working Class History
HIST 328-4 The Province of Quebec from Confederation
HIST 329-4 Canadian Family History
HIST 385-4 Canadian and BC Art
HIST 423-4 Problems in the Diplomatic and Political History of Canada
HIST 424-4 Problems in the Cultural History of Canada
HIST 426-4 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, 426; one of HIST 326, 327, 329

Latin American Studies Program
LAS 320-3 Canada and Latin America
Key course for Latin American Studies: LAS 320

Department of Political Science
POL 151-3 The Administration of Justice
POL 221-3 Introduction to Canadian Government
POL 222-3 Introduction to Canadian Politics
POL 251-3 Introduction to Canadian Public Administration
POL 252-3 Local Democracy and Governance
POL 321-4 The Canadian Federal System
POL 322-4 Canadian Political Parties
POL 323-4 Provincial Government and Politics
POL 324-4 The Canadian Constitution
POL 347-4 Introduction to Canadian Foreign Policy
POL 352-4 Local and Urban Governance in Canada
POL 353-4 Public Sector Management
POL 354-4 Comparative Metropolitan Governance
POL 355-4 Governing Instruments
POL 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
POL 429-4 Selected Topics in Governance
POL 451-4 Public Policy Analysis
POL 454-4 Urban Public Policy Making*
POL 455-4 Issues in Economic and Social Policy*
POL 458-4 Selected Topics in Local and Urban Government and Politics*
POL 459-4 Selected Topics in Public Policy, Public Administration and Public Law*

Key courses for Political Science: POL 221, 222, 321, 324, 451

Department of Sociology and Anthropology
SA 100-4 Perspectives on Canadian Society
SA 286-4 Native Cultures of British Columbia
SA 292-4 Special Topics in Sociology*
SA 293-4 Special Topics in Anthropology*
SA 300-4 Canadian Social Structure
SA 335-4 Gender Relations and Social Issues*
SA 386-4 Native Peoples and Public Policy*
SA 387-4 Canadian Native Peoples

SA 396-4 Selected Regional Areas*
SA 400-4 Canadian Ethnic Minorities
SA 486-4 Issues in Northwest Coast Studies
SA 495-4 Selected Regional Areas*

Key courses for Anthropology: SA 100, 400, 486
Key courses for Sociology: SA 100, 300, 400

Key courses for Sociology and Anthropology: SA 100, 300, 400, 486

Department of Women's Studies
WS 101-3 Introduction to Women's Issues in Canada
WS 201-3 Women in Canada 1600-1920
WS 202-3 Women in Canada 1920 to the Present
WS 301-4 Special Topics in Women's Studies*
WS 302-4 Special Topics in Women's Studies*
WS 303-4 Special Topics in Women's Studies*
WS 307-3 Women and British Columbia

Key courses for Women's Studies: WS 101, 201, 202, 307

Faculty of Business Administration
BUEC 280-3 Introduction to Labor Economics
BUS 303-3 Business, Society and Ethics
BUS 344-3 Business to Business Marketing
BUEC 384-3 Industrial Relations
BUS 391-3 Law in the Economic Society
BUS 393-3 Commercial Law
BUEC 396-3 The Structure of Industry
BUEC 397-5 Government and Business*
BUS 403-3 Seminar in Business and Society*
BUS 449-3 Marketing and Society
BUEC 433-5 Forecasting in Business and Economics
BUEC 485-3 Collective Bargaining

BUS 492-3 Selected Topics in Business Administration
BUS 493-3 Selected Topics in Business Administration
BUS 494-3 Selected Topics in Business Administration
BUS 498-3 Directed Studies
BUS 499-5 Directed Studies*

Key courses for Business Administration: BUS 303, BUEC 280, either BUEC 396, or 397

Key courses for Business Administration and Economics: BUS 303, ECON 353, BUEC 391; any three of ECON 381, 390; BUEC 384, 385, 396, 397

Faculty of Science
Department of Biological Sciences
BISC 310-3 The Plants and Animals of British Columbia

Certificate in French Canadian Studies
The program serves full and part time students, and those seeking educational enrichment only who may be attracted by the opportunities which the Office of Continuing Studies offers, particularly through evening courses. French Canadian background material requires basic French language competency.

Requirements
Students must complete
FREN 230-3 Introduction to French-Canadian Literature
HIST 328-4 The Province of Quebec from Confederation

POL 424-4 Quebec Government and Politics

Students must also achieve competence in the French language by either

• completing six credit hours from group B courses below, or equivalent transfer credit as confirmed by a placement test administered by the Department of French. (Students who wish to concentrate on reading knowledge of French should take FREN 198 and the former FREN 298. The other courses listed stress speaking and understanding French.)

• or by passing a placement exam at the grade 12 French level, administered by the Department of French.

List of Relevant Courses
In addition, at least 27 credit hours are required, taken from the list of relevant courses below, of which no more than six hours in group B may be counted.

Relevant Courses
Group A French Canadian Studies
CNS 160-3 The Social Background of Canada
CNS 210-3 The Foundations of Canadian Culture
CNS 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 342-4 Literature in Transition from the Francophone World*
FREN 422-3 Canadian French
FREN 430-3 The French-Canadian Novel and Theatre
HIST 101-3 Canada to Confederation
HIST 102-3 Canada Since Confederation
HIST 328-4 The Province of Quebec from Confederation
HIST 430-4 New France
POL 424-3 Quebec Government and Politics

Group B French Language
FREN 100-3 Introductory French I
FREN 101-3 Introductory French II
FREN 151-3 French I
FREN 198-3 French for Reading Knowledge I
FREN 199-3 Writing French I: Spelling and Grammar
FREN 201-3 Intermediate French I
FREN 202-3 Intermediate French II
FREN 205-3 French Language: Oral Practice
FREN 206-3 Intermediate French III
FREN 298-3 French for Reading Knowledge II
FREN 300-3 Advanced French – Conversation
FREN 301-3 Advanced French – Composition I
FREN 302-3 Advanced French – Composition II

*These courses may be applied to the certificate program, only with express permission of the director of the Centre for Canadian Studies. Approval depends upon the extent of French Canadian content.

Cognitive Science Program
Co-ordinator and Advisor
N. Hedberg BA, PhD (Minn), 9202 Robert C. Brown Hall, (604) 291-3479 Tel, (604) 291-5659 Fax

The following programs are offered.

BA with a major in cognitive science
Honors in cognitive science: option A and option B

In the last 30 years research has surged in various aspects of cognition. This affects many fields including psychology, linguistics, philosophy, computing science, education, anthropology, communications, and sociology. The extent of the influence varies, but the greatest impact within psychology has been the subfields of psycholinguistics, cognitive psychology, and developmental psychology; within philosophy, on philosophy of language, philosophical logic, and philosophy of mind; within linguistics, on semantics, syntax, phonology, and phonetics; and within computing science, on artificial intelligence.

Those working in these areas find they read the same literature and ask closely related questions in their
research and teaching. Evidently, an increasing amount of work in these fields belongs to a common area which cuts across traditional departmental organization. Several journals and many essay collections contain articles from each of these fields. Within the University, this interrelation is reflected in a number of courses which draw on research conducted in these areas; courses in cognition and language are spread over different departments. The cognitive science program draws many of these together into a unified program, and offers students a structured and integrated study of cognition.

**Breadth Requirements**

Students must fulfil the Faculty of Arts breadth requirements (see page 129).

**Languages Other Than English**

Most graduate schools require some proficiency in one or two languages other than English. Those who contemplate graduate studies are advised to include language courses in their programs.

**Major Program**

A GPA of 2.0 or higher in each discipline is required for continuation and graduation. Only courses from each discipline, that satisfy the requirements of the program, will be used to calculate this GPA.

**Lower Division Requirements**

**Introductory Courses (25-28 credit hours)**

A student must take COGS 100 plus the following.

**Computing Science**

CMPT 101-4 Introduction to Computer Programming

CMPT 150-3 Introduction to Computer Design

Additionally, students who choose intermediate level computing science, must be complete the following.

MACM 101-3 Discrete Mathematics I

**Linguistics**

LING 220-3 Introduction to Linguistics

Additionally, students who choose intermediate level linguistics 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 (14-24 hours)**

A student must fulfill the requirements 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 201-4 Introduction to Research Methods in Psychology

PSYC 210-4 Introduction to Data Analysis in Psychology

PSYC 221-4 Introduction to Cognitive Psychology

PSYC 280-3 Introduction to Biological Psychology

**Upper Division Requirements (30-34 hours)**

A student must choose COGS 300, plus fulfill the requirements listed below for the three disciplines selected previously at the intermediate level.

**Computing Science**

one of

CMPT 383-3 Comparative Programming Languages

CMPT 384-3 Symbolic Computing

plus any two of

CMPT 310-3 Artificial Intelligence Survey

CMPT 411-3 Knowledge Representation

CMPT 412-3 Computational Vision

CMPT 413-3 Computational Linguistics

CMPT 414-3 Model-based Computer Vision

**Linguistics**

any three of

LING 321-3 Phonology

LING 322-3 Syntax

LING 323-3 Morphology

LING 324-3 Semantics

LING 330-3 Phonetics

**Psychology**

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

**Honors Program**

A GPA of 3.0 in all courses in the cognitive science program is required for entrance and continuation in this program. Those interested in the honors program should consult the co-ordinator of the cognitive science program.

Two options are available: option A and option B.

**Option A**

A student must fulfill the requirements for a major in cognitive science and choose the courses listed below for one of the disciplines, and complete

COGS 490-5 Honors Project I

COGS 491-5 Honors Project II

**Computing Science**

MACM 300-3 Formal Languages and Automata with Applications

MACM 402-3 Automata and Formal Languages

plus any two of the following courses which have not been taken previously

CMPT 383-3 Comparative Programming Languages

CMPT 384-3 Symbolic Computing

CMPT 411-3 Knowledge Representation

CMPT 412-3 Computational Vision

CMPT 413-3 Computational Linguistics

CMPT 414-3 Model-based Computer Vision

CMPT 419-3 Topics in Artificial Intelligence

**Linguistics**

any four of

LING 400-3 Formal Linguistics

LING 401-3 Advanced Phonetics

LING 403-3 Advanced Phonology

LING 405-3 Advanced Syntax

LING 406-3 Advanced Semantics

LING 423-3 Advanced Morphology

**Philosophy**

PHIL 301-3 Epistemology

PHIL 331-3 Selected Topics II

PHIL 340-3 Philosophical Methods

PHIL 355-3 Background to Analytical Philosophy

**Psychology**

any three of the following courses which have not been taken previously

PSYC 303-4 Perception

PSYC 330-4 Attention

PSYC 430-4 Selected Topics in Cognition

PSYC 432-4 Selected Topics in Cognition II

PSYC 480-4 Selected Topics in Biological Psychology I

PSYC 482-4 Selected Topics in Biological Psychology II

**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.

**Co-operative Education**

This program, for qualified students who wish cognitive science practical experience, entails planned study and employment semesters. To be eligible, students must normally have completed 30 credit hours including COGS 100 and four other COGS courses. At least 15 of these 30 must be completed at SFU with a minimum CGPA of 2.75.

College transfer students must complete at least 15 credit hours at SFU for co-op admission and must satisfy the requirements given above, or their equivalents. College transfer students who participated in co-op programs elsewhere may be credited with the semester(s) already taken. The applicability of such semesters depends on the evaluation of the Cognitive Science Program.

The following four courses are completed during four work semesters.

COGS 370-0 Cognitive Science Practicum I

COGS 371-0 Cognitive Science Practicum II

COGS 470-0 Cognitive Science Practicum III

COGS 471-0 Cognitive Science Practicum IV

Arrangements for work semesters are made through the Faculty of Arts co-op co-ordinator at least one semester in advance.

To continue in the program, students must maintain a minimum 2.75 CGPA in the academic course work. Contact the cognitive science co-ordinator for further information and refer to the Co-operative Education section (page 216).
A. Clay BFA (Nova Scotia Art & Des), MFA (Br Col) – visual art
H. Dawkins BFA (Nova Scotia Art & Des), MA, PhD (Leeds) – interdisciplinary
M. East BA (American DC), MFA (NY) – dance
J. Garay – dance
M.S. Goddard BA (C’dia), MA (McG) – music
P. Gruben BA (Rice) – film
D.D. Kugler BA (Ohio Northern), MFA (York) – theatre
J. Levin MA, BA (Wash), PhD (NY State) – film**
P. Stella BA (III) – theatre
C. Wellsby BA (Chelsea School of Art, London), Higher Diploma (Slade School of Fine Art, London) – film
J. Yoon BA (Br Col), BFA (ECIAD), MFA (C’dia) – visual art

Assistant Professors
H. Daniel MA (City University, London, UK) – dance
J. Radul BA (S Fraser) – visual art

Senior Lecturers
R. Groeneboer BA (Calvin Coll, Michigan), MSc (Wis) – film
G. Harris – technical theatre
B. Hegland BA (Leth), MFA (III) – interdisciplinary
J.A. Macfarlane BA (Reed) – interdisciplinary
C. Prophet BA (York, Cam) – dance

Lecturer
A. Eigenfeldt BMus (Br Col), MA (S Fraser), DM (Northwestern) – music

Laboratory Instructor
T. Kerr – film
A. Smith – dance, music

Advisors
Ms. L. Hegland BGS (S Fraser), 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 helping students plan their programs.
The school requires credits in other disciplines, either in studio or in theory/history. Students are encouraged to acquire additional practical experience by participating in extracurricular productions, exhibitions or performances.

The School for the Contemporary Arts offers general interest courses and sponsors a variety of public events in order to make contemporary art more accessible to, and to provide cultural activities for, the wider community.

Admission
Admission to all contemporary arts programs and courses is contingent upon admission to the University. Contact the Office of the Registrar for information on admission procedures, requirements and deadlines.

Entry to all programs and to many courses is by audition, interview or application. Contact the office for information on procedures and deadlines.

Although the University operates on a trimester system, most FPA courses are planned in a two semester (fall and spring) sequence. Consequently, students seek fall semester (September) entry to the School for the Contemporary Arts programs and are advised to contact the school in the preceding January for information on program entry and requirements.

Transfer Credit and Advanced Placement
Unassigned or general elective (type 2 and 3, respectively) transfer credit which has been awarded for courses completed at other recognized post-secondary institutions, will not automatically entitle students to advanced placement in the school’s programs. Advanced placement is generally given on an individual basis as a result of an audition or interview.

Programs Offered
The School for the Contemporary Arts offers the following programs.
Major in Art and Culture Studies (BA)
Major in Dance (BFA)
Major in Film (BFA)
Major in Music (BFA)
Major in Theatre (BFA)
Major in Visual Art (BFA)
Joint Major in Art and Culture Studies and Anthropology
Joint Major in Art and Culture Studies and Sociology
Extended Minor in Dance
Extended Minor in Film
Extended Minor in Music
Extended Minor in Theatre
Extended Minor in Visual Arts
Minor in Art and Culture Studies
Minor in Fine and Performing Arts
Minor in Film and Video Studies

About the School’s Course Offerings
Students are encouraged to take advantage of the many courses offered in the fields of the arts and sciences.

Suggested Courses for Interdisciplinary Requirements
For clarification, the courses listed below are recommended for students interested in the fields of the arts and sciences.

Lower Division Studio Courses
FPA 109-3 Introduction to Contemporary Dance
FPA 124-3 Dance Improvisation
FPA 129-3 Fundamental Integration of Human Movement
FPA 145-3 Introduction to Music Composition
FPA 147-3 Introduction to Electroacoustic Music
FPA 150-3 Introduction to Acting I
FPA 151-3 Introduction to Acting II
FPA 160-3 Introductory Studio in Visual Arts I
FPA 161-3 Introductory Studio in Visual Arts II
FPA 163-3 Issues in Spatial Presentation
FPA 170-3 Introduction to Production Technology
FPA 171-3 Stage and Production Management
FPA 299-3 Selected Topics in Dance I*
FPA 232-3 Film Sound
FPA 243-3 Gamelan I
FPA 247-3 Gamelan II
FPA 249-3 Selected Topics in Music I*
FPA 259-3 Selected Topics in Theatre I*
FPA 262-3 Drawing I
FPA 263-3 Painting I
FPA 265-3 Photography I
FPA 269-3 Selected Topics in Visual Arts I*
FPA 270-3 Technical Theatre
FPA 289-3 Selected Topics in the Fine and Performing Arts I*
FPA 290-2 Video Production I*

*This course may only count in this category when it is offered as a studio course.

Upper Division Theory and History Courses
FPA 311-5 Intermediate Studio in the Arts
FPA 313-5 Arts, Audience, Patronage, Institutions
FPA 325-3 Introduction to Film Theory
FPA 337-3 Intermediate Selected Topics in Film and Video Studies
FPA 341-3 World Music
FPA 344-3 Contemporary Music Analysis and Criticism
FPA 349-3 Selected Topics in Music II*
FPA 357-3 Context of Theatre II
FPA 359-3 Selected Topics in Theatre II*
FPA 366-3 Seminar in Visual Art I
FPA 367-3 Seminar in Visual Art II
FPA 369-3 Selected Topics in Visual Art II*
FPA 389-3 Selected Topics in the Fine and Performing Arts II*
FPA 411-3 Interdisciplinary Topics in the Contemporary Arts
FPA 414-3 Advanced Seminar in Art and Culture Studies
FPA 436-3 Advanced Seminar in Film and Video Studies
FPA 457-3 Context of Theatre III

*This course may only count in this category when it is offered as a studio course.

Lower Division Studio Courses
FPA 324-3 New Dance Composition
FPA 325-3 Special Project in Dance Composition
FPA 343-3 Gamelan II
FPA 349-3 Selected Topics in Music II*
FPA 359-3 Selected Topics in Theatre II*
FPA 369-3 Selected Topics in Visual Art II*
FPA 375-3 Stage Design
FPA 389-3 Selected Topics in the Fine and Performing Arts II*
FPA 390-3 Video Production II
FPA 425-5 Intensive Studies in Performance
FPA 426-5 Dance/Movement Analysis
approvals by providing course descriptions to the
upper division Arts must be completed. The remaining seven credit
hours may be from any of the above upper division
Arts.

**Bachelor of Arts Degree Program**

**Art and Culture Studies Major Program**
This major leads to a bachelor of arts degree. Within the
fine and performing arts, there are lively debates
about the meaning and significance of individual
artworks, as well as their relationships to audiences
and to other forms of culture. The program
investigates art and culture with attention to the
historically changing forms of class, gender, race,
ethnicity, sexuality and aesthetics. It aims to provide
students with the knowledge, research and
communication skills needed to participate effectively
in contemporary debates about art and culture. The
core program includes two introductory art making
courses from a multidisciplinary range of choices;
these provide students with experience of the creative
process in dance, film, music, theatre or visual art.
Course selection beyond the program’s core is flexible
and students are encouraged to shape their studies in
the school, or in the University at large, in relation to
their own interests and curiosity.

**Lower Division Requirements**
Students must complete 18 credit hours, as follows.

- **FPA 111-3 Issues in the Fine and Performing Arts**
- **FPA 211-3 Introduction to Contemporary Theory in the Arts**

**Disciplinary History and Theory Courses**
Students must complete at least six credit hours of
lower division disciplinary history or theory courses
from within the School for the Contemporary Arts.

**Note:** with permission, other courses that are
germane to the student’s Art and Culture Studies
program may count toward this requirement.

**Studio Courses**
Students must complete at least six credit hours of
studio courses from the School for the Contemporary
Arts.

**Upper Division Requirements**
A minimum of 30 credit hours must be completed as
follows.

- **FPA 311-5 Interdisciplinary Studies in the Arts**
- **FPA 313-5 Arts, Audience, Patronage, Institutions**

(FPA 310, 311, 312, 313, 314, 315 taken prior to 99-2
will count towards this requirement.)

*this course may be taken more than once for credit if
the topic changes

- plus a minimum of seven credit hours from

FPA 411-3 Interdisciplinary Studies in the
Contemporary Arts

FPA 412-4 Advanced Seminar in Art and Culture
Studies

*this course may be taken more than once for credit if
the topic changes

**Additional History and Theory Courses**
At least six credit hours of upper division history or
theory courses from the School for the Contemporary
Arts must be completed. The remaining seven credit
hours may be from any of the above upper division
courses within the school, or from approved courses
in other departments. Students may request course
approvals by providing course descriptions to the
student advisors in contemporary arts. The following
courses are pre-approved.

- **ARCH 301-3 Prehistoric and Indigenous Art**
- **ARCH 306-3 Special Topics in Prehistoric and
  Indigenous Art**
- **CMNS 321-4 The Cultural Production of Popular
  Music**
- **CMNS 334-4 Cultural Policy**
- **CMNS 422-4 Media and Ideology**
- **ENGL 310-4 Studies in Drama to 1642**
- **ENGL 312-4 Shakespeare**
- **ENGL 364-4 History and Principles of Literary
  Criticism**
- **ENGL 366-4 Studies in Critical Approaches to
  Literature**
- **ENGL 368-4 Studies in Drama**
- **HIST 303-4 Museum Methods and Use**
- **HIST 385-4 Canadian and BC Art**
- **PHIL 325-3 Philosophy of Art II**
- **SA 416-4 Sociology of Art Forms**
- **WS 412-5 Women and Film**

**Bachelor of Fine Arts Degree Program**

**Degree Requirements**
To be awarded a Bachelor of Fine Arts, students must
complete a minimum of 120 credit hours, 30 of which
must satisfy the Faculty of Arts breath requirements.
(see “Breadth Requirements” on page 129.) Within
the minimum total of 120 credit hours, a minimum of
45 credit hours must be in upper division courses.

To complete a Contemporary Arts major, students
must include the following credit hours in the 120 that
are required for this degree.

- dance major 80 credit hours
- film major 74 credit hours
- music major 76 credit hours
- theatre major (performance stream) 80 credit hours
- theatre major (production and design stream) 80 credit hours
- visual arts major 75 credit hours

**Dance Major Program**
The BFA major in dance approaches dance as an art
form and integrates theory with creative and technical
studio courses. Emphasis is given to contemporary
dance technique, composition and experimentation.
Courses are also offered in fundamental body work,
ballet, history and criticism, and movement analysis.
Course work in other artistic disciplines is
encouraged, and opportunities for participation in a
variety of productions are available. The program is
intended for students who desire to study dance in
relation to other contemporary art disciplines and
academic fields.

**Entry to the dance programs and/or dance
technique courses is by audition/interview.**

**Entry to all film production courses is by
d egree**

**Entry to all film production courses is by
degree.**

**Program with National Ballet School**
In addition to the BFA in dance and the extended
minor, the School for the Contemporary Arts offers a
combined degree/diploma program with the National
Ballet School Teachers’ Program. This five
year program allows students to initiate their studies
at SFU and graduate with a Bachelor of Fine Arts (BFA)
degree and a National Ballet School Teachers’
Training diploma. Students who transfer to SFU after
three years of study at the National Ballet School (NBS)
will complete two years at SFU and receive a Bachelor of Fine Arts.

**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.

**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.

**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.

**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.

**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.

**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.

**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.
### Lower Division Requirements

A minimum of 43 credit hours must be completed including the following.

- **FPA 111-3 Issues in the Fine and Performing Arts**
- **FPA 130-4 Fundamentals of Film**
- **FPA 131-4 Filmmaking I**
- **FPA 136-3 The History and Aesthetics of Cinema I**
- **FPA 137-3 The History and Aesthetics of Cinema II**
- **FPA 230-5 Filmmaking II**
- **FPA 231-5 Filmmaking III**
- **FPA 233-2 The Techniques of Film**

*plus one of
- **FPA 236-3 Cinema in Canada**
- **FPA 237-3 Selected Topics in Film and Video Studies**

plus one of
- **FPA 232-3 Film Sound**
- **FPA 238-3 Screenwriting I**
- **FPA 290-2 Video Production I**

*with prior approval, students may substitute courses from other departments devoted to a film or video topic to fulfill this requirement

**may be repeated under another topic

plus six credit hours of lower division FPA studio courses outside Film. Students may apply CMNS 258 toward this requirement.

plus
- **FPA 211-3 Introduction to Contemporary Theory in the Arts**

or another upper division FPA history or critical course outside Film.

### Upper Division Requirements

A minimum of 31 credit hours must be completed including the following.

**three of**

- **FPA 335-4 Introduction to Film Theory**
- **FPA 337-3 Intermediate Selected Topics in Film and Video Studies**
- **FPA 436-3 Advanced Seminar in Film and Video Studies**

*with prior approval, students may substitute courses devoted to a film or video studies topic in other departments, or in directed study in film studies, to fulfill this requirement

**may be repeated under another topic

plus a minimum of 19 credit hours from the following.

- **FPA 332-3 Film Production Seminar**
- **FPA 333-3 Cinematography and Lighting**
- **FPA 334-3 Selected Topics in Film and Video Production**
- **FPA 338-3 Screenwriting II**
- **FPA 339-3 Directing and Acting for Film and Video**
- **FPA 390-3 Video Production II**
- **FPA 392-2 Techniques of Video**
- **FPA 430-5 Filmmaking IV**
- **FPA 432-5 Filmmaking V**

*With prior permission, a directed study course (FPA 400, 402 or 404), a film studies course, or another upper division FPA course may be substituted for one of the above.

plus one of
- **FPA 311-5 Interdisciplinary Studies in the Arts**
- **FPA 313-5 Arts, Audience, Patronage, Institutions**

or another upper division FPA history or critical course outside film.

### Music Major Program

The bachelor of fine arts – major in music is a flexible program that offers several options for the music student who wishes to pursue an interest in composition, electroacoustic music, world music or interdisciplinary collaboration. Complementary courses in music history, theory and criticism provide an integral balance to the in-depth studio nature of the program.

The program takes full advantage of the opportunities to experience and study other art forms that are provided in the School for the Contemporary Arts.

### Lower Division Requirements for the Performance Stream

**Entry to specific courses required for the Music major is by interview**, usually scheduled for early spring and late summer. Contact the general office to make an appointment.

The attention of students whose interest in music is related primarily to its historical, critical, or theoretical aspects, is directed to the art and culture studies major program, leading to a BA degree.

### Lower Division Requirements for the Production and Design Stream

**Entry to FPA 250, 252, 254 and to the major in theatre (performance stream) is by audition**, usually scheduled for early spring and late summer. Contact the general office to make an appointment.

Students who wish to enrol in the theatre major program normally take FPA 150 and 151, and are advised to take other required courses, prior to auditioning for entry to the program.

A minimum of 44 credit hours must be completed including all of

- **FPA 111-3 Issues in the Fine and Performing Arts**
- **FPA 129-3 Fundamental Integration of Human Movement**
- **FPA 150-3 Introduction to Acting I**
- **FPA 151-3 Introduction to Acting II**
- **FPA 170-3 Introduction to Production Technology**
- **FPA 250-3 Acting I**
- **FPA 251-3 Acting II**
- **FPA 252-2 Playmaking I**
- **FPA 253-3 Playmaking II**
- **FPA 254-2 Theatre Laboratory I**
- **FPA 255-3 Theatre Laboratory II**
- **FPA 257-3 Context of Theatre I**

plus one of
- **FPA 171-3 Stage and Production Management**
- **FPA 270-3 Technical Theatre**

plus two FPA studio courses other than theatre

### Upper Division Requirements for the Performance Stream

A minimum of 36 credit hours must be completed including all of

- **FPA 340-3 Contemporary Music Performance II**
- **FPA 341-3 World Music**
- **FPA 343-3 Gamelan II**
- **FPA 344-3 Contemporary Music Analysis and Criticism**
- **FPA 345-3 Music Composition III**
- **FPA 346-3 Music Composition IV**
- **FPA 347-3 Electroacoustic Music II**
- **FPA 349-3 Selected Topics in Music II**

Nine credit hours must be chosen from the following.

- **FPA 400-3 Directed Study (Studio)**
- **FPA 401-3 Directed Study (Theory/History)**
- **FPA 402-4 Directed Study (Studio)**
- **FPA 403-4 Directed Study (Theory/History)**
- **FPA 404-5 Directed Study (Studio)**
- **FPA 443-3 Gamelan III**
- **FPA 445-3 Music Composition V**
- **FPA 446-3 Music Composition VI**
- **FPA 447-3 Computer Music Composition**

plus one of
- **FPA 311-5 Interdisciplinary Studies in the Arts**
- **FPA 313-5 Art, Audience, Patronage, Institutions**

plus 15 credit hours of upper division FPA courses

### Lower Division Requirements for the Production and Design Stream

A minimum of 39 credit hours must be completed including all of

- **FPA 111-3 Issues in the Fine and Performing Arts**
- **FPA 147-3 Introduction to Electroacoustic Music**
- **FPA 150-3 Introduction to Acting I**
- **FPA 160-3 Introductory Studio in Visual Art I**
- **FPA 170-3 Introduction to Production Technology**
- **FPA 171-3 Stage and Production Management**
- **FPA 257-3 Context of Theatre I**
- **FPA 270-3 Technical Theatre**
- **FPA 271-3 Stage Management Practice**
plus one of
FPA 120-3 Introduction to Contemporary Dance
FPA 129-3 Fundamental Integration of Human Movement

plus six additional credit hours of lower division FPA courses which may be drawn from any available FPA offerings.

**Upper Division Requirements for the Production and Design Stream**
A minimum of 41 credit hours including all of
FPA 357-3 Context of Theatre II
FPA 372-3 Technical Production I
FPA 373-3 Technical Production II
FPA 374-3 Stage Lighting
FPA 375-3 Stage Design

plus one of
FPA 325-3 Special Project in Dance Composition
FPA 352-3 Playmaking III
FPA 353-3 Playmaking IV
FPA 450-3 Advanced Studio Skills
FPA 453-3 Theory and Practice of Directing
FPA 457-3 Context of Theatre III
FPA 489-5 Interdisciplinary Project

plus one of
FPA 472-3 Technical Production III
FPA 473-5 Technical Production IV

plus one of
FPA 311-5 Interdisciplinary Studies in the Arts
FPA 313-5 Art, Audience, Patronage, Institutions

plus 15 credit hours of upper division FPA courses which may be drawn from any of the above or from other available FPA offerings.

**Visual Art Major Program**
The bachelor of fine arts – major in visual art prepares students to become practising artists. A combination of broad-based practical studio courses in conjunction with theoretical and historical seminars allows students to understand their own production in relation to current developments in visual art and other disciplines. A strong emphasis is placed on developing an understanding of the position and responsibilities of the artist in contemporary society.

**Entry to visual art studio courses, and to the visual art major program is by portfolio interview.** Contact the general office for further information. Students applying to the major program must have completed their first year requirements or the equivalent.

The attention of students whose interest in visual art is related primarily to its historical, critical, or theoretical aspects, is directed to the art and culture studies major program, leading to a BA degree.

**Lower Division Requirements**
A minimum of 38 credit hours must be completed including all of
FPA 111-3 Issues in the Fine and Performing Arts
FPA 160-3 Introductory Studio in Visual Art I
FPA 161-3 Introductory Studio in Visual Art II
FPA 167-3 History of Art: 1839-1939
FPA 168-3 History of Art: 1940 - Present
FPA 211-3 Introduction to Contemporary Theory in the Arts
FPA 260-3 Studio in Visual Art I
FPA 261-3 Studio in Visual Art II

plus two of
FPA 163-3 Issues in Spatial Presentation
FPA 170-3 Introduction to Production Technology
FPA 262-3 Drawing I
FPA 263-3 Painting I
FPA 265-3 Photography I
FPA 269-3 Selected Topics in Visual Art I
FPA 290-2 Video Production I

plus nine additional credit hours in lower division FPA courses outside of visual art. One must be a history or theory course, and one must be a studio.

**Upper Division Requirements**
A minimum of 37 credit hours must be completed including all of
FPA 360-3 Studio in Visual Art III
FPA 361-3 Studio in Visual Art IV
FPA 366-3 Seminar in Visual Art I
FPA 367-3 Seminar in Visual Art II
FPA 460-3 Studio in Visual Art V
FPA 461-5 Studio in Visual Art VI

plus two of
FPA 362-3 Drawing II
FPA 363-3 Painting II
FPA 364-3 Sculpture II
FPA 365-3 Photography II
FPA 368-3 Selected Topics in Visual Art II
FPA 390-3 Video Production II

plus one of
FPA 311-5 Interdisciplinary Studies in the Arts
FPA 313-5 Arts, Audience, Patronage, Institutions

plus six additional credit hours in upper division FPA courses outside visual art.

**Minor Programs**

**Fine and Performing Arts Minor**
The FPA minor program can accommodate a wide range of interests in the fine and performing arts, but some exposure to both the practical and the theoretical aspects of art is assured by the studio course requirement at the lower division and the seminar in art and culture studies at the upper division.

**Lower Division Requirements**
A minimum of 12 credit hours in FPA must be completed including one studio course.

**Upper Division Requirements**
A minimum of 17 credit hours in FPA must be completed including at least one of FPA 311 or 313.

**Film and Video Studies Minor**
This minor focuses on theoretical, analytical, historical and critical aspects of film and video.

**Lower Division Requirements**
A minimum of 12 credit hours must be completed including the following:
FPA 136-3 The History and Aesthetics of Cinema I
FPA 137-3 The History and Aesthetics of Cinema II

plus two of
FPA 236-3 Cinema in Canada
FPA 237-3 Selected Topics in Film and Video Studies*
FPA 238-9 Introduction to Screenwriting

**Upper Division Requirements**
A minimum of 17 credit hours must be completed including one of
FPA 311-5 Interdisciplinary Studies in the Arts
FPA 313-5 Arts, Audience, Patronage, Institutions

plus six additional credit hours in upper division FPA courses.

**Art and Culture Studies Minor**
This minor program is designed for students who want to develop their understanding of the fine and performing arts. The program includes courses in the history or analysis of dance, film, music, theatre or visual art. The minor program complements other programs of study, while fostering and enriching a lifelong interest in the arts.

**Lower Division Requirements**
Students are required to complete a minimum of 12 credit hours as follows:

*Interdisciplinary Theory Core Course*
FPA 111-3 Issues in the Fine and Performing Arts

plus at least nine credit hours of lower division courses within the School for the Contemporary Arts. Six of these credit hours must be history or theory courses.

**Upper Division Requirements**
A minimum of 17 credit hours must be completed as follows:

both of
FPA 311-5 Interdisciplinary Studies in the Arts*
FPA 313-5 Arts, Audience, Patronage, Institutions*

*(FPA 310, 311, 312, 313, 314, 315 taken prior to 99-2 will count toward this requirement.)

+this course may be taken more than once for credit if the topic changes

plus seven credits of upper division history or theory courses from within the School for the Contemporary Arts.

**Dance Extended Minor**
This program is intended primarily for students pursuing a BA general degree with a view to teaching dance in the public schools, but may also be used in combination with other academic interests. The program is balanced with dance technique, composition and theory, and some work in a relevant art discipline other than dance.

**Entry to FPA 122 and the extended minor in dance is by audition,** usually scheduled for early spring and late summer. Contact the general office to make an audition appointment.

Students without sufficient dance training to audition for program entry may register in FPA 120.

**Lower Division Requirements**
A minimum of 28 credit hours in dance must be completed including all of
FPA 122-4 Contemporary Dance I
FPA 123-4 Contemporary Dance II
FPA 129-3 Fundamental Integration of Human Movement
FPA 220-4 Contemporary Dance III
FPA 221-4 Contemporary Dance IV
FPA 224-3 Dance Composition I

plus one of
FPA 127-3 History of Dance: Origins to the 20th Century
FPA 227-3 History of Dance: The 20th Century

plus one of
FPA 111-3 Issues in the Fine and Performing Arts
FPA 140-3 Music in the 20th Century
FPA 150-3 Introduction to Acting I
FPA 170-3 Introduction to Production Technology

**Upper Division Requirements**
A minimum of 17 credit hours in dance must be completed including all of
FPA 320-4 Contemporary Dance V
FPA 321-4 Contemporary Dance VI
FPA 426-3 Dance/Movement Analysis
plus six credit hours minimum selected from the following:

FPA 322-3 Ballet I
FPA 323-3 Ballet II
FPA 325-3 Special Project in Dance Composition
FPA 326-3 Repertory I
FPA 327-3 Repertory II
FPA 420-4 Contemporary Dance VII
FPA 421-4 Contemporary Dance VIII

Film Extended Minor

This program is for students who wish to apply their broad range studies from other University programs to film and video production. Film has affinities with many disciplines including social sciences and humanities, English, business and communications. Students from other contemporary arts areas may develop specific skills such as composing for film, multimedia installation, or directing actors through a combination of an extended film minor with another in an appropriate area.

Entry to all film production courses is by questionnaire and interview. Contact the school by early February to request an information letter and questionnaire.

Lower Division Requirements

A minimum of 28 credit hours must be completed including all of:

FPA 111-3 Issues in the Fine and Performing Arts
FPA 130-4 Fundamentals of Film
FPA 131-4 Filmmaking I
plus two of:
FPA 136-3 The History and Aesthetics of Cinema I
FPA 137-3 The History and Aesthetics of Cinema II
FPA 236-3 Cinema in Canada
FPA 237-3 Selected Topics in Film and Video Studies
plus at least eight credit hours from among:
FPA 230-5 Filmmaking II
FPA 231-5 Filmmaking III
FPA 232-3 Film Sound
FPA 233-2 The Techniques of Film
FPA 238-3 Screenwriting I
FPA 290-2 Video Production I
plus three credit hours from another lower division FPA course.

Upper Division Requirements

A minimum of 17 credit hours must be completed including at least three of:

FPA 334-3 Selected Topics in Film and Video Production
FPA 338-3 Screenwriting II
FPA 339-3 Directing and Acting for Film and Video
FPA 390-3 Video Production II
FPA 393-2 Techniques of Video

An upper division studio course outside film may be substituted for one of the above.

plus one of:
FPA 311-5 Interdisciplinary Studies in the Arts
FPA 313-5 Arts, Audience, Patronage, Institutions
or another upper division FPA history or critical course outside film.

plus at least one of:
FPA 335-4 Introduction to Film Theory
FPA 337-3 Intermediate Selected Topics in Film and Video Studies
FPA 436-3 Advanced Seminar in Film and Video Studies

Music Extended Minor

Those who wish a BA general degree by completing two extended minors are directed to the music extended minor. A balanced introduction to music composition, theory, history and performance is supplied at the lower level. A less concentrated upper division allows experience in a particular area. This minor may be used for teaching in the schools.

Entry to specific courses required for the extended minor in music is by interview, usually scheduled for early spring and late summer. Contact the general office to make an appointment.

Lower Division Requirements

A minimum of 27 credit hours must be completed including all of:

FPA 140-3 Music in the 20th Century
FPA 145-3 Introduction to Music Composition and Theory
FPA 147-3 Introduction to Electroacoustic Music plus five of:
FPA 240-3 Contemporary Music Performance I
FPA 243-3 Gamelan I
FPA 244-3 Theory of Contemporary Music
FPA 245-3 Music Composition I
FPA 246-3 Music Composition II
FPA 247-3 Electroacoustic Music I
FPA 249-3 Selected Topics in Music I
plus one FPA lower division theory or history course outside music.

Upper Division Requirements

A minimum of 17 credit hours must be completed including three of:

FPA 340-3 Contemporary Music Performance II
FPA 341-3 World Music
FPA 343-3 Gamelan II
FPA 344-3 Contemporary Music Analysis and Criticism
FPA 345-3 Music Composition III
FPA 346-3 Music Composition IV
FPA 347-3 Electroacoustic Music II
FPA 349-3 Selected Topics in Music II
FPA 433-3 Gamelan III
FPA 445-3 Music Composition V
FPA 446-3 Music Composition VI
FPA 447-3 Computer Music Composition
plus one of:
FPA 311-5 Interdisciplinary Studies in the Arts
FPA 313-5 Arts, Audience, Patronage, Institutions
plus three additional credit hours in an upper division FPA course. An additional music course may be used to fulfill this requirement.

Theatre Extended Minor

This program is for students interested in technical, design and administrative aspects of theatre. Interdisciplinary requirements place theatre study in the context of contemporary art theory and practice.

Lower Division Requirements

A minimum of 30 credit hours must be completed including all of:

FPA 111-3 Issues in the Fine and Performing Arts
FPA 150-3 Introduction to Acting I
FPA 151-3 Introduction to Acting II
FPA 170-3 Introduction to Production Technology
FPA 171-3 Stage and Production Management
FPA 257-3 Context of Theatre I
FPA 270-3 Technical Theatre
FPA 271-3 Stage Management Practice
plus any two lower division FPA theory or history courses.

Upper Division Requirements

A minimum of 17 credit hours must be completed including all of:

FPA 357-3 Context of Theatre II
FPA 372-3 Technical Production I
FPA 373-3 Technical Production II
FPA 374-3 Stage Lighting
FPA 389-3 Selected Topics in the Fine and Performing Arts II
FPA 390-3 Video Production II
FPA 426-3 Dance/Movement Analysis
FPA 457-3 Context of Theatre III

plus one of:
FPA 311-5 Interdisciplinary Studies in the Arts
FPA 313-5 Arts, Audience, Patronage, Institutions

Visual Art Extended Minor

This extended minor may be of interest to students who wish to obtain a BA degree by completing two extended minors. This program offers a balanced selection of studio, history and theory courses in the visual art area, offering students a good introduction to contemporary art issues and practices. Students may use this minor for the purpose of teaching in the schools.

Entry to visual art studio courses, and to the extended minor in visual art, is by portfolio interview. Contact the general office for further information.

Lower Division Requirements

A minimum of 26 credit hours must be completed including all of:

FPA 111-3 Issues in the Fine and Performing Arts
FPA 160-3 Introductory Studio in Visual Art I
FPA 161-3 Introductory Studio in Visual Art II
FPA 211-3 Introduction to Contemporary Theory in the Arts
FPA 260-3 Studio in Visual Art I
one of:
FPA 167-3 History of Art: 1839-1939
FPA 168-3 History of Art: 1940 - Present
three of:
FPA 163-3 Issues in Spatial Presentation
FPA 170-3 Introduction to Production Technology
FPA 262-3 Drawing I
FPA 263-3 Painting I
FPA 265-3 Photography I
FPA 290-2 Video Production I

Upper Division Requirements

A minimum of 17 credit hours must be completed including three of:

FPA 362-3 Drawing II
FPA 363-3 Painting II
FPA 364-3 Sculpture II
FPA 365-3 Photography II
FPA 369-3 Selected Topics in Visual Art II
FPA 375-3 Stage Design
FPA 390-3 Video Production II
one of:
FPA 311-5 Interdisciplinary Studies in the Arts
FPA 313-5 Arts, Audience, Patronage, Institutions
plus three additional upper division FPA credit hours. An additional visual art course may be used to fulfill this requirement.

Joint Major in Anthropology or Sociology, and Art and Culture Studies

These joint majors are interdisciplinary programs that link the study of contemporary arts with the social sciences. Students explore interrelationships between fine and performing arts, cultural criticism, intercultural relations, and social, economic or political processes. Alternatively, they may choose courses that pertain to one or two areas in particular.

Art and Culture Studies Lower Division Requirements

Students must complete 18 credit hours as follows.

Interdisciplinary Theory Core Courses
FPA 111-3 Issues in the Fine and Performing Arts
FPA 211-3 Introduction to Contemporary Theory in the Arts
Faculty of Arts – School of Criminology 143

Disciplinary History Courses
Students must complete at least six credit hours of lower division disciplinary history or theory courses from within the School for the Contemporary Arts.

Studio Courses
Students must complete at least six credit hours of lower division studio courses from within the School for the Contemporary Arts.

Note: For some studio courses, permission to register is selective and may be based on an interview or audition. Contact the School for the Contemporary Arts for more detail regarding specific studio courses.

Art and Culture Studies Upper Division Requirements
Students are required to complete 17 credit hours as follows.

Interdisciplinary Theory Core
Students must complete both of
FPA 311-5 Interdisciplinary Studies in the Arts*
FPA 313-5 Arts, Audience, Patronage, Institutions*
(FPA 310, 311, 312, 313, 314, 315 taken prior to 99-2 will count towards this requirement.)
*this course may be taken more than once for credit if the topic changes
plus a minimum of seven credit hours chosen from FPA 390-3 Video Production II FPA 393-2 Techniques of Video FPA 411-3 Interdisciplinary Studies in the Contemporary Arts FPA 412-4 Advanced Seminar in Art and Culture Studies FPA 436-3 Advanced Seminar in Film and Video Studies
Note: Some courses listed have prerequisites beyond those that can be applied to the joint major program requirements.

Anthropology Lower Division Requirements
Students complete 20 credit hours including all of SA 101-4 Introduction to Anthropology (A) SA 245-4 Cultures and Images (A) SA 255-4 Introduction to Social Research (SA) plus eight additional credit hours at the 200 division chosen from the following.
SA 201-4 Anthropology of Contemporary Life* SA 203-4 Comparative Ethnic Relations (SA)* SA 218-4 Illness, Culture and Society (SA) SA 283-4 Peasants, Proletarians and the Global Economy (A) SA 286-4 Aboriginal Peoples and British Columbia: Introduction (A) SA 293-4 Special Topics in Anthropology (A) SA 294-4 Special Topics in Anthropology and Sociology**
WS 200-3 Women in Cross-Cultural Perspective
*highly recommended
**applicable only when the topic is anthropology

Anthropology Upper Division Requirements
Students complete 20 credit hours including both of SA 301-4 Contemporary Ethnography (A) SA 356-4 Ethnography and Qualitative Methods (SA) plus 12 additional credit hours chosen from SA 303-4 Ethnic Conflict (SA) SA 316-4 Tourism and Social Policy (SA) SA 318-4 The Anthropology of Medicine (A) SA 319-4 Culture, Ethnicity and Aging (SA) SA 320-4 Population and Society (SA) SA 323-4 Symbol, Myth and Meaning (A) SA 332-4 The Archaeology of Childhood (A) SA 340-4 Social Issues and Social Policy Analysis (SA)* SA 345-4 Issues in Canadian Ethnic Relations (SA)* SA 360-4 Special Topics in Sociology and Anthropology (SA)**
**applicable only when the topic is sociology

Sociology Lower Division Requirements
Students complete 19 credit hours including all of SA 150-4 Introduction to Sociology (S) SA 250-4 Introduction to Sociological Theory (S) SA 255-4 Introduction to Social Research (SA) STAT 203-3 Introduction to Statistics for the Social Sciences
plus four credit hours chosen from SA 202-4 Post-Industrial Societies (S) SA 203-4 Comparative Ethnic Relations (SA) SA 216-4 Sociology of Leisure (S) SA 231-4 The Sociology of Domestic Life (S) SA 260-4 Individual and Society (S) SA 292-4 Special Topics in Sociology (S) SA 294-4 Special Topics in Sociology and Anthropology (SA)**
**applicable only when the topic is sociology

Sociology Upper Division Requirements
Students must complete 20 credit hours as follows.
both of SA 350-4 Classical Sociological Thought SA 355-4 Quantitative Methods
plus an additional 12 credit hours chosen from CMNS 334-4 Cultural Policy* SA 300-4 Canadian Social Structure (SA) SA 303-4 Ethnic Conflicts (SA) SA 304-4 Social Control (S) SA 316-4 Tourism and Social Policy (SA) SA 319-4 Culture, Ethnicity and Aging (SA) SA 320-4 Population and Society (SA) SA 321-4 Social Movements (S) SA 322-4 Sociology of Religion (S) SA 325-4 Political Sociology (S) SA 326-4 Ecology and Social Thought (S) SA 327-4 Sociology of Knowledge (S) SA 333-4 Schooling and Society (S) SA 335-4 Gender Relations and Social Issues (S) SA 340-4 Social Issues and Social Policy Analysis (SA)** SA 345-4 Issues in Canadian Ethnic Relations (SA) SA 351-4 Classical Marxist Thought (SA) SA 357-4 Survey Methods (SA) SA 360-4 Special Topics in Sociology and Anthropology (SA)**
SA 362-4 Society and the Changing Global Division of Labor (S) SA 363-4 Processes of Development and Underdevelopment (SA) SA 364-4 Urban Communities and Cultures (SA) SA 365-4 Selected Regional Areas (SA) SA 371-4 The Environment and Society (SA) SA 374-4 South Africa: Socio-Political Development (SA) SA 400-4 Canadian Ethnic Minorities (SA) SA 416-4 Sociology of Art Forms (S) SA 420-4 Sociology of Aging (SA) SA 447-4 Selected Issues in Social Policy Analysis (SA) SA 450-4 Advanced Sociological Theory (S) SA 455-4 Special Topics in Applied Social Research (SA) SA 460-4 Special Topics in Sociology and Anthropology (SA)** SA 463-4 Special Topics in Development Studies (SA) SA 497-4 Directed Readings in Sociology (S) *highly recommended

Praxis Centre for Screenwriters
#300 – 12 Water Street, Vancouver, BC, V6B 1A5, (604) 682-3100 Fax, (604) 682-7909 Fax
Director
P. Gruben BA (Rice)
Praxis is a professional development workshop for screenwriters and filmmakers. Intensive non-credit workshops are held twice a year for writers whose feature film scripts have been chosen through a national competition. In addition, Praxis offers public seminars throughout the year and maintains a reference library of film scripts and other materials related to film production and studies.

School of Criminology
2630 Diamond Building, (604) 291-3213 Tel, (604) 291-4140 Fax, www.sfu.ca/criminology
Director
R.M. Gordon BA (LaTrobe), MA (S Fraser), PhD (Br Col)
Professor Emeritus
E.A. Fattah LLL (Cairo), MA, PhD (Montr), FRScAn
Professors
N.T. Boyd BA (WOnt), LLB, LLM (Law Soc Upper Canada) P.J. Brantingham AB, JD (Col), DipCriminal (Camb) P.L. Brantingham AB (Col), MA (Fordham), MSP, PhD (Florida State) J. Brockman BA (Sask), MA (Alta), LLB (Calg), LLM (Br Col) B. Burth BA (Qu), MA (Tor), PhD (Br Col) D.E. Chunn BA (Br Col), MA, PhD (Tor) R.R. Corrado BA (Mich), MA, PhD (Northwestern) K. Faith BA, PhD (Calif) R.M. Gordon BA (LaTrobe), MA (S Fraser), PhD (Br Col) C.T. Griffiths BA, MA, PhD (Montana) M.A. Jackson BA (Calif), MA, PhD (Tor) J. Lowman BA (Sheff), MA (York), PhD (Br Col) R.J. Menzies BA (York), MA, PhD (Tor) S.N. Verduin-Jones BA, MA (Cambi), LLM, JSD (Yale)
Associate Professors
G.S. Anderson BSc (Man), MSc, PhD (S Fraser) E.O. Boyanowsky BA (WOnt), MS, PhD (Wis) F.D. Cousineau BA, MA, PhD (Alta) W.G. Glackman BA (Calif), MA, PhD (S Fraser) D. Lacombe BA (Sher), MA, PhD (Tor)* J.A. Osborne LLB (Edin), MA (Tor), LLM (Br Col), Associate Vice-President, Academic T.S. Palsy BA, MA (Manit), PhD (Car)
Assistant Professors
W. Chan BA (Car), MA (Sheff), PhD (Cambi) E. Elliott, BPE (Ott), MSW (Car), PhD (S Fraser)
Lecturer
N.A. Madu BA (S Fraser), MA (Vic)
Enrolment Limitations

Admission

The school limits admission to the upper division of its major, minor and honors programs. Entry into the major/honors or minor in the School of Criminology will be on the basis of a formal application made to the school by May 15 or by September 15, for admission to upper division effective the following September or January respectively. Students are eligible to apply for entry to the major/honors program after successful completion of 60 credit hours, including the lower division group A and group B required courses. Students are eligible to apply for entry to the minor program after successful completion of 60 credit hours including CRIM 100 or 101 or 102 in addition to CRIM 131 and 135. Students should make application to the school during the semester in which they are completing the above requirements. If completion is to take place during a summer semester, students should make application during the spring, and will be admitted for the fall semester conditional upon successful completion of the requirements in summer.

With the approval of the Office of the Dean of Arts, the School of Criminology will establish a yearly quota — the number of students to be admitted into the major/honors or minor. This quota will be established on the basis of projected available course space and school resources. In advance of each competition, the school will announce the minimum cumulative grade point average below which students will not be considered for admission. The school will receive and review all applications from those eligible for consideration, and in its screening decisions will consider all relevant materials, including cumulative grade point, practical experience, letters of recommendation and other material the student wishes to submit in support of the application.

Continuation in Major, Honors or Minor

To continue as a criminology major or minor, students must maintain a 2.25 CGPA. Students whose CGPA falls below 2.25 will not be allowed to register in any upper division CRIM courses including those offered through distance education. When it is restored to 2.25, students will be readmitted after review and approval of the director of undergraduate programs.

For honors continuance, a CGPA of 3.00 must be maintained. Those with a lower CGPA will not be allowed to register in CRIM 409 and, therefore, cannot be allowed to complete the program.

Appeal Procedure

Applicants denied admission to a criminology major/honors/minor may appeal in writing to the school’s director. If that appeal results in a negative decision, a written appeal to the dean of the Faculty of Arts may be submitted. Appeals will be granted only in very exceptional circumstances.

Registration Priority

Registration priority for limited enrolment upper division seminar courses in the school will be established on the basis of cumulative GPA.

Transfer Students

Students transferring to Simon Fraser University from a two-year college that has articulated the first 60 credit hours of study in criminology with the School of Criminology will be considered on the basis of their college cumulative GPA (recalculated on the basis of grades received in courses transferable to the University), as well as other relevant materials.

Major Program

Students in the general degree program must complete a total of 120 credit hours (see “General Information” on page 25 and the following requirements.)

Students majoring in criminology must obtain a minimum grade of C- in all required group A and group B courses.

Lower Division (normally the first 60 credit hours)

During the first four levels, students complete 20 courses (60 credit hours) including at least

• eight courses from group A
• seven courses from group B
• an additional five courses of general electives

The Faculty of Arts breadth requirements must be completed for graduation and the general electives should be considered for that purpose.

Students may not complete group B requirements otherwise listed unless permission is obtained from the school’s undergraduate curriculum committee prior to taking the courses.

Group A – Lower Division Requirements

Students are required to complete all of

CRIM 101-3 Introduction to Criminal Justice
CRIM 103-3 Psychological Explanations of Criminal and Deviant Behavior
CRIM 104-3 Sociological Explanations of Criminal and Deviant Behavior
CRIM 131-3 Introduction to the Criminal Justice System — A Total System Approach
CRIM 135-3 Introduction to Canadian Law and Legal Institutions: A Criminal Justice Perspective
CRIM 220-3 Research Methods in Criminology
CRIM 230-3 Criminal Law
plus one of
CRIM 203-3 Historical Reaction to Crime and Deviance
CRIM 210-3 Law, Youth and Young Offenders
CRIM 213-3 Introduction to Women and Criminal Justice
CRIM 231-3 Introduction to the Judicial Process
CRIM 241-3 Introduction to Corrections
CRIM 251-3 Introduction to Policing

Group B – Lower Division Requirements

Students are required to complete seven courses, including all of

PSYC 100-3 Introduction to Psychology I
PSYC 102-3 Introduction to Psychology II
SA 150-4 Introduction to Sociology
plus one of
POL 100-3 Introduction to Politics and Government
POL 151-3 The Administration of Justice
plus one of
PSYC 210-4 Data Analysis in Psychology
STAT 101-3 Introduction to Statistics*
STAT 203-3 Introduction to Statistics for Social Sciences*

*of the two statistics courses, STAT 203 is recommended for students in criminology.

plus one of
PHIL 001-3 Critical Thinking
PHIL 100-3 Knowledge and Reality
PHIL 110-3 Introduction to Logic and Reasoning
PHIL 120-3 Introduction to Moral Philosophy
PHIL 150-3 History of Philosophy I
PHIL 151-3 History of Philosophy II
PHIL 220-3 Introduction to Social and Political Philosophy
PHIL 244-2 Introduction to the Philosophy of Natural and Social Science
PHIL 280-3 Introduction to Existentialism
plus at least three 100 or 200 lower division credit hours chosen from the following disciplines:
archaeology (ARCH)
business administration (BUS)
Canadian studies (CNS)
communication (CMNS)
computing science (CMPT)
economics (ECON and BUEC)
education (EDUC)
English (ENGL)
geography (GEOG)
history (HIST)
mathematics (MATH)
philosophy (PHIL)
political science (POL)
psychology (PSYC)
sociology and anthropology (SA)
statistics (STAT)
women's studies (WS)

General Electives – Lower Division Requirements
Students complete another five general elective courses chosen from group A, group B, or any other 100/200 level courses or the transfer equivalent thereof. See “Breadth Requirements” on page 129 when selecting general electives.

Note: Declared criminology majors will normally complete all lower division group A and B requirements before proceeding to upper division. Students may proceed to upper division courses without having completed these lower division courses only with the express written approval of the criminology undergraduate curriculum and articulation committee.

Upper Division
Among the remaining credit hours required, 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 CRIM upper division courses chosen from group A below. The remaining 12 hours may be from group A and/or group B below.

Group A – Upper Division Requirements
Students are required to complete a minimum of 36 credit hours including the following four courses.
CRIM 300-3 Current Theories and Perspectives in Criminology
CRIM 320-3 Quantitative Research Methods in Criminology
CRIM 321-3 Qualitative Research Methods in Criminology
CRIM 330-3 Criminal Procedure and Evidence

plus a minimum of 24 credit hours from criminology upper division courses (excluding CRIM 301). Please see “Criminology CRIM” on page 242 for the listing of upper division criminology courses.

Group B – Upper Division Requirements
An additional 12 required hours may be chosen from upper division courses in the following disciplines and/or from upper division criminology courses (excluding CRIM 301).

Note: Many upper division courses have prerequisites or registration restrictions, as shown in the Course Timetable and Exam Schedule. If in doubt about your eligibility to register in a non-criminology course, contact the advisor in the appropriate department well in advance of any attempt to register.

Archaeology (ARCH)
Business Administration (BUS)
Canadian Studies (CNS)
Communication (CMNS)
Computing Science (CMPT)
Economics (ECON and BUEC)
Education (EDUC)
English (ENGL)
Geography (GEOG)
Gerontology (GERO)
History (HIST)
Mathematics and Statistics (MATH and STAT)
Philosophy (PHIL)
Political Science (POL)
Psychology (PSYC)
Sociology and Anthropology (SA)
Women's Studies (WS)

Additional Electives
The remaining credit hours to satisfy degree requirements may be selected at the student's discretion. Faculty of Arts breadth requirements must be completed for graduation so general electives should be considered for that purpose.

Joint Major in Criminology and Canadian Studies
See “School of Criminology” on page 135.

Joint Major in Criminology and Psychology
This program explores relationships between the study of criminology and psychology. Students should consult advisors in both departments. Students must satisfy the admission requirements for both the criminology and psychology major programs and be approved by the School of Criminology before they will be approved by the Department of Psychology. To continue in the joint major, students must maintain a CGPA of 2.25; and will not be permitted to register in upper division criminology courses with a CGPA of less than 2.25. However, a student whose CGPA is between 2.00 and 2.25 may be eligible for a major in psychology.

Students who take CRIM 220 must obtain a Department of Psychology waiver of the PSYC 201 prerequisite for PSYC 210 and all 300/400 division PSYC courses, in advance of attempting to register for any of these courses. Students who take PSYC 201 must obtain from the criminology advisor a waiver of the CRIM 220 prerequisite for CRIM 320, in advance of attempting to register for this course.

Criminology Requirements
Group A Lower Division Requirements
both of
CRIM 100-5 Introduction to Criminology I
CRIM 102-5 Introduction to Criminology II
or all of
CRIM 101-3 Introduction to Criminology
CRIM 103-3 Psychological Explanations of Criminal and Deviant Behavior
CRIM 104-3 Sociological Explanations of Criminal and Deviant Behavior
plus all of
CRIM 131-3 Introduction to the Criminal Justice System — A Total System Approach
CRIM 135-3 Introduction to Canadian Law and Legal Institutions: A Criminal Justice Perspective
CRIM 230-3 Criminal Law

plus one of
CRIM 220-3 Research Methods in Criminology
PSYC 201-4 Research Methods in Psychology

plus one of
CRIM 203-3 Historical Reaction to Crime and Deviance
CRIM 210-3 Law, Youth, and Young Offenders
CRIM 213-3 Introduction to Women and Criminal Justice
CRIM 231-3 Introduction to the Judicial Process
CRIM 241-3 Introduction to Corrections
CRIM 251-3 Introduction to Policing

Group B Lower Division Requirements
SA 150-4 Introduction to Sociology

plus one of
POL 100-3 Introduction to Politics and Government
POL 151-3 The Administration of Justice

plus one of
PHIL 001-3 Critical Thinking
PHIL 100-3 Knowledge and Reality
PHIL 110-3 Introduction to Logic and Reasoning

PHIL 120-3 Introduction to Moral Philosophy
PHIL 150-3 History of Philosophy I
PHIL 151-3 History of Philosophy II
PHIL 220-3 Introduction to Social and Political Philosophy
PHIL 244-3 Introduction to the Philosophy of Natural and Social Science
PHIL 280-3 Introduction to Existentialism

Upper Division Requirements
all of
CRIM 300-3 Current Theories and Perspectives in Criminology
CRIM 320-3 Quantitative Research Methods in Criminology
CRIM 330-3 Criminal Procedure and Evidence

plus a minimum of 12 credit hours of upper division criminology group A courses (excluding CRIM 369 and 462) and six credit hours of upper division non-criminology (group B) courses other than psychology.

Psychology Requirements
Lower Division Requirements
all of
PSYC 100-3 Introduction to Psychology I*
PSYC 102-3 Introduction to Psychology II*
PSYC 207-3 Introduction to the History of Psychology*
PSYC 210-4 Introduction to Data Analysis in Psychology*

plus one of
CRIM 220-3 Research Methods in Criminology*
PSYC 201-4 Introduction to Research Methods in Psychology*

*students must obtain a final course grade of C (2.0) or better in each of these courses.

plus one of
PSYC 221-3 Introduction to Cognitive Psychology
PSYC 280-3 Introduction to Biological Psychology

plus one of
PSYC 241-3 Introduction to Abnormal Psychology
PSYC 250-3 Introduction to Developmental Psychology
PSYC 260-3 Introduction to Social Psychology
PSYC 270-3 Introduction to Theories of Personality

Upper Division Requirements
Students must complete 21 credit hours in upper division psychology courses. No more than five of these credit hours may be in directed studies. At least 11 upper division psychology credit hours must be taken at Simon Fraser University.

Joint Major in Sociology and Anthropology and Criminology
See “Joint Major in Sociology or Anthropology and Criminology” on page 173.

Joint Major in Women's Studies and Criminology
See “Joint Major in Criminology and Women’s Studies” on page 177 for requirements.

Honors Program
The School of Criminology has a structured honors program for its outstanding undergraduate students. The program dovetails with the criminology major and consists of two semesters of advanced course work and supervised research. Honors students write and defend a short thesis. Students are admitted as a group each September, and must complete and defend their theses by the following April.
Students normally enter the program with a minimum of 110 credit hours (see below) but may enter with
less and take one additional course during the first semester with permission of the director of undergraduate programs. Students complete a minimum of 132 credit hours with GPAs in accordance with general and Faculty of Arts graduation requirements including a minimum CGPA of not less than 3.00 (3.50 for first class honors). Please see “General Information” on page 25. Also see “Graduation Requirements” on page 129.

Lower Division
Lower division requirements are the same as for the major in criminology.

Upper Division
Students must complete a minimum of 72 credit hours as follows: a minimum of 60 credit hours from criminology and/or group B courses numbered 300 and above. Of these 60 hours, a minimum of 50 credit hours must be selected from upper division criminology and must include CRIM 300, 320, 321, 330, 490, 491 and 499.

The remaining credit hours, to satisfy degree requirements, may be selected at the student’s discretion. Faculty of Arts breadth requirements must be completed for graduation; general electives should be considered for that purpose.

For program continuation, students must maintain a cumulative grade point average of 3.0. Those whose CGPA falls below 3.0 cannot register in CRIM 499 and therefore cannot complete the program.

Admission Procedure
Eligible students are normally identified by the school and invited to apply for program admission. Those who feel they are eligible may also apply to the undergraduate program director. The selection process normally happens each April for September admission.

Minor Program
Students who minor in criminology must complete one of CRIM 100-5 Introduction to Criminology I CRIM 101-3 Introduction to Criminology CRIM 102-5 Introduction to Criminology II and both of CRIM 131-3 Introduction to the Criminal Justice System — A Total System Approach CRIM 135-3 Introduction to Canadian Law and Legal Institutions: A Criminal Justice Perspective and at least 18 other credit hours in criminology courses numbered 300 and above. A minimum grade of C- in each of CRIM 100/101/102, 131 and 135 is also required.

Extended Minor Program
This program consists of the lower division requirements for a major and the upper division requirements for a minor. Certain other criteria may be set by individual departments and programs. A student must have their program approved by the advisor for the extended minor program.

Post Baccalaureate Diploma
Advisor
Ms. M. McIlroy, 2644 Diamond Building, (604) 291-3645
This program is for students who have already completed a bachelor’s degree in a discipline other than criminology to expand their knowledge of criminology through a recognized program. This diploma allows students to pursue individual interests in specific areas of criminology and is available through distance education courses, on campus and Simon Fraser University at Harbour Centre.
For information about post baccalaureate diploma program general regulations, see “Continuing Studies” on page 214.

Program Requirements
• completion of lower level prerequisite courses CRIM 100 or 101 or 102 plus CRIM 131 and 135
• successful completion of an approved program comprised of 30 credit hours of third and fourth year courses
• Of the 30 credit hours, a minimum of 15 must come from criminology courses numbered 300/400 and the remaining from any upper division on campus or distance education courses, or a combination of both
• minimum GPA of 2.5 on courses applied toward the diploma
• completion of the diploma within five years of admission to the program
For information, contact the advisor in criminology.

Application Deadlines
Written application for admission to the program must be received by the advisor no later than
February 1 (summer semester admission) Apri 30 (fall semester admission)
September 30 (spring semester admission)
Students must make separate application for admission to the University, in accordance with University deadlines for the appropriate semester. Applications received by the School of Criminology after the deadline will be considered only if resources permit following consideration of those applications received on time.

Certificate Programs
Advisor
Ms. M. McIlroy, 2644 Diamond Building, (604) 291-3645
The University offers two criminology certificate programs: the general certificate in criminology and the advanced certificate in criminology. Both certificates are primarily directed toward undergraduates and criminal justice professionals, but are open to all. Those who hold a bachelor’s degree (in any field of study) should refer to the post-baccalaureate diploma in criminology.

The certificates are not designed to satisfy specific employment credentials. Rather, the general certificate provides a basic theoretical and descriptive understanding of criminology through more intensive study. These certificate program courses are offered through the Centre for Distance Education to assist students in understanding the complexities of illegal behaviours, as well as society’s reactions.

Admission Requirements
Students applying for admission must meet undergraduate admission deadlines, as set out in this Calendar. Application forms, accompanied by official documents, must be submitted to the Office of the Registrar. In addition to applying for University admission, all new students must apply in writing to the 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 the required courses as listed below
• a minimum grade of C- in each of the courses required for the certificate
• the majority of criminology courses must be completed through the Centre for Distance Education
• completion of the certificate within five years of admission to the program

Required Courses
both of
CRIM 100-5 Introduction to Criminology I
CRIM 102-5 Introduction to Criminology II
or all three of
CRIM 101-3 Introduction to Criminology
CRIM 103-3 Psychological Explanations of Criminal and Deviant Behavior
CRIM 104-3 Sociological Explanations of Criminal and Deviant Behavior
plus all of
CRIM 131-3 Introduction to the Criminal Justice System — A Total System Approach
CRIM 135-3 Introduction to Canadian Law and Legal Institutions: A Criminal Justice Perspective
CRIM 220-3 Research Methods in Criminology
CRIM 230-3 Criminal Law
PHIL 110-3 Introduction to Logic and Reasoning
POL 151-3 The Administration of Justice
PSYC 100-3 Introduction to Psychology I
PSYC 102-3 Introduction to Psychology II
SA 150-4 Introduction to Sociology
STAT 101-3 Introduction to Statistics
The remaining credit hours must be selected from specific groups of optional courses as follows.
• one course must be chosen from group A
• two courses must be chosen from group B
• the balance may be satisfied with courses chosen from groups A, B or C

Optional Courses
Group A
CMNS 130-3 Explorations in Mass Communication
ENGL 199-3 University Writing
HIST 102-3 Canada Since Confederation
SA 250-4 Introduction to Sociological Theory

Group C
Any lower division courses offered at Simon Fraser University or which transfer from another post-secondary institution (including the Open Learning Agency) to the equivalent of 100-200 level Simon Fraser University courses.

Note: Students enrolled at Simon Fraser University must obtain prior permission of the Office of the Registrar by completing the letter of permission form.

Advanced Certificate
Program Requirements
• completion of SFU’s general criminology certificate, or two years (equivalent to 60 SFU credit hours) of accredited course work at a university or community college, or completion of a criminology certificate or diploma from a BC regional college prior to entering the advanced certificate program
Co-operative Education Program

This program is offered to qualified students who want practical experience in the area of their choice. To be admitted, students must have completed 30 credit hours, including both of 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.

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 4011-0 Data Analysis in Psychology

STAT 101-3 Introduction to Statistics

STAT 203-3 Introduction to Statistics for the Social Sciences

and have a 2.75 minimum CGPA. Transfer students must have completed at least 15 credit hours at SFU. Please see “Co-operative Education” on page 216. 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.

Requirements for the BA Degree

Admission Information

Major, honors and minor program admission (including joint honors and joint majors) is limited. Entry is based on the following: completion of lower division required courses with at least a C- grade.

On recommendation of the department and the Office of the Dean of Arts, the University establishes a yearly quota — the number of students to be admitted into major, honors, and minor programs. This quota is based on projected available course space and department resources. The department announces the minimum CGPA below which students will not normally be considered.

Students apply for admission to the major, minor or honors programs after completing 45 credit hours and will be selected on the basis of CGPA and performance in required courses.

Applications for entry should be filed with the faculty advisor. Students provide the appropriate documentation. Those whose applications are not approved may appeal to the department’s undergraduate program chair. Students not accepted upon initial application may reapply.

Non-Majors Access to Courses

Lower Division

Access to lower division economics and BUEC courses is available to all students meeting the prerequisites.

Upper Division ECON Courses

Non-majors who meet the current CGPA entrance requirements have the same access as approved students in economics programs to upper division economics courses.

Upper Division BUEC courses

Non-majors who meet the current CGPA entrance requirements have the same access as approved students in economics and Business programs to upper division BUEC courses.

Exchange and Visiting Students

Exchange and visiting students must obtain approval from the Department of Economics prior to registering in upper division ECON/BUEC courses.

Requirements for the BA Degree

Entry is on the basis of a formal department application. To be considered, students must have completed lower division required courses with at least a C- grade.

On recommendation of the department and the Office of the Dean of Arts, the University establishes a yearly quota — the number of students to be admitted into major, honors, and minor programs. This quota is based on projected available course space and department resources. The department announces the minimum CGPA below which students will not normally be considered.

Students apply for admission to the major, minor or honors programs after completing 45 credit hours and will be selected on the basis of CGPA and performance in required courses.

Applications for entry should be filed with the faculty advisor. Students provide the appropriate documentation. Those whose applications are not approved may appeal to the department’s undergraduate program chair. Students not accepted upon initial application may reapply.

Non-Majors Access to Courses

Lower Division

Access to lower division economics and BUEC courses is available to all students meeting the prerequisites.

Upper Division ECON Courses

Non-majors who meet the current CGPA entrance requirements have the same access as approved students in economics programs to upper division economics courses.

Upper Division BUEC courses

Non-majors who meet the current CGPA entrance requirements have the same access as approved students in economics and Business programs to upper division BUEC courses.

Transfer Students

Students transferring to Simon Fraser University will be considered on the basis of their entrance CGPA (calculated for grades received in courses transferable to the University). Transfer students must be admitted to the University before they may apply for admission to the department’s major, honors or minor programs. Students who meet these requirements will be admitted to the program under a provisional status and will retain the provisional status until 15 credit hours have been completed at Simon Fraser University. To continue, the CGPA for these 15 credit hours must equal or exceed the CGPA entrance requirement for non-transfer students.

Exchange and Visiting Students

Exchange and visiting students must obtain approval from the Department of Economics prior to registering in upper division ECON/BUEC courses.

Requirements for the BA Degree

All majors and honors students must meet BA degree requirements for either the honors or general program as described in the Faculty of Arts section. Students should fulfill Faculty requirements early in their programs and obtain broadly based backgrounds before entering upper division courses. Major and honors students must complete lower division requirements in the first 60 credit hours prior to program acceptance (including joint programs).

For a course to be accepted as fulfilling a prerequisite, or for a required course to be accepted in an economics program (i.e., major, joint major, honors, joint honors, minor) students must have a grade of C- or higher.

Major Program

Lower Division Requirements

Students must complete the following courses with at least a C- prior to admission to the major program.

BUEC 222-4 Data and Decision Making

ECON 103-3 Principles of Macroeconomics

ECON 105-3 Principles of Microeconomics

MATH 157-3 Calculus I for the Social Sciences I (or equivalent)

Two 200 division ECON or BUEC courses (in addition to BUEC 222)

Plus:

One 100 or 200 level English or philosophy course

One or two 100 or 200 level history or political science course

One or two 100 or 200 level sociology/anthropology or psychology course

One or two 100 or 200 level biological sciences, chemistry or physics course

Faculty of Arts – Department of Economics 147
Upper Division Requirements
With the exception of BUEC 333, students normally cannot enter ECON upper division courses during the first 60 credit hours without permission of the undergraduate chair. If BUEC 333 is taken in the first 60 credit hours, this course will not count toward the department or faculty upper division requirements. Normally, majors will include 45 credit hours of upper division credit in their last 60 credit hours of work toward the degree.

At least 30 credit hours of upper division credit in economics is required, including
BUEC 333-4 Elementary Economic and Business Statistics II
ECON 301-5 Intermediate Microeconomic Theory
ECON 305-5 Intermediate Macroeconomic Theory
and at least one 400 division ECON or BUEC course (excluding ECON 431, 435, BUEC 433 and 485)

Group Requirements
To meet the requirements for the major program, students must include at least one of the following, with a grade of C- or higher.
ECON 102-3 Contemporary World Economies
ECON 110-3 Foundations of Economic Ideas
ECON 208-3 History of Economic Thought
ECON 250-3 Economic Development in the Pre-industrial Period
ECON 309-5 Introduction to Marxian Economics
ECON 353-4 Economic History of Canada
ECON 355-4 Economic Development
ECON 385-5 Comparative Economic Systems
ECON 404-3 Honors Seminar in Methodology of the Social Sciences
ECON 407-3 Seminar in Marxian Economics
ECON 409-3 Seminar in Economic Thought
ECON 450-3 Seminar in Quantitative Economic History
ECON 451-3 Seminar in European Economic History
ECON 455-3 Seminar in Economic Development

Joint Major in Business Administration and Economics

Lower Division Requirements
Requirements are the same as for the economics major and business administration major.

Upper Division Requirements
Students must complete at least 29 credit hours of upper division credit in business administration or BUEC including the core courses with the following exception: BUS 207 and 303 are waived.
BUEC 333, which must be taken, will count as upper division economics hours rather than upper division business administration hours.
• three courses beyond the core must be completed within the requirements of a single concentration
• at least two 400 division BUS or BUEC courses excluding practicum courses and BUS 478. These courses may be within the area of concentration.
plus at least 25 credit hours of upper division credit in BUEC** or economics including
BUEC 333-4 Elementary Economic and Business Statistics II
ECON 301-5 Intermediate Microeconomic Theory
ECON 305-5 Intermediate Macroeconomic Theory
and at least one 400 division ECON or BUEC course (excluding ECON 431, 435, BUEC 433 and 485)

**BUEC courses may count only once as business administration or economics credit.

Joint Major in Economics and Political Science

For requirements, see “Joint Major in Political Science and Economics” on page 169.

Joint Major in Geography and Economics – Environmental Specialty

For requirements, see “Joint Major in Geography and Economics – Environmental Specialty” on page 156.

Joint Major in Latin American Studies and Economics

For requirements, see “Joint Major Programs” on page 182.

Honors Program
In addition to the lower division courses for the economics major, students must receive credit for at least 50 upper division credit hours in economics including the following.
BUEC 333-4 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 403-3 Advanced Topics in Microeconomics
ECON 435-5 Quantitative Methods in Economics
ECON 499-6 Honors Seminar in Economics

Group Requirements
Students must also include at least two courses from the economics group requirements. For information, see “Group Requirements” on page 148 and are responsible for ensuring they have also fulfilled all requirements for an honors degree set up by the Faculty of Arts.

Joint Honors in Business Administration and Economics

Lower Division Requirements
Students must satisfy the lower division requirements for a joint major in business administration and economics.

Upper Division Requirements
At least 35 credit hours of upper division credit in business administration including the core courses with the exception of BUEC 333, which is counted as economics upper division hours rather than business administration upper division hours. Please see “Core Courses” on page 181, and an area of concentration
and at least three 400 division business administration courses* (excluding practicum courses and BUS 478) plus at least 32 credit hours of upper division credit in economics or BUEC including
BUEC 333-4 Elementary Economic and Business Statistics II
ECON 301-5 Intermediate Microeconomic Theory
ECON 305-5 Intermediate Macroeconomic Theory
ECON 403-3 Advanced Topics in Microeconomics
ECON 407-3 Seminar in Marxian Economics
ECON 409-3 Seminar in Economic Thought
ECON 450-3 Seminar in Quantitative Economic History
ECON 451-3 Seminar in European Economic History
ECON 455-3 Seminar in Economic Development

Group Requirements
Students must include at least one course from the economics group requirements. For information, see “Group Requirements” on page 148.

Minor Program

Lower Division Requirements
A minimum C- grade in all of the required courses listed below is required.
ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
two 200 division ECON or BUEC courses (excluding BUEC 232)

Upper Division Requirements
At least 15 upper division credit hours in economics or BUEC courses, taken following the completion of 60 credit hours are required. A maximum of nine ECON upper division credit hours from another institution can be applied to the minor in economics.

Note: Students majoring in business administration may not count BUEC 333 as part of the required credit hours in economics.

Co-operative Education
This program, for qualified students who wish to acquire practical experience in economics, entails planned semesters of study and employment in the student's choice of area.
To be eligible for admission, students must have completed 30 credit hours including ECON 103 (or 200) and ECON 105 (or 205). At least 12 of these 30 must be completed at Simon Fraser University with a minimum CGPA of 2.75.
Arrangements for work semesters are made through the Faculty of Arts co-op co-ordinator at least one semester in advance. See “Co-operative Education” on page 216 for further details.

Department of English


Chair
P. Delany BCom (McG), AM (Stan), MA, PhD (Calif), FRSL, FRSCan

Professors Emeriti
S.A. Black BA, MA (Calif State), PhD (Wash)
R.F. Blaser BA, MA, MLS (Calif)
G. Bowering BA, MA (Br Col)
P.M. Buitenhuis BA, MA (Oxf), PhD (’Yale)
F.H. Candelaria BA (Texas), PhD (Missouri)
J.R. Curtis BA (Yale), MA (Mich), PhD (C’nell)
G.R. Elliott BA, MA (Br Col), AM (Harv)
E.F. Harden AB (Prim), AM, PhD (Harv)
R.N. Maud AB, PhD (Harv)
J. Mills BA (Br Col), MA (Stan), MTS (Br Col)
M. Page MA (Camb), DPSA (Oxf), MA (McM), PhD (Calif)
A. Rudrum BA (Lond), PhD (Nott)
M. Steig BA (Reed), MA, PhD (Wash)
J. Zaslove BA (Case W Reserve), PhD (Wash)
ENGL 210-3 Advanced University Writing

ENGL 207-3 20th Century Literatures in English

ENGL 206-3 19th Century Literatures in English

and two of

ENGL 205-3 Seventeenth and Eighteenth Century Literatures in English
and two of

ENGL 204-3 Medieval and Renaissance Literature

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 [e.g. ENGL (3) – Writing].

A student who enters the University with 18 transfer credits in English will be deemed to have met the department's lower division requirements for a major in English provided those credits include any one of ENGL 101, 102, 103, 104, 105 or 199; one of ENGL 204 or 205; and one of ENGL 206, 207, 210, 212, 214 or 216. However, students may only use one of ENGL 199, 210 or a college or university writing course that SFU recognizes as a transferable English credit [e.g. ENGL (3) – Writing] towards the 18 credits. Students declaring a major in English and found deficient in the department's lower division requirements must make up the deficiency. Such make up normally shall be attempted before the student takes upper division courses in English, but the department may permit it to be attempted concurrently or be deferred in order to avoid timetable conflicts or for other good cause.

Upper Division Requirements

An English major must obtain 32 hours in upper division English courses, one of which must come from within the series ENGL 300 to 310; one must come from within the series ENGL 311 to 322; one must come from within the series ENGL 354 to 360; and the remainder may come from anywhere within the series ENGL 300 to 446. All of these courses may be taken in any order. Exceptionally, and only with the permission of the department, other English courses of equivalent content may be substituted for those required in the series 300 to 310, 311 to 322, and 354 to 360. With the permission of the department, up to eight credit hours derived from courses on literature given by other departments may be substituted for up to eight hours in upper division English courses.

Honors Program

This program is intended for those with a special interest in English literature and who wish to pursue studies beyond the course work required for the major. The program requires the study of theory and criticism in ENGL 364 and 366 and, with the honors essay, concentrated independent research and writing on a topic of the student’s choice.

Students proposing to enter honors English should take the same lower division English courses as English majors. On completion, students may apply for honors program admission. A GPA of 3.3 in all English courses taken at Simon Fraser University is required for acceptance and continuation in the program but does not in itself guarantee either.

Normally, a student in honors English must obtain 52 credit hours in upper division English courses, one of which must be from within the series ENGL 300 to 306; one from within the series ENGL 308 to 313; one from within the series 314 to 322; one from within the series 354 to 360; four must be ENGL 364, 366, 494 and 496; and the remainder may come from within the series ENGL 300 to 446. Exceptionally, and only with department permission, other English courses of equivalent content may substitute for those required in the series 300 to 306; 308 to 313; 314 to 322; and 354 to 360. With department permission, up to eight credit hours derived from literature courses given by other departments may be substituted for up to eight credit hours in upper division English courses. No courses from other departments may be substituted for the honors courses ENGL 494 and 496. A ‘B’ grade or higher must be achieved in the honors graduating essay (ENGL 496).

Minor Program

A student must obtain credit or standing in any two of

ENGL 101-3 Introduction to Fiction
ENGL 102-3 Introduction to Poetry
ENGL 103-3 Introduction to Drama
ENGL 104-3 Introduction to Prose Genres
ENGL 105-3 Introduction to Issues in Literature and Culture

ENGL 199-3 Introduction to University Writing

Any one but not more than one of ENGL 101, 102, 103, 104, 105 and 199 may be replaced by any one of ENGL 210, 212, 214, or 216; or by any three unspecified transfer credits in English. However, to fulfill the requirements for the minor in English, students must only use one of ENGL 199, 210 or a college or university writing course that SFU recognizes as a transferable English credit [e.g. ENGL (3) – Writing].

Students must also obtain credit or standing in two of the following courses, one of which must be ENGL 204 or 205:

ENGL 204-3 Medieval and Renaissance Literature
ENGL 205-3 17th and 18th Century Literatures in English
ENGL 206-3 19th Century Literatures in English
ENGL 207-3 20th Century Literatures in English

Students must also obtain 16 credits in upper division English courses, of which one must be from the series ENGL 300 to 322. No courses from other departments may be substituted for the English courses which make up the minor.

Languages Other Than English

Most graduate schools require some proficiency in one or two languages other than English. Those who contemplate graduate studies in this field are advised to include language courses other than English in their programs.

Joint Major in English and Canadian Studies

See “Joint Major Programs” on page 134.

Joint Major in English and French Literatures

See “Joint Major in English and French Literatures” on page 152 for program information.

Joint Major in English and Humanities

See “Joint Major in History and Humanities” on page 159 for program information.

Joint Major in English and Women’s Studies

See “Joint Major in English and Women’s Studies” on page 177 for program information.

Extended Minor Program

An extended general minor consists of the lower division requirements for a major and the upper division requirements for a minor. Approval by the Department of English advisor is required.
Co-operative Education Program

This program, for students who wish to acquire work experience in areas related to English studies, entails planned semesters of study and employment in an area of the student’s choice.

To be admitted, students must have completed 30 credit hours with a minimum CGPA of 3.0. Prior to admission, students must have completed five English courses (15 credit hours of credit) including the lower division requirements for a minor in English.

College transfer students must complete at least 15 credit hours at Simon Fraser University before becoming eligible for admission to the co-operative education program. They also must satisfy the requirements shown above, or the equivalent.

Transfer students who have participated in co-operative education programs elsewhere may be credited with the semester(s) already taken. The applicability of such semesters depends on the evaluation.

Arrangements for the work semesters are made through the Faculty of Arts co-operative education co-ordinators.

To continue in the program, students must maintain a minimum CGPA of 3.0 in their academic course work.

Interested students should contact the Department of English for further information. Also, see “Co-operative Education” on page 216.

First Nations Studies Program

6188 Academic Quadrangle, (604) 291-4774 Tel, (604) 291-4989 Fax, www.sfu.ca/fns

Director
D.V. Burley BA (New Br), PhD (S Fraser)
Associate Professor
M. Boelscher-Ignace MA (Georg August Universitat), PhD (S Fraser), co-ordinator, SCES/SFU Program in Kamloops**

Instructor
E. Yellowhorn BSc, BA (Calg), MA (S Fraser)*

Advisory Committee
D. Burley, Archaeology
H. Coleman, First Nations Studies
D. Culhane, Sociology and Anthropology
M. Ignace, Sociology and Anthropology
B. Mellow, Linguistics
R. Ouellet, student representative
P. Raibmon, History
R. Russell, Mathematics
E. Yellowhorn, First Nations Studies

Advisor
Ms. H. Coleman, 6188 Academic Quadrangle, (604) 291-5595

**Joint appointment with sociology and anthropology

The minor program offers courses in the study of traditional and contemporary issues involving the aboriginal peoples of North America and Canada in particular. Designed for both First Nations students and non-Native students, its focus is on traditional cultures, languages, indigenous knowledge and histories of First Nations, as well as such issues as Indian-White relations, the development of federal and provincial policy towards Native peoples, aboriginal rights and title questions, issues of economic development and self-government and gender and intergenerational issues. The objective of the minor is to present and examine critically the above issues, taking into account the perspectives of aboriginal peoples. It will expose students to research methods pertinent to past, present and future issues affecting aboriginal peoples. In this respect, it is especially relevant for First Nations students who wish to put knowledge of Native issues and research skills to practice in serving their communities and nations.

This program may be taken in conjunction with any major or honors bachelor’s degree, or with a bachelor of general studies degree. It is expected that First Nations studies courses will be taught by faculty with appointments in First Nations or joint appointments in First Nations and other disciplines.

Lower Division Requirements

At least nine lower division credit hours are required including
FNST 101-3 The Cultures, Languages and Origins of Canada’s First Peoples
FNST 201-3 Canadian Aboriginal Peoples’ Perspectives on History
and at least one course from
ARCH 200-3 Special Topics in World Prehistory
(when topic is ancient peoples of British Columbia)
ARCH 223-3 The Prehistory of Canada
BISC 272-3 Special Topics in Biology (when topic is Native Ethnobotany)
HIST 201-3 The History of Western Canada
LING 231-3 Introduction to an Amerindian Language I
LING 232-3 Introduction to an Amerindian Language II
LING 260-3 Language, Culture, and Society (when topic appropriate)
SA 286-4 Native Cultures of British Columbia (A)
STAT 203 (formerly 103) (or equivalent) and SA 255 (or equivalent course in research methods) are strongly recommended.

Other courses which have First Nations content may be applied toward the minor as an elective, subject to approval by the program director.

Upper Division Requirements

At least 15 upper division credit hours are required, including at least six credit hours from
FNST 301-3 Issues in Applied Native Studies Research
FNST 401-3 Aboriginal Rights and Government Relations
FNST 402-3 The Discourse of Native Peoples
FNST 403-3 Indigenous Knowledge in the Modern World

Students must also complete at least nine credit hours from
ARCH 332-3 Special Topics in Archaeology I*
ARCH 333-3 Special Topics in Archaeology II*
ARCH 360-3 Native Cultures of North America
ARCH 378-3 Pacific Northwest North America
ARCH 386-3 Archaeological Resource Management
ARCH 479-3 Directed Readings*
CRIM 419-3 Indigenous Peoples, Crime, and Criminal Justice

Other courses which have First Nations content may be applied toward the minor as an elective, subject to approval by the program director.

Co-operative Education

In conjunction with other Faculty of Arts departments and other faculties offering co-operative education, eligible students wishing to undertake a First nations studies minor may apply to co-op for work placements in native organizations or with employers in the private, public and non-profit sectors.

Certificate in Native Studies Research

This program provides a unique opportunity to explore the history and prehistory, culture, language and contemporary situation of Canadian native peoples, and to acquire basic skills in researching native issues. Particular emphasis is on the study of native people in the interior of British Columbia.

Offered through the Simon Fraser University/Secwepemc Cultural Education Society (SCES) Program in Kamloops, all program components can be taken at the SCES Centre on the Kamloops (Shuswap) Indian reserve, and normally require five full time study semesters. It can be completed as a two year program, or be part of a BA degree program.

The certificate is especially suitable for native individuals who wish to gain proficiency in studying native issues and to acquire social research skills which can be put to use in their communities and nations. It is also open to non-native students who wish to acquire skills in the above areas.

The certificate is subject to continued funding from external sources.

Admission Requirements

Normally, Simon Fraser University admission requirements apply. Students may be admitted under regular or special entry categories. Application assistance and advice is available at the SCES Centre in Kamloops.

Program Requirements

- successful completion of 30 credit hours, of which 21 are earned by completing six required courses. The remaining nine credit hours are selected from the specified list of optional courses.
- completion of a practicum, where the student can apply research skills in a supervised setting.
- minimum grade point average of 2.0 calculated on all courses applied to the certificate. Duplicate courses are counted only once.
- completion of the certificate normally within five years of program admission.

Core Courses

ARCH 273-3 Archaeology of the New World
HIST 201-3 The History of Western Canada

LING 340-3 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. This combination counts as only one course for satisfying requirements for the minor.

**when not used toward required of six credit hours

***only when the topic is a native language

Other courses which have First Nations content may be applied toward the minor as electives, subject to approval by the program director.

Credit accumulated in the certificate in native studies research may be applied toward the minor in First Nations studies.

Certificate in Native Studies Research

ARCH 273-3 Archaeology of the New World
HIST 201-3 The History of Western Canada
**Department of French**


Chair
M.C. Fauchon Lé REL, Dr3rdCy (Paris), Chev. Palmes Acad (France), FRSCan

Professor Emeritus
G. Merlet BA, MA, PhD (Laval)

Professors
R. Davison BA, MA, PhD (McG)
M.C. Fauchon Lé REL, Dr3rdCy (Paris), Chev. Palmes Acad (France), FRSCan
J. Viswanthan LesL (LèGE), MA (III), DesL (LèGE)

Associate Professors
G. Poirier BA (Laval), MA, PhD (McG)
P. Wrenn BA, MA, PhD (Tor)

Assistant Professor
R. Canac-Marquis BA, MA (UQAM), PhD (U Mass, Amherst)

Senior Lecturers
C.N. Luu-Nguyen BED (Saigon, MA (Monterey Inst Foreign Studies)
C. Trépanier BA, MA (Laval)

Laboratory Instructor
L. Brunew BA (Qu), MEd (S Fraser)

Advisor
Ms. R. Gould, 8108A Robert C. Brown Hall, (604) 291-4505

The Department of French offers honors, major and extended minor programs encompassing French language, literature and linguistics. In addition, joint major programs are available in English and French literature, in French, history and political science, and in French and humanities. A certificate program in French language proficiency is also offered for those who wish to enhance their knowledge of French for cultural, professional or employment purposes.

**Initial Course Selection**

Native French speakers, or those who received secondary education entirely within a French-speaking community will not normally be admitted to a French language course numbered 100 to 300 inclusive (except FREN 199 and 299).

**French Language Placement Test**

Students fitting into the following categories need not take the placement test but should register in the course indicated below.

- **BC grade 12 French completed within the last three years who received a final grade of A:** register in **FREN 201**
- **BC grade 12 French completed (irrespective of grade) within the last three years and who have subsequently spent at least five weeks in a francophone environment:** register in **FREN 201**
- **BC grade 12 French completed within the last three years who do not meet the above two conditions:** register in **FREN 151**
- **Students who have completed grade 11 French within the last three years and have taken no more 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 200/240, 270, or 301**

All others are required to take the placement test including the following:

- French immersion, programme francophone, IB and AP students

- college/university transfer students with transfer credits in French
- students from other provinces or countries
- students who have taken any credit/non-credit French course of six or more weeks duration since high school
- students who have lived (minimum 30 months) in a francophone environment
- special cases and any students seeking advice on eligibility to earn challenge credit for 151, and/or 201, and/or 202, and/or 206

Those required to take the placement test are urged to consult the **Course Timetable and Exam Schedule** for dates and times of the tests.

**Course Challenge**

Up to 12 credit hours of lower division French courses may be challenged by students receiving advanced placement. Courses open to challenge are: FREN 151, 201 or 216, 202 and 206. Students may challenge lower level language courses only when registered in one of FREN 201 (or 216), 202, 206, or 301. Challenge of language courses lower than the one actually registered in may be initiated by filling out and signing a course challenge form, obtainable from the French general office. The challenge must be approved by the department and submitted to the Office of the Registrar prior to the tenth day of classes. Successful completion (with a grade of at least C) of the language course actually taken automatically adds the challenge credit to the student's transcript. Please see “Course Challenge” on page 41.

**Honors, Major, Extended Minor Programs**

To be approved in a program, a student must have successfully completed (i.e. obtained a minimum grade of 2.0 or better in each of) the following courses or equivalents: FREN 151, 201 or 216, 202, 206, 230 or 240 and 270. Students who place in FREN 301 in the placement test will complete only FREN 230/240 and FREN 270 prior to acceptance in the program.

Only one of FREN 300 or 330 may be used in partial fulfilment of the upper division requirements of honors, major, extended minor, joint major and certificate programs.

For a degree in French, the following courses are required.

**Lower Division Requirements**

- all of FREN 151-3 French I*
- FREN 201-3 Intermediate French I* (or 216)
- FREN 202-3 Intermediate French II*
- FREN 206-3 Intermediate French III*
- FREN 270-3 Introduction to French Linguistics I
- one of FREN 230-3 Introduction to French-Canadian Literature
- FREN 240-3 Introduction to French Literature: Modern French Literature

*Exemption is gained by successful completion of a more advanced French language course. Lower division language courses may be challenged (see above).

**Upper Division Requirements**

- Major
  - FREN 301-3 Advanced French Composition I
  - FREN 360-3 Intermediate French Literature
  - FREN 370-3 Introduction to French Linguistics II

A further 21 credit hours of French, to be chosen from among the remaining courses at the 300 and 400 division, must be completed.
Note: A minimum of 12 of the remaining 21 credit hours must be from 400 division French courses. Students wishing to concentrate in French linguistics are advised to consider an extended minor in general linguistics.

Honors
FREN 301-3 Advanced French Composition I
FREN 360-3 Intermediate French Literature
FREN 370-3 Introduction to French Linguistics II
A further 41 credit hours of French, to be chosen from among the remaining courses at the 300 and 400 division, must be completed.

Note: A minimum of 24 of the remaining 41 credit hours must be from 400 division French courses, including the following which should be taken during the last semesters of study.
FREN 491-3 Readings in French Linguistics and/or Literary Criticism
FREN 492-3 Honors Essay
In addition, the honors student must acquire proficiency (i.e., the equivalent of two semesters) in another language in addition to English and French.

Extended Minor
Students must complete both of FREN 301-3 Advanced French – Composition I and FREN 302-3 Advanced French – Composition II and one of FREN 360-3 Intermediate French Literature or FREN 370-3 Introduction to French Linguistics II
A further six credit hours of French, to be chosen from among the remaining courses at the 300 and 400 division, must be completed.

Note: LING 360 or FREN 310 may 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 099-3 French for Beginners
FREN 100-3 Introductory French I
FREN 101-3 Introductory French II
FREN 151-3 French I
FREN 199-3 Writing French I: Spelling and Grammar*
FREN 201-3 Intermediate French I
FREN 202-3 Intermediate French II
FREN 205-3 French Language: Oral Practice
FREN 206-3 Intermediate French III
FREN 216-3 French for Immersion Program Students
FREN 220-3 French for Business
FREN 299-3 Writing French II: Intermediate Composition*
FREN 300-3 Advanced French – Conversation
FREN 301-3 Advanced French – Composition I
FREN 302-3 Advanced French – Composition II
FREN 330-3 The Francophone World
*restricted entry to these distance education courses

French Linguistics
FREN 301 and 302 represent the formal culmination (but not the end) of the student’s training in French language use. FREN 270 and 370 represent the bridge between this knowledge of French (i.e., ability to use) and a knowledge about French (i.e., how to approach, analyse and describe various linguistic aspects of the French language). These latter concerns form the central objectives of the 400 division French linguistics courses.
Linguistic Theories
FREN 270-3 Introduction to French Linguistics I
FREN 370-3 Introduction to French Linguistics II
FREN 414-3 French Linguistic Theories
Structure of French
FREN 411-4 Modern French: Morphology
FREN 412-4 Modern French: Syntax
FREN 413-4 Modern French: Phonology
FREN 420-3 French Semantics and Lexicology
Evolution of French
FREN 407-4 History of French: Phonology
FREN 408-4 History of French: Morphology and Syntax
French Dialects
FREN 421-3 Varieties of French
French Applied Linguistics
FREN 310-3 Linguistics and French Language Learning
FREN 311-3 The Acquisition of Vocabulary
FREN 312-3 Corrective Phonetics

French Literature
200 Division Courses: FREN 240 and 230 introduce students to basic concepts and methods of literary analysis as well as the sociocultural background of a few short modern French and Canadian works of fiction, drama and poetry. They also aim to improve language competence: all lectures, class discussions, and assignments are in French. FREN 230 or 240 are prerequisites for FREN 360.
300 Division: FREN 360 continues the introduction to the textual analysis of literary texts (fiction, drama and poetry) offered in 240, 230. The historical background of the works selected from the Middle Ages to the 19th century is also discussed. FREN 360 is a prerequisite for all 400 division French literature courses.
400 Division: These courses study specific literary movements or genres through various critical approaches: thematic or structural. The emphasis is on close textual analysis rather than literary history.

Joint Major in English and French Literatures
The joint major is an interdisciplinary program, usually within a BA, designed for students who are interested in exploring the many close relationships between English and French literatures.
Advisors
Ms. R. Gould, Department of French, 8108A Robert C. Brown Hall, (604) 291-4505
Dr. J. Viswanathan, Department of French, (604) 291-4823
Dr. M. Harris, Department of English, (604) 291-3127
Ms. 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 all of 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

Recommended
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 406-3 French Stylistics

English
Students must complete 20 hours in upper division English courses, one of which must come from within the series ENGL 300-322. Courses should be selected according to guidelines (see below).
The following are recommended if the student is interested in critical theory.
ENGL 364-4 History and Principles of Literary Criticism
ENGL 366-4 Studies in Critical Approaches to Literature
Joint majors (or prospectives) in English and French literatures must plan their program in consultation with the program faculty advisors and consult the Faculty of Arts – Department of French
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 Robert C. Brown Hall, (604) 291-4505
Mrs. T. Wright, Department of History, 6026 Academic Quadrangle, (604) 291-4429
Mrs. P. Jantzi, Department of Political Science, 6025 Academic Quadrangle, (604) 291-3446

This program concentrates on languages, literature, history and politics of France and French-speaking peoples of Canada and the world. It prepares for careers in teaching, journalism, archival work, civil and diplomatic services and is offered by the Departments of French, History and Political Science.

It is organized into three main themes: the French-speaking peoples of Canada, France and Europe, and the French-speaking peoples of the world. Students are not confined to any one theme; they may take any combination of courses within the program. The only requirement is that there must be some demonstrable French content in the course.

The relevance of courses to the program is frequently obvious, e.g., courses dealing directly with France, French Canada, and the French language, but in cases where there is doubt as to sufficient French content in a course, the student should consult the steering committee representative in the appropriate department and review the Guidelines for Course Selection (contained in the information brochure relating to the joint major) which lists sample courses suitable for the program. The program is intended to be broad in nature; the emphasis is on the role played in the world by French language, literature, history and politics; hence the courses selected may represent a variety of interests and fields.

The attention of students is drawn to courses offered by the Canadian studies program which might be of interest.

Lower Division Requirements

As prerequisites, the following are required for a total of 42 credit hours:
12 credit hours of History
12 credit hours of political science
15 credit hours of French
3 additional credit hours of history or political science

*see below for possible exemptions for those already proficient in French

Upper Division Requirements

The following are required for a total of 47 credit hours:
16 credit hours of history
16 credit hours of political science
15 credit hours of French (FREN 301, 360 or 370 and nine credits of 400 level courses)

History

Students must take 12-15 credit hours of lower division history and at least 16 hours of upper division history. Courses may be chosen in consultation with the history departmental assistant or the history representative on the program steering committee and, after reviewing the Guidelines for Course Selection, which offers a list of sample courses suitable to the program. Such choices must fit with the thematicity criteria of the joint major to the steering committee’s satisfaction.

Political Science

Students must take 12-15 lower division credit hours and at least 16 credit hours of upper division political science. Students may choose courses in consultation with the departmental assistant of political science or the representative of the Department of Political Science on the program steering committee after reviewing the Guidelines for Course Selection. It is emphasized that such choices must fit in with the thematicity criteria of the joint major program to the satisfaction of the steering committee.

French

Students must acquire an appropriate degree of proficiency in both oral and written French. In order to achieve this, a certain number of French language courses are required. Exemption from one or more French language courses can be obtained by gaining advanced placement through a placement test administered by the Department of French. The course challenge procedure may also be used to fulfill lower division language requirements in part or in full.

Lower Division

FREN 151-3 French I (or exemption)
FREN 201-3 Intermediate French I (or exemption)
FREN 202-3 Intermediate French II (or exemption)
FREN 206-3 Intermediate French III (or exemption)
one of
FREN 230-3 Introduction to French-Canadian Literature
FREN 240-3 Introduction to French Literature: Modern French Literature
FREN 270-3 Introduction to French Linguistics I

Suggested

FREN 205-3 French Language: Oral Practice

Upper Division

FREN 301-3 Advanced French – Composition I
one of
FREN 360-3 Intermediate French – Literature
FREN 370-3 Introduction to French Linguistics II

Note: Students wishing to complement this joint major program specialization with greater competence in oral and written French may take FREN 300 or 330 and FREN 302 in addition to the above requirements. FREN 330 is highly recommended.

At least nine hours must be at the 400 level. Students may choose courses in consultation with the Department of French departmental assistant or the representative of the Department of French on the program steering committee and after reviewing the Guidelines for Course Selection.

Joint Major in French and Humanities

Please see “Department of Humanities” on page 160 for requirements.

Extended Minor Program

This program consists of the lower division requirements for a major and the upper division requirements for a minor. Certain other criteria may be set by individual departments and programs. Students must have their program approved by the advisor for the extended minor program.

Post Baccalaureate Diploma in French and Education

The Department of French and Faculty of Education jointly offer this post baccalaureate diploma comprising a set of organized courses for practising or future French teachers. This program includes courses directly related to the pedagogy of French as a second language as well as courses enhancing previous competence in the French language, or knowledge of French literature or linguistics.

Admission Requirements

Students must seek admission or re-admission to the University and, once admitted, must separately apply to the Department of French advisor for diploma program admission. Qualifications for application to the program include the following.

• The completion of a recognized bachelor’s degree with a minimum graduation grade point average of 2.0 from institutions with British Columbia and 2.4 from institutions outside the province. University course work undertaken subsequent to the bachelor’s degree will also be considered for admisibility 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, consult with the student advisor in the Department of French, Ms. R. Gould, (604) 291-4505.

Program Requirements

Students must successfully complete an approved program comprised of at least 30 upper division credit hours. Graduate courses may be taken with prior approval. Normally 15 credit hours will be completed from each of the French and education list of courses below. A minimum cumulative GPA of 2.5 is necessary for courses applied toward the diploma.

The diploma must be completed within five years of program admission. Teachers seeking a reclassification should note that, since integrated programs are looked upon as upgrading work, all courses in such programs must be taken no more than 10 years before the date of reclassification through the Teachers’ Qualification Service.

Formal application for graduation is made through the Office of the Registrar. Deadlines for submission of application to graduate are outlined in the Academic Calendar of Events section.

Transfer Credit

Transfer credit for course work in education and/or in French may be considered to fulfill requirements for this program. A maximum of six transfer credits in each of French and education may be awarded.

French Requirements

Students normally choose 15 credit hours from the following courses.

A minimum of two of
FREN 310-3 Linguistics and French Language Learning
FREN 311-3 The Acquisition of Vocabulary
FREN 312-3 Corrective Phonetics

The remaining credit hours may be selected from 300 and 400 level French courses with the exception of FREN 342. In addition, only one of FREN 300 or 330 will count towards the 15 upper division credits required for the diploma.

Please note that all course selections must be approved by the advisor in French department.
Students with credit for the above courses or equivalents must select approved substitutes from upper division French courses. Students with no previous undergraduate courses in French linguistics or French literature are required to take the lower level prerequisites FREN 270 and/or FREN 230/240.

**Education Requirements**

Students normally choose 15 credits from among the following courses including both of EDUC 441-4 Multicultural Education and EDUC 450-4 French Curriculum Studies.

The remaining credits may be chosen from the following:

- EDUC 325-3 Assessment of Classroom Teaching
- EDUC 326-3 Classroom Management and Discipline
- EDUC 384/385 Special Topics
- EDUC 451-4 Classroom French Curriculum Practices
- EDUC 472-4 Language Arts
- EDUC 473-4 Reading
- EDUC 474-4 Social Studies
- EDUC 475-4 Mathematics
- EDUC 476-4 Natural Sciences
- EDUC 480-4 French as a Second Language
- EDUC 481-4 French Immersion and Programme cadre de Français

*courses offered in French during summer institutes*  
**this course may be substituted with EDUC 826 if EDUC 473 has already been taken (special permission required).**

***this course may be substituted with EDUC 858 if EDUC 481 has already been taken (special permission required).***

**Certificate in French Language Proficiency**

This program is for students who may or may not be enrolled in a degree program and who wish to improve oral and written French proficiency. It is also for those wishing to enhance their knowledge of the language for cultural or professional needs. The program is not intended for native speakers of French.

Recommendations for the award of the certificate will be made by the Department of French and the Faculty of Arts.

**Admission**

Normal admission requirements to Simon Fraser University will apply.

**Requirements**

Students must successfully complete 30 credit hours, of which 21 hours are earned by completing seven required courses. The remaining nine credit hours may be selected from any other French courses, excluding FREN 270, 100, 101, 198, 298, and 342. 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, Modern French Literature, FREN 240-3 Introduction to French Literature: Recommended FREN 300-3 Advanced French – Conversation, FREN 330-3 The Francophone World, FREN 302-3 Advanced French – Composition II.

The program normally takes 5-6 semesters to complete. A minimum GPA of 2.5 is calculated on all SFU courses that are applied to the certificate. Duplicate courses are counted only once.

**Note**: It is possible to obtain exemption, up to a maximum of 12 credit hours, from lower division French language courses by advance placement, obtained by demonstrating equivalent preparation to the French department's satisfaction. Exempted courses must be replaced with credit obtained by:

- approved transfer credit for French courses taken at another post-secondary institution (subject to University regulations governing the approval of transfer credit), up to a maximum of six credit hours
- challenge credit for exempted courses (subject to University regulations governing approval of challenge credit), up to a maximum of six hours
- successful completion of other French courses at Simon Fraser University, excluding FREN 099, 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 “General Information” on page 25), credits accumulated toward the certificate program may be applied also to major programs or extended minor programs or to a bachelor's degree.

**Italian Courses**

Italian courses are administered by the Department of French. For courses, see “Italian ITAL” on page 270.

**Department of Geography**


**Chair**

(to be announced)

**Professors Emeriti**

R.C. Brown BS, MS (Oregon State), PhD (Mich State)
C.B. Crampton BSc, PhD (Brist)
F.F. Cunningham BA, MA, DipEd (Durh), FRGS
A. MacPherson MA (Edin), FRMetS
T.K. Polker PhD (Heidel)
P.L. Wagner AB, MA, PhD (Calif)
J.W. Wilson BSc (Glas), MSc (MIT), MPP (N Carolina)
S.T. Wong AB (Augustana, Ill), AM (Yale), PhD (Chic)

**Professors**

W.G. Bailey BSc (Tor), PhD (McM)
A.M. Gill BA (Hull), MA (Alta), PhD (Manit)**
R. Hayter BA (Newcastle, UK), MA (Alta), PhD (Wash)
E.J. Hickin BA, PhD (Syd), PGeo**
J.T. Pierce BA (Tor), MA (Wat), PhD (Lond), Dean of Arts
A.C.B. Roberts BA (Tor), MA (Wat), PhD (York)
M.C. Roberts BSc (Lond), MA (Tor), PhD (Iowa), PGeo**

**Associate Professors**

N.K. Blomley BSc, PhD (Brist)
T.A. Brennand MA (Camb), PhD (Alta)
J.A.C. Broham BA (Car), MA, PhD (Calif)
R.A. Clapp BA (Yale), MA, PhD (Calif)
M.V. Hayes BA, MSc, PhD (McM)
L. Hutchinson BA (Liv), MSc (McG), PhD (S Fraser)
P.M. Korosić BA, MA, PhD (Mich)
L.F.W. Lesack BSc (Manit), PhD (Calif)*
M.L. Roseland BA, MA (Conn), PhD (Br Col)
M.G. Schmidt BSc (Guelph), MSc (Lake), PhD (Br Col)

**Assistant Professors**

B.E. Bradshaw BA (Trent), PhD (Guelph)
S. Dragicević BEng (Belgrade), MSc (Belgrade), PhD (Montr)
R.B. Horstfall BA (Reed), MA, PhD (Johns H)
J. Hyndman BA (Alta), MA (Lanc), PhD (Br Col)
B. Pitman BA (S Fraser), MDes (Calg), PhD (Calif)
W.L. Quinton BA (Western), MSc (York), PhD (Sask)
N.C. Schuurman BSc (NfdIm MA, PhD (Br Col)

**Associate Member**

W.G. Gill, Associate Vice-President, Simon Fraser University at Harbour Centre

**Senior Lecturer**

I. Winton MA (Glas), MA (Br Col), PhD (Minn)

**Advisor**

Ms. H. Jones, 7124 Robert C. Brown Hall, (604) 291-4128

*joint appointment with biological sciences
**joint appointment with earth sciences
***joint appointment with resource and environmental management

The Department of Geography offers a program of study within the Faculty of Arts leading to the degree of bachelor of arts in geography. Students interested in a bachelor of science degree in geography should see “Physical Geography Program” on page 207.

**BA Major Program**

Students should check that they have fulfilled the requirements of the Faculty of Arts. See “Bachelor of Arts Degree” on page 128. Transfer students may enter the program without having fulfilled all lower division requirements. See the academic advisor as soon as possible about entering the program.

**Supporting Courses Outside Geography**

Students will profit greatly by selecting a wide range of subjects outside geography. Economics, sociology and anthropology, political science, history, and many areas in the Faculty of Science can be of great value to the prospective geographer. Students may wish to complete a minor in one of these fields. Any geography faculty member will be pleased to advise.

Students with credit or claiming advanced standing in geography should consult the department advisor concerning the structure of their programs.

**Lower Division Requirements**

Students must complete GEOG 100-3 Human Geography 6 credit hours

Students must also complete one 200 level course from section A (see below), both GEOG 221 and 241 from section B, and one course from section C.

**Section A – Physical Geography**

GEOG 111-3 Physical Geography 12 credit hours

**Section B – Human Geography**

GEOG 100-3 Human Geography 6 credit hours

**Section C – Techniques and Special Requirements**

GEOG 250-3 Cartography I

**Section D – Regions**

GEOG 162-3 Canada
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG 452-4</td>
<td>Advanced Issues in Geographic Systems</td>
</tr>
<tr>
<td>GEOG 405-4</td>
<td>Directed Readings</td>
</tr>
<tr>
<td>GEOG 354-4</td>
<td>Introduction to Geographic Information</td>
</tr>
<tr>
<td>GEOG 351-4</td>
<td>Cartography II</td>
</tr>
<tr>
<td>Section C – Techniques and Special Requirements</td>
<td></td>
</tr>
<tr>
<td>GEOG 450-4</td>
<td>Environmental Workshop</td>
</tr>
<tr>
<td>GEOG 449-4</td>
<td>Environmental Processes and Urban Development</td>
</tr>
<tr>
<td>GEOG 448-4</td>
<td>Public Policy, Theory and Human Geography</td>
</tr>
<tr>
<td>GEOG 446-4</td>
<td>Geography of Contemporary Societies</td>
</tr>
<tr>
<td>GEOG 427-4</td>
<td>Selected Topics in the Geography of</td>
</tr>
<tr>
<td>GEOG 426-4</td>
<td>Multinational Corporations and</td>
</tr>
<tr>
<td>GEOG 424-4</td>
<td>Theories and Practices of Development</td>
</tr>
<tr>
<td>GEOG 420-4</td>
<td>Comparative Cultural Geography</td>
</tr>
<tr>
<td>GEOG 422-4</td>
<td>Geographical Ideas and Methodology</td>
</tr>
<tr>
<td>GEOG 417-4</td>
<td>Soil Science</td>
</tr>
<tr>
<td>GEOG 317-4</td>
<td>Geographical Methods and Analysis</td>
</tr>
<tr>
<td>GEOG 414-4</td>
<td>Geographical climatology</td>
</tr>
<tr>
<td>GEOG 415-4</td>
<td>Advanced Biogeography</td>
</tr>
<tr>
<td>GEOG 416-4</td>
<td>Pleistocene Geographical methods</td>
</tr>
<tr>
<td>GEOG 417-4</td>
<td>Geographical Soil Science</td>
</tr>
<tr>
<td>Section B – Human Geography</td>
<td></td>
</tr>
<tr>
<td>GEOG 301-4</td>
<td>Geographic Ideas and Methodology</td>
</tr>
<tr>
<td>GEOG 322-4</td>
<td>World Resources</td>
</tr>
<tr>
<td>GEOG 323-4</td>
<td>The Dynamics of Industrial Location and</td>
</tr>
<tr>
<td>GEOG 324-4</td>
<td>Geographical Transportation</td>
</tr>
<tr>
<td>GEOG 325-4</td>
<td>Geographical Service Activities</td>
</tr>
<tr>
<td>GEOG 327-4</td>
<td>Geographical Tourism and Outdoor Recreation</td>
</tr>
<tr>
<td>GEOG 362-4</td>
<td>Geographical Urban Development</td>
</tr>
<tr>
<td>GEOG 369-4</td>
<td>Human Microgeography</td>
</tr>
<tr>
<td>GEOG 375-4</td>
<td>Historical Geographical Ideas and Methodology</td>
</tr>
<tr>
<td>GEOG 381-4</td>
<td>Political Geographical Ideas and Methodology</td>
</tr>
<tr>
<td>GEOG 382-4</td>
<td>Geographical Population</td>
</tr>
<tr>
<td>GEOG 383-4</td>
<td>Regional Development and Planning</td>
</tr>
<tr>
<td>GEOG 385-4</td>
<td>Food Production and the Environment</td>
</tr>
<tr>
<td>GEOG 386-4</td>
<td>Geographical Health and Health Care</td>
</tr>
<tr>
<td>GEOG 387-4</td>
<td>Geographical Gender</td>
</tr>
<tr>
<td>GEOG 389-4</td>
<td>Human Ecology; Human Relations to Nature</td>
</tr>
<tr>
<td>GEOG 420-4</td>
<td>Comparative Cultural Geography</td>
</tr>
<tr>
<td>GEOG 422-4</td>
<td>Geographical Ideas and Methodology</td>
</tr>
<tr>
<td>GEOG 424-4</td>
<td>Geographical Urban Transportation</td>
</tr>
<tr>
<td>GEOG 426-4</td>
<td>Multinational Corporations and</td>
</tr>
<tr>
<td>GEOG 427-4</td>
<td>Selected Topics in the Geography of</td>
</tr>
<tr>
<td>GEOG 441-4</td>
<td>Geographical Urban Regions</td>
</tr>
<tr>
<td>GEOG 444-4</td>
<td>Regional Development and Planning</td>
</tr>
<tr>
<td>GEOG 445-4</td>
<td>Resource Planning</td>
</tr>
<tr>
<td>GEOG 446-4</td>
<td>Geographical Contemporary Societies</td>
</tr>
<tr>
<td>GEOG 448-4</td>
<td>Public Policy, Theory and Human Geography</td>
</tr>
<tr>
<td>GEOG 449-4</td>
<td>Environmental Processes and Urban Development</td>
</tr>
<tr>
<td>Section D – Regions</td>
<td></td>
</tr>
<tr>
<td>GEOG 460-4</td>
<td>Selected Regions</td>
</tr>
<tr>
<td>GEOG 462-4</td>
<td>The Geography of the United States</td>
</tr>
<tr>
<td>GEOG 464-4</td>
<td>Latin American Regional Development</td>
</tr>
<tr>
<td>GEOG 469-4</td>
<td>The Canadian North and Middle North</td>
</tr>
<tr>
<td>GEOG 470-4</td>
<td>The Geography of Western Canada</td>
</tr>
<tr>
<td>BA Honors Program</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Students must complete the following courses:</td>
<td></td>
</tr>
<tr>
<td>GEOG 301-4</td>
<td>Geographic Ideas and Methodology</td>
</tr>
<tr>
<td>GEOG 491-4</td>
<td>Honors Essay</td>
</tr>
<tr>
<td>A total of 132 semester hours is required of which 60 must be at the upper division. To graduate with honors, students must have grade point averages of not less than 3.00 (cumulative, upper division and cumulative geography GPA).</td>
<td></td>
</tr>
<tr>
<td>Entry into the honors program requires the approval of the department and admission GPAs of 3.00.</td>
<td></td>
</tr>
<tr>
<td>BA Minor Program</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Students must complete the following courses:</td>
<td></td>
</tr>
<tr>
<td>GEOG 100-3</td>
<td>Human Geography</td>
</tr>
<tr>
<td>GEOG 111-3</td>
<td>Physical Geography</td>
</tr>
<tr>
<td>and one of</td>
<td></td>
</tr>
<tr>
<td>GEOG 221-3</td>
<td>Economic Geography</td>
</tr>
<tr>
<td>GEOG 241-3</td>
<td>Social Geography</td>
</tr>
<tr>
<td>and one of</td>
<td></td>
</tr>
<tr>
<td>GEOG 250-3</td>
<td>Cartography I</td>
</tr>
<tr>
<td>GEOG 251-3</td>
<td>Methods in Spatial Analysis</td>
</tr>
<tr>
<td>GEOG 253-3</td>
<td>Aerial Photographic Interpretation</td>
</tr>
<tr>
<td>12 credit hours</td>
<td></td>
</tr>
<tr>
<td>Students must also complete a minimum of 15 credit hours in GEOG courses numbered 300 and 400.</td>
<td></td>
</tr>
<tr>
<td>15 credit hours</td>
<td></td>
</tr>
<tr>
<td>Total 27 credit hours</td>
<td></td>
</tr>
<tr>
<td>Extended Minor Program</td>
<td></td>
</tr>
<tr>
<td>Students are expected to consult with a departmental advisor when they formally declare an extended minor in geography. The program consists of the lower division requirements for a major and the upper division requirements for a minor (see above).</td>
<td></td>
</tr>
<tr>
<td>Geography – Environmental Specialty Major Program</td>
<td></td>
</tr>
<tr>
<td>Lower Division Requirements</td>
<td></td>
</tr>
<tr>
<td>Students must complete a total of 24 credit hours including</td>
<td></td>
</tr>
<tr>
<td>GEOG 100-3</td>
<td>Human Geography</td>
</tr>
<tr>
<td>GEOG 111-3</td>
<td>Physical Geography</td>
</tr>
<tr>
<td>GEOG 215-3</td>
<td>Biogeography</td>
</tr>
<tr>
<td>GEOG 221-3</td>
<td>Economic Geography</td>
</tr>
<tr>
<td>GEOG 241-3</td>
<td>Social Geography</td>
</tr>
<tr>
<td>Also required is one course selected from the Section C – Techniques and Special Requirements list (see above) plus the following two trans-disciplinary core courses.</td>
<td></td>
</tr>
<tr>
<td>EVSC 200-3</td>
<td>Introduction to Environmental Science</td>
</tr>
<tr>
<td>REM 100-3</td>
<td>Global Change</td>
</tr>
<tr>
<td>Upper Division Requirements</td>
<td></td>
</tr>
<tr>
<td>Students must complete the following courses:</td>
<td></td>
</tr>
<tr>
<td>GEOG 389-4</td>
<td>Human Ecology; Human Relations to Nature</td>
</tr>
<tr>
<td>GEOG 445-4</td>
<td>Resource Planning</td>
</tr>
<tr>
<td>GEOG 450-4</td>
<td>Environmental Workshop</td>
</tr>
<tr>
<td>REM 311-3</td>
<td>Applied Ecology and Sustainable Environments</td>
</tr>
<tr>
<td>REM 356-3</td>
<td>Institutional Arrangements for Sustainable</td>
</tr>
<tr>
<td>Environmental Management plus one course in each of the following groups:</td>
<td></td>
</tr>
<tr>
<td>Physical Geography</td>
<td></td>
</tr>
<tr>
<td>GEOG 311-4</td>
<td>Hydrology I</td>
</tr>
<tr>
<td>GEOG 312-4</td>
<td>Geographical Natural Hazards</td>
</tr>
<tr>
<td>GEOG 313-4</td>
<td>Geomorphology I</td>
</tr>
<tr>
<td>GEOG 314-4</td>
<td>Geomorphology II</td>
</tr>
<tr>
<td>GEOG 315-4</td>
<td>Regional Ecosystems</td>
</tr>
<tr>
<td>GEOG 316-4</td>
<td>Ecosystem Biogeography</td>
</tr>
<tr>
<td>GEOG 317-4</td>
<td>Geographical Soil Science</td>
</tr>
<tr>
<td>Spatial Science</td>
<td></td>
</tr>
<tr>
<td>GEOG 352-4</td>
<td>Methods in Spatial Analysis.</td>
</tr>
<tr>
<td>GEOG 353-4</td>
<td>Remote Sensing</td>
</tr>
<tr>
<td>GEOG 354-4</td>
<td>Introduction to Geographic Information Systems</td>
</tr>
<tr>
<td>Human Impacts on the Biophysical Environment</td>
<td></td>
</tr>
<tr>
<td>GEOG 322-4</td>
<td>World Resources</td>
</tr>
<tr>
<td>GEOG 327-4</td>
<td>Geographical Tourism and Outdoor Recreation</td>
</tr>
<tr>
<td>GEOG 382-4</td>
<td>Population Geography</td>
</tr>
<tr>
<td>GEOG 385-4</td>
<td>Food Production and the Environment</td>
</tr>
<tr>
<td>GEOG 386-4</td>
<td>Geographical Health and Health Care</td>
</tr>
<tr>
<td>GEOG 387-4</td>
<td>Geographical Gender</td>
</tr>
<tr>
<td>GEOG 389-4</td>
<td>Human Ecology; Human Relations to Nature</td>
</tr>
<tr>
<td>Joint Major in Geography and Business Administration</td>
<td></td>
</tr>
<tr>
<td>See “Joint Major in Business Administration and Geography” on page 183 for requirements.</td>
<td></td>
</tr>
<tr>
<td>Joint Major in Geography and Canadian Studies</td>
<td></td>
</tr>
<tr>
<td>See “Joint Major Programs” on page 134.</td>
<td></td>
</tr>
</tbody>
</table>
Joint Major in Geography and Economics – Environmental Specialty

Lower Division Requirements

Economics
Students must complete the same requirements as for the economics major program and also complete ECON 260; the latter course can be counted as one of the 200 level requirements.

Geography
Students must complete the same requirements as for the geography – environmental specialty major program.

Upper Division Requirements

Economics
Students must complete 25 credit hours in economics including
ECON 301-5 Intermediate Microeconomic Theory
ECON 305-5 Intermediate Macroeconomic Theory
ECON 362-4 Economics of Natural Resources
BUEC 334-4 Elementary Economic and Business Statistics II
and at least one 400 division ECON or BUEC course (excluding ECON 431, 435, BUEC 433 and 485) and,
to satisfy economics group requirements, at least one of the following.
ECON 102-3 Contemporary World Economies
ECON 110-3 Foundations of Economic Ideas
ECON 208-3 History of Economic Thought
ECON 250-3 Economic Development in the Pre-Industrial Period
ECON 309-5 Introduction to Maxxian Economics
ECON 353-4 Economic History of Canada
ECON 355-4 Economic Development
ECON 395-5 Comparative Economic Systems
ECON 404-3 Honors Seminar in Methodology of the Social Sciences
ECON 407-3 Seminar in Marxian Economics
ECON 409-3 Seminar in Economic Thought
ECON 450-3 Seminar in Quantitative Economic History
ECON 451-3 Seminar in European Economic History
ECON 455-3 Seminar in Economic Development

Geography
Students must complete 24 credit hours in geography including
GEOG 322-4 World Resources
GEOG 382-4 Population Geography
plus one of
GEOG 323-4 The Dynamics of Industrial Location and Regional Development
GEOG 383-4 Regional Development and Planning I
GEOG 385-4 Food Production and the Environment
GEOG 386-4 Geography, Health and Health Care
plus three of
GEOG 422-4 Theories and Practices of Development
GEOG 426-4 Industrial Change and Local Development
GEOG 444-4 Regional Development and Planning II
GEOG 449-4 Environmental Processes and Urban Development
plus the following five core courses
GEOG 389-4 Human Ecology: Human Relations to Nature
GEOG 445-4 Resource Planning
GEOG 450-4 Environmental Workshop
REM 311-3 Applied Ecology and Sustainable Environments
REM 356-3 Institutional Arrangements for Sustainable Environmental Management

Breadth Requirements
These are recommended to fulfill the Faculty of Arts breadth requirements.

ARCH 201-3 Introduction to Archaeology
ARCH 365-3 Ecological Archaeology
ARCH 386-3 Archaeological Resource Management
CMNS 347-4 Communication in Conflict and Intervention
CMNS 466-3 The Communication of Science and the Transfer of Technology
HIST 360-4 The History of Science: 1100-1725
HUM 325-4 The Humanities and the Natural World
PHIL 120-3 Introduction to Moral Philosophy
PHIL 244-3 Introduction to the Philosophy of Natural and Social Science
SA 371-4 The Environment and Society
WS 204-3 Women, Science and Technology

Joint Major in Geography and Latin American Studies

See “Joint Major Programs” on page 162 for requirements.

Languages Other Than English
Some graduate schools require some proficiency in a language other than English. Students who contemplate geography graduate studies should include language courses other than English in their programs.

Certificate in Spatial Information Systems

Admission
Students should consult with the departmental advisor as early as possible for program admission. Formal approval is required before completion of the certificate.

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
and at least one 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 Techniques in Geographic Information Systems
GEOG 453-4 Digital Image Processing

Under special circumstances, students may substitute, from approved courses, up to eight of the above 12 credits to satisfy this requirement.

Certificate in Urban Studies
This certificate encourages and facilitates the study of the nature and functions of the contemporary city from an interdisciplinary perspective of geography, political science, sociology and anthropology. It is for undergraduate students who wish to have a concentration in the area of urban studies. Program completion is possible in one year but additional semesters may be required. The certificate is suited to those contemplating careers in urban planning, governance, consulting and/or those 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 Urban Development
SA 364-4 Urban Communities and Cultures
and at least one of
GEOG 264-3 Canadian Cities
POL 352-4 Urban and Local Governance in Canada
SA 406-4 Post-Industrial Society
and one more course from the above list for a total of eight courses.

Credits applied to one certificate may not be applied to another Simon Fraser certificate or diploma.

Co-operative Education
The co-operative education program is for students who wish to acquire practical experience. The program entails planned semesters of study and employment in an area of the student’s choice.

Requirements
To be admitted into co-op, students must have completed a minimum of 28 credit hours with a minimum cumulative GPA of 2.75. Prior to admission, students must complete the following.

GEOG 100-3 Human Geography
GEOG 111-3 Physical Geography
GEOG 221-3 Economic Geography
GEOG 241-3 Social Geography
one of
GEOG 213-3 Geomorphology I
GEOG 214-3 Climatology I
GEOG 215-3 Biogeography
plus one 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 Techniques 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.

College transfer students must complete at least 15 SFU credit hours before being eligible for co-op program admission and must satisfy the above requirements or their equivalents. College transfer students who have participated in co-op programs elsewhere may be credited with the semester(s) already taken. The applicability of such semesters depends on the evaluation of the department.

To continue in this program, students must maintain a minimum CGPA of 2.5 in the course work.

The following four courses are completed during four work semesters.

Certification in Urban Studies
This certificate encourages and facilitates the study of the nature and functions of the contemporary city from an interdisciplinary perspective of geography, political science, sociology and anthropology. It is for undergraduate students who wish to have a concentration in the area of urban studies. Program completion is possible in one year but additional semesters may be required. The certificate is suited to those contemplating careers in urban planning, governance, consulting and/or those 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 Urban Development
SA 364-4 Urban Communities and Cultures
and at least one of
GEOG 264-3 Canadian Cities
POL 352-4 Urban and Local Governance in Canada
SA 406-4 Post-Industrial Society
and one more course from the above list for a total of eight courses.

Credits applied to one certificate may not be applied to another Simon Fraser certificate or diploma.

Co-operative Education
The co-operative education program is for students who wish to acquire practical experience. The program entails planned semesters of study and employment in an area of the student’s choice.

Requirements
To be admitted into co-op, students must have completed a minimum of 28 credit hours with a minimum cumulative GPA of 2.75. Prior to admission, students must complete the following.

GEOG 100-3 Human Geography
GEOG 111-3 Physical Geography
GEOG 221-3 Economic Geography
GEOG 241-3 Social Geography
one of
GEOG 213-3 Geomorphology I
GEOG 214-3 Climatology I
GEOG 215-3 Biogeography
plus one 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 Techniques 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.

College transfer students must complete at least 15 SFU credit hours before being eligible for co-op program admission and must satisfy the above requirements or their equivalents. College transfer students who have participated in co-op programs elsewhere may be credited with the semester(s) already taken. The applicability of such semesters depends on the evaluation of the department.

To continue in this program, students must maintain a minimum CGPA of 2.5 in the course work.

The following four courses are completed during four work semesters.
GEOG 302-0 Geography Practicum I
GEOG 303-0 Geography Practicum II
GEOG 402-0 Geography Practicum III
GEOG 403-0 Geography Practicum IV

Contact the environmental co-op education
co-ordinator, telephone (604) 291-3115 and see
“Co-operative Education” on page 216.

Gerontology Program

2800 Harbour Centre, (604) 291-5065 Tel,
(604) 291-5066 Fax, www.harbour.sfu.ca/gero,
gero@sfu.ca

Director
G.M. Gutman BA (Br Col), MA (Alta), PhD (Br Col)

Professors
G.M. Gutman BA (Br Col), MA (Alta), PhD (Br Col)
A.V. Wister BA, MA, PhD (W Ont)

Assistant Professors
H. Chaudhury BA (B'Desh Engin), MSC Architecture
(Tex), PhD (Wisc)
J. Mitchell BA, MA (Wat), PhD (McM)*
N. O'Rourke HBBA (W Lau), MA (Br Col), PhD (Ont)

Adjunct Professors
K. Anderson MSW, BSc (Calg)
G. Birch BSc, PhD (Br Col)
S. Brink BA (Madras), MSc, PhD (Purdue)
M. Carr BN Nursing (McG), MSc (CHCHS)
Y. Carriere BSc, MSc, PhD (Montr)
S. Crawford BHE (Br Col), MSc (Lond), PhD
(St Fraser)
K. Dean BA, MA, PhD (Minn)
V. Doyle BA (Vic, BC), EdM (Harv), PhD (S Fraser)
E. Gallagher BSc Nursing (Wash), MSc Nursing
(Duke), PhD (S Fraser)
M. Hollander MSc (Br Col), PhD (Vic)
D. Jackson AA, BTh (Sask)
T. Koch BA (Clarke), MA (Br Col), PhD (Br Col)
L. McDonald-Miszczak BA (Alta), MA, PhD (Vic)
D. Robertson BSc (Dutch), MD (Newcastle, UK)
J. Small BA (New Mexico), BA (Central Wash), PhD
(Calif)
C. Spencer BA (Calg), LLB, LLM (Sask)
L. Trotter BSc (Br Col)

Associate Members
P. Dossa, Sociology and Anthropology
R.M. Gordon, Criminology
W. Parkhouse, Kinesiology
D. Zimmerman, Philosophy

Steering Committee
C.B. Dean, Mathematics and Statistics
E.M. Gee, Sociology
R. Gordon, Criminology
R.B. Horsfall, Geography
M.M. Kimball, psychology/Women’s Studies
J. Martin, Education
W. Parkhouse, Kinesiology
W. Thornton, Psychology

Advisor
Ms. N. Holtby, 2800 Harbour Centre, (604) 291-5065

*joint appointment with sociology and anthropology

Minor Program

The minor will provide specialized education in
gerontology for undergraduate students interested
in combining course work in aging related issues with an
existing major program.

Students entering the program must have completed
a minimum of 60 credit hours with a cumulative grade
point average of 2.0 or better. The following
prerequisite courses are recommended for those
entering this program.

KIN 105-3 Fundamentals of Human Structure and
Function
KIN 142-3 Introduction to Kinesiology
PSYC 100-3 Introduction to Psychology I
PSYC 102-3 Introduction to Psychology II
SA 150-4 Introduction to Sociology (S)
STAT 203-3 Statistics for the Social Sciences

Approved minor students must complete GERO 300
plus 12 credit hours chosen from the following.
GERO 301-3 Research Methods in Gerontology
GERO 302-3 Health Promotion and Aging
GERO 400-4 Seminar in Applied Gerontology
GERO 401-3 Aging and the Built Environment
GERO 402-3 Drug Issues in Gerontology
GERO 404-3 Health and Illness in Later Life
GERO 405-3 Aging in Small Communities and Rural
Areas
GERO 406-3 Death and Dying
GERO 407-3 Nutrition and Aging
GERO 408-4 Families and Aging
GERO 410-3 Special Topics in Gerontology I
GERO 411-3 Special Topics in Gerontology II
GERO 412-3 Special Topics in Gerontology III
GERO 414-4 Special Topics in Gerontology IV
GERO 420-4 Sociology of Aging
GERO 425-3 Adult Guardianship law

Additional courses from various departments are
designated for inclusion in the minor. A list of these
courses is available from the Gerontology Program.
A maximum of six credit hours of designated courses
can be applied towards the minor with prior approval
from the program advisor. Candidates intending to
apply for admission to the Post Baccalaureate
Diploma in Gerontology or to the master's program
should contact the program advisor before selecting
courses for the minor.

Post Baccalaureate Diploma

This program is for students who have completed a
bachelor's degree and are working or plan to work
with the elderly. It provides a broadly based,
multidisciplinary perspective on aging as well as
requisite knowledge and skills for meaningful
intervention and application of research findings to
practice.

For information about the post baccalaureate diploma
program general regulations, see “Continuing Studies” on page 214.

Admission Requirements

- completion of a bachelor’s degree from a
  recognized university with a minimum graduation
  grade point average of 2.5.
- three letters of reference attesting to the applicant's
  personal qualities and characteristics, ability to
  complete a post baccalaureate program of studies
  and career potential and dedication to the field of
  gerontology. Students are advised to obtain an
  application package from the program office. The
  application package consists of a letter of reference
  forms, program information and a separate
  application to the Gerontology Diploma Program.

Program Requirements

Successful completion of 32 hours of approved
course work is required. Of those 32, 20 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 experience
working directly with older persons in a job or
volunteer setting may be required to complete a
practicum. Some organizations may require students
to be cleared through a criminal record search prior to
starting the practicum.

Required Courses
GERO 300-3 Introduction to Gerontology
GERO 301-3 Research Methods in Gerontology
GERO 400-4 Seminar in Applied Gerontology
GERO 420-4 Sociology of Aging

Optional Courses
EDUC 351-3 Teaching the Older Adult
GERO 302-3 Health Promotion and Aging
GERO 401-3 Aging and the Built Environment
GERO 402-3 Drug Issues in Gerontology
GERO 403-3 Counselling with Older Adults
GERO 404-3 Health and Illness in Later Life
GERO 405-3 Aging in Small Communities and Rural
Areas
GERO 406-3 Death and Dying
GERO 407-3 Nutrition and Aging
GERO 408-4 Families and Aging
GERO 410-3 Special Topics in Gerontology I
GERO 411-3 Special Topics in Gerontology II
GERO 412-3 Special Topics in Gerontology III
GERO 414-4 Special Topics in Gerontology IV
GERO 425-3 Adult Guardianship law

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
general and program requirements.

Students should take GERO 300 and 301 when
they begin the program, and GERO 400 near the end.

Students may choose PSYC 301, SA 355 or any
other approved courses in research methodology as
an alternative to GERO 301; however, only one of
these courses may be applied toward the diploma.

Courses other than above may be designated for
gerontology diploma credit from semester to
semester. Check with the program for listings.

Department of History

6026A Academic Quadangle, (604) 291-3521 Tel,
(604) 291-5837 Fax, www.sfu.ca/history

Chair
J.I. Little BA (Bishop's), MA (New Br), PhD (Ott)

Professors Emeriti
C.R. Day BA (Stan), MA, PhD (Harv)
E.R. Ingram MA (Oxf), PhD (Lond), FRHistS
D.S. Kirschner BA, MA, PhD (Iowa)
R.C. Newton BA (Rutgers), MA, PhD (Flor)

Jack and Nancy Farley Endowed University Professor
J. Barr BA (McG), MA, PhD (Yale), FRHistS

Hellenic Canadian Congress of BC Chair in Hellenic
Studies
A. Gerolymatos BA (C'dia), MA, PhD (McG)

University Professor
D.P. Gagan BA, MA (W Ont), PhD (Duke)

Professors
R.E. Boyer BA (Westmount), MA (Wash), PhD (Conn)
W.L. Cleveland BA (Dartmouth), MA, PhD (Prin)
R.K. Debo BA, MA, PhD (Nebraska)
P.E. Dutton BA (W Ont), MA, PhD (Tor), MSD (Pontif
Inst Tor)*

M.D. Fellman AB (Mich), PhD (Northwestern)
D.P. Gagan BA, MA (W Ont), PhD (Duke)
HIST 213-3 The United States since 1877
HIST 212-3 The United States to 1877
HIST 209-3 Latin America: the National Period
HIST 212-3 The United States since 1877

Group 2 – The Americas
HIST 324-4 Slavery in the Americas
HIST 322-4 Atlantic Migration
HIST 321-4 The Origins of Modern Africa: Conquest, Resistance and Resurgence

Group 3 – Africa, Middle East, Asia
HIST 321-3 The Western Imperial Presence in the Middle East and North Africa
HIST 254-3 China to 1800
HIST 255-3 China Since 1800

Note: Candidates for a history major may count one or both of WS 201 and 202 towards the required 18 lower division history credit hours credit.

All students must obtain credit in at least nine hours of lower division history credit before enrolling in upper division work.

Upper Division Requirements
Major students must obtain credit in at least 32 credit hours (eight courses) of 300 and 400 division work; 12 hours (three courses) must be in 400 division work. Courses must be distributed within all three groups. Students must take at least two courses from any two groups, and at least one from the remaining group.

Group 1 – Europe
HIST 308-4 The Byzantine Empire
HIST 309-4 Early Modern Greek History: 1453-1821
HIST 310-4 Women and the Family in Modern Europe
HIST 311-4 Education and Childhood in European History
HIST 312-4 Poverty, Crime, and Madness: Society and the Outcast
HIST 315-4 Politics and Society in England, 1500-1707
HIST 316-4 English Society since the Mid 18th Century
HIST 318-4 Early Modern France
HIST 319-4 France since 1800
HIST 331-4 Germany from the Reformation to 1815
HIST 332-4 Germany since 1815
HIST 334-4 Russia to 1900
HIST 335-4 20th Century Russia
HIST 336-4 Absolutism and Enlightenment
HIST 337-4 The Balance of Power in Europe
HIST 338-4 World War I
HIST 339-4 The British Empire and Commonwealth
HIST 340-4 The History of Science: 1100-1725
HIST 361-4 The History of Science: The 18th Century to the Present
HIST 402-4 Renaissance Italy
HIST 403-4 The European Enlightenment
HIST 404-4 Religion, Society and Politics in England 1530-1640
HIST 405-4 Early Modern English Society
HIST 407-4 Popular Culture in Great Britain and Europe
HIST 411-4 Class and Gender in Modern Europe
HIST 412-4 Marxism and the Writing of History
HIST 413-4 Britain and Europe in the Twentieth Century
HIST 414-4 The Impact of the Great War
HIST 415-4 Victorian Britain
HIST 416-4 The French Revolution
HIST 417-4 Modern French Social History
HIST 419-4 Late Imperial and Revolutionary Russia
HIST 420-4 The History of Russian Foreign Policy from Catherine the Great to Stalin
HIST 421-4 Modern Greece, 1864-1925
HIST 422-4 Greece, 1935-1944: Occupation and Resistance

Group 2 – The Americas
HIST 322-4 Atlantic Migration
HIST 324-4 Slavery in the Americas

Group 3 – Africa, Middle East, Asia
HIST 325 History of Aboriginal Peoples of North America to 1850
HIST 324-4 History of Aboriginal Peoples of North America since 1850
HIST 324-4 Canadian Labor and Working Class History
HIST 328-4 The Province of Quebec from Confederation
HIST 329-4 Canadian Family History
HIST 379-4 The Transformation of American Culture 1830-1900
HIST 382-4 African-American History, since 1865
HIST 384-4 North American Urban History
HIST 386-4 The Material History of North America, 1500-1850
HIST 387-4 The Material History of North America, 1851-Present
HIST 409-4 Disease and Society
HIST 424-4 Problems in the Cultural History of Canada
HIST 425-4 Gender and History
HIST 426-4 State Power and Social Regulation in North America
HIST 427-4 Problems in the History of Aboriginal Peoples
HIST 428-4 Problems in the Social and Economic History of Canada
HIST 430-4 New France
HIST 431-4 Problems in the History of British North America, 1760-1850
HIST 432-4 Problems in Environmental History
HIST 434-4 Things and Stuff: Problems in Material History
HIST 435-4 Problems in the History of the North American West
HIST 436-4 British Columbia
HIST 446-4 American Revolution and the Making of the Constitution
HIST 450-4 The Era of the American Civil War
HIST 452-4 The US in the Progressive Era
HIST 454-4 Gender and Sexuality in US History
HIST 458-4 Problems in Latin American Regional History
HIST 459-4 Problems in the Political and Social History of Latin America

Group 3 – Africa, Middle East, Asia
HIST 343-4 Africa and the Slave Trade
HIST 344-4 East Africa
HIST 348-4 A History of 20th Century South Africa
HIST 350-4 The Ottoman Empire and Turkey
HIST 352-4 Religion and Politics in Modern Iran
HIST 355-4 The Arab Middle East in the Twentieth Century
HIST 365-4 Self and Society in Imperial China
HIST 465-4 The Palestinian-Israeli Conflict
HIST 467-4 Modern Egypt
HIST 469-4 Islamic Social and Intellectual History
HIST 471-4 Women in Modern Japanese History
HIST 473-4 The Making of South African Society
HIST 474-4 Modern Chinese Identities
HIST 481-4 British India
HIST 485-4 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 Classical Islamic Civilization
HIST 251-3 The Western Imperial Presence in the Middle East and North Africa
HIST 292-3 Islamic India
plus four of
HIST 350-4 The Ottoman Empire and Turkey
HIST 352-4 Religion and Politics in Modern Iran
HIST 355-4 The Arab Middle East in the Twentieth Century
HIST 485-4 The Palestinian-Israeli Conflict
HIST 467-4 Modern Egypt
HIST 469-4 Islamic Social and Intellectual History

Concentration in British History
Students may qualify for this concentration by completing:
HIST 215-3 The Making of the British Isles
plus one of
HIST 315-4 Politics and Society in England, 1500-1707
HIST 316-4 English Society since the Middle Ages, 1707-1870
and four of
HIST 339-4 The British Empire and Global Commonwealth
HIST 404-4 Religion, Society and Politics in England, 1530-1640
HIST 405-4 Early Modern English Society
HIST 407 -4 Popular Culture in Great Britain and Europe
HIST 413-4 Britain and Europe in the Twentieth Century
HIST 415-4 Victorian Britain
HIST 481-4 British India

Honors Program
In intensive, small seminars, students are encouraged to refine discussion skills, expository writing, and critical thought. No more than 30 students are enrolled at any one time. Those who wish to pursue the honors program shall apply to the program supervisor at the end of the fourth year. Those admitted must maintain a minimum GPA of 3.33 in all honors courses, and a minimum of 3.0 in all other upper division courses. The three required honors courses must be completed in three semesters in a fall/spring/fall/spring sequence and all other work must be completed within six semesters of program admission.

Honors students must complete the following:
HIST 300-4 Approaches to History
HIST 305-2 Honors Tutorial
HIST 400-4 Seminar in Historical Methods
HIST 498-8 Honors Essay

In addition to the 18 credit hours of honors courses, 42 upper division credit hours are also required. Students are encouraged to take courses outside the Department of History but at least 10 of the 42 upper division hours must be in history courses. For honors requirements, see “Honors Program” on page 129.

Minor Program
Students intending to enter the minor program must obtain at least nine hours of credit in 100 and 200 division course work in history.

Minor students must obtain credit in 300 and 400 division work, 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, Latin American Studies Program, and Humanities Program will be considered by the Department of History for designated credit toward this minor. Such courses for the minor must have prior approval from the departments’ advisors.

Minor in Labor Studies
Students must complete 24 credit hours, comprised of nine lower division and 15 upper division credit hours. It is the student’s responsibility to ensure completion of prerequisite and other departmental requirements before choosing elective courses.

Lower Division Requirements
LBST 101-3 Introducing Labor Studies
plus two of
BUEC 280-3 Introduction to Labor Economics
CNS 280-3 Canadian Political Economy
ECON 103-3 Principles of Microeconomics
POL 222-3 Introduction to Canadian Politics
SA 202-4 Post-Industrial Society

Upper Division Requirements
LBST 301-3 Labor Movements: Contemporary Issues and Images
plus at least 12 credit hours from the following:
BUEC 384-3 Industrial Relations
BUEC 385-3 Collective Bargaining
BUEC 396-3 The Structure of Industry
BUS 484-3 Workplace Industrial Relations
CMNS 454-4 Computer Mediated Work and Workplace Communication
ECON 381-4 Labor Economics
ECON 480-3 Seminar in the Economics of Labor Market Policy
HIST 327-4 Canadian Labor and Working Class History
KIN 381-3 Psychology of Work and Human Performance
KIN 382-3 Physical Hazards in the Workplace
POL 356-4 The Political Economy of Labor
SA 340-4 Social Issues and Social Policy Analysis
SA 362-4 The Global Division of Labor
WS 308-4 Women and Work: Production and Reproduction
WS 310-4 Special Topics in Women’s Studies*
*applicable only when the topic is relevant to labor studies

Languages Other Than English
Although not required for a BA in history, it is often useful to have acquaintance with a language other than English for many history courses. For this reason students, especially those who intend to pursue graduate courses, should consider including a second language in their programs.

Joint Major in History and Latin American Studies
For program requirements, see “Joint Major Programs” on page 162.

Joint Major in History and Women’s Studies
For program requirements, see “Joint Major in History and Women’s Studies” on page 177.

Extended Minor Program
An extended minor program consists of the lower division requirements for a major and the upper division requirements for a minor. Other criteria may be set by individual departments and programs. A student must have their program approved by the advisor for the extended minor program.

This program requires 18 credit hours in 100 and 200 division courses and 16 hours in 300 and 400 division, with at least four credit hours in each level.

Public History
6025 Academic Quadrangle, (604) 291-3446
Advisor
Mrs. T. Wright BA (S Fraser), 6025 Academic Quadrangle, (604) 291-3446

Courses are designed for general interest and for pre-professional training in the public sector of history — in museums, archives, business, labor, ethnic and administrative history work. They can count towards majors, minors and honors in history.

A postgraduate diploma and a certificate program are available. Completion requires participation in one or more internships.

Post Baccalaureate Diploma in Public History
This diploma is available for students who have already completed a bachelor’s degree. The program is a historical study as it is practised in non-academic settings — in museums, archives, government agencies, cultural societies, conservation authorities, businesses, families, and other public and private institutions.

The program offers an opportunity for ordered and sequential study based on established undergraduate courses in Canadian and public history.

It combines core courses in history with optional ones in related disciplines, and it recognizes the importance of applied skills by requiring appropriate work experience or internship in the Public History program, or completion of a special project.

For information about the post baccalaureate diploma program general regulations, see “Continuing Studies” on page 214.

Program Requirements
- successful completion of an approved program of 30 hours of third and fourth year courses, or graduate level courses if appropriate. Of those 30, 12 are to be taken in the set of core courses described below.
- program completion within five years of admission.
- Most students are expected to finish within two or three years. Students must maintain a GPA of 2.5 on courses used for the diploma.

Core Courses
HIST 301-4 Heritage Preservation
HIST 302-4 Archives Methods and Uses
HIST 303-4 Museums Method and Uses
and one of
HIST 435-4 The Canadian Prairies
HIST 436-4 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
HIST 326-4 The History of Native People in Canada
HIST 424-4 Problems in the Cultural History of Canada
HIST 428-4 Problems in the Social and Economic History of Canada

To fulfill the optional course requirement, students may, upon recommendation of the program co-ordinator, select a course not included among listed options, but with appropriate program content. Internships consist of appropriate documented work experience, e.g. employment (normally two years or more) or substantial volunteer work in a historical institution, or participation in the public history internship, or completion of a special project. Relevant co-op experience may be included. Students without such experience should contact the program co-ordinator about summer job internships. These jobs in archival, museum and other institutions will be supervised, paid and non-credit.

Certificate in Public History
The certificate program is available to those without a bachelor's degree. Credits earned in the program may be applied toward a bachelor's degree. The program is interdisciplinary. It combines core courses in history with optional courses in related disciplines and it recognizes the importance of applied skills by requiring appropriate work experience or internship in the public history program, or completion of a special project. It also offers opportunities for students to participate in credit free academic and professional events. Full or part time courses are available during the day and evening, on the Burnaby Mountain campus, at Harbour Centre and through distance education.

Admission
Admission is governed by the University's admissions regulations.

Program Requirements
The student must successfully complete 24 credit hours, with 12 of these 24 credit hours earned by completing the following:
HIST 102-3 Canada since Confederation
HIST 201-3 The History of Western Canada and two of:
HIST 301-4 Heritage Preservation
HIST 302-4 Archives Methods and Use
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 394-5 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

Optional Courses
GEOG 241-3 Social Geography
GEOG 344-4 Geography of Modern Industrial Societies
GEOG 375-4 Historical Geography I
HIST CMNS 362-4 Evaluation Methods for Applied Communication Research
HIST 309-4 Early Modern Greek History 1453-1821
HIST 421-4 Modern Greece, 1864-1925
HIST 422-4 Greece, 1935-1944: Occupation and Resistance
HUM 302-4 The Golden Age of Greece: An Integrated Study
PHIL 350-3 Ancient Philosophy

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 which provide practical experience in social sciences, interpretive skills and complements a history degree. Interested students can complete either a general co-op program or have the co-op work semesters qualify as the internship portion of the public history program. Arrangements for the work experiences are made through the department's co-op co-ordinator and the university's Office of Co-op Education. Please see "Co-operative Education" on page 216.

Department of Humanities
5115 Academic Quadrangle, (604) 291-3689 Tel, (604) 291-4504 Fax, www/sfu.ca/humanities

Chair
S. Duguid BA (Ill), MA, PhD (S Fraser)

Professors Emeriti
T.J. Kirschen BA (Roosevelt), MA, PhD (Chic)
J. Zaslove BA (Case W Reserve), PhD (Wash)*
J.S. Woodsworth Chair
(to be announced)

Professors
I. Angus BA, MA (Wat), PhD (York)
P.E. Dutton BA (WOnt), MA, PhD (Tor), MSL, MSD (Pontif Inst Tod)**
K. Mezei BA (York), MA (Car), PhD (Qu)
J.W. Walls BA, MA, PhD (Indiana)

Associate Professors
L. Armstrong BA, MA (Dal), MDiv, MA, PhD (Tor)**
L. Burton BA (Towson), MSc (J Hopkins), MA, PhD (Columbia Teachers)
S. Duguid BA (II), MA, PhD (S Fraser)
T. Kawasaki LLB (Doshisha), MA (Tor), MA, PhD (Pinn)**
M.A. Stouck BA (McM), MA, PhD (Tor)*

Assistant Professor
D.C. Mirhady BA, MA (Br col), PhD (Rutgers)

Senior Lecturers
D. Grayston BA (Br Col), MDiv (Gen Theol Sem, NY), ThM (Tor), PhD (St Michael's)
T. Yu BA (HK), MA, PhD (Br Col)

Adjunct Professor
P. Kingsley MLitt (Camb), PhD (Lond)

*joint appointment with English
**joint appointment with history
***joint appointment with political science

Advisor
Ms. C. Prisland, 5114 Academic Quadrangle, (604) 291-4094, prisland@sfu.ca

Humanities is the study of a broad range of ideas and subjects drawn from philosophy, art, literature, history, religion, science, and social and political thought. Through a comparative and interdisciplinary approach to classical, medieval, renaissance, and modern culture, study of the humanities raises critical questions about achievements and controversies associated with civilization itself. Students are encouraged to examine knowledge and ideas central...
to the humanities and to integrate these concerns with degree programs in original and critical ways.

The Asia-Canada Program and the graduate Liberal Studies Program are affiliated with the Department of Humanities. Refer directly to their respective sections for information (see “Asia-Canada Program” on page 133 and also see “Liberal Studies Program” on page 349).

Major Program

Lower Division Requirements
Eighteen lower division credit hours including
HUM 101-3 Introduction to the Humanities
plus one of
HIST 105-3 Western Civilization from the Ancient
World to the Reformation Era
HIST 106-3 Western Civilization from the Reformation
Era to the 20th Century
plus one of
PHIL 150-3 History of Philosophy I
PHIL 151-3 History of Philosophy II
plus one of
HUM 201-3 Great Texts in the Humanities I
HUM 202-3 Great Texts in the Humanities II
HUM 203-3 Great Texts in the Humanities III
plus two further lower division humanities courses.

Upper Division Requirements
Thirty-two credit hours in upper division humanities
courses are required.

Students are expected to include a breath of humanities courses in fulfilling the upper division
requirement. Therefore, they must consult the student
advisor to plan their upper division course selection.

In support of the humanities interdisciplinary
approach, students may, with prior approval of the
humanities advisor, substitute up to two humanities
related upper division courses from other academic
units toward the upper division humanities
requirement. Note that the same upper division
course may not be used toward more than one
program (honors, joint honors, major, joint major,
minor or extended minor). See the first paragraph for
a definition of humanities related subjects.

Joint Major in English and
Humanities
This joint major is for those interested in exploring the
various relationships between English literature and
humanities. Students must plan their program in
consultation with advisors in each department.

Lower Division Requirements
English
Students must complete the lower division
requirements of the English major program. Please
see “Lower Division Requirements” on page 149.

Humanities
Fifteen credit hours including
HUM 101-3 Introduction to the Humanities
and two of
HUM 201-3 Great Texts in the Humanities I
HUM 202-3 Great Texts in the Humanities II
HUM 203-3 Great Texts in the Humanities III
and two further humanities courses.

Upper Division Requirements
English
Twenty credit hours in upper division English courses, as
follows. One from 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
Twenty credit hours in upper division humanities
courses. Recommended
HUM 305-4 Medieval Studies
HUM 307-4 Carolingian Civilization
HUM 311-4 Humanists and Humanism in the Italian
Renaissance
HUM 312-4 Renaissance Studies
HUM 321-4 The Humanities and Critical Thinking

Joint Major in French and
Humanities
This inter-departmental program explores the
relationship between the study of humanities and
French. Interested students must plan their program in
consultation with advisors in each department.

Lower Division Requirements
French
Students must complete the lower division
requirements of the French major program. Please
see “Lower Division Requirements” on page 151.

Humanities
Fifteen credit hours including
HUM 101-3 Introduction to the Humanities
and two of
HUM 201-3 Great Texts in the Humanities I
HUM 202-3 Great Texts in the Humanities II
HUM 203-3 Great Texts in the Humanities III
plus two further humanities courses.

Upper Division Requirements
French
Twenty upper division credit 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
Twenty credit hours in upper division humanities
courses. The following are recommended.
HUM 307-4 Carolingian Civilization
HUM 311-4 Humanists and Humanism in the Italian
Renaissance

Joint Major in History and
Humanities
This joint major is for those interested in exploring
relationships between the two disciplines. Students
must plan their program in consultation with advisors
in each department.

Lower Division Requirements
History
Students must complete the lower division
requirements of the history major program. Please
see “Lower Division Requirements” on page 161.

Humanities
Fifteen credit hours including
HUM 101-3 Introduction to the Humanities
and two of
HUM 201-3 Great Texts in the Humanities I
HUM 202-3 Great Texts in the Humanities II
HUM 203-3 Great Texts in the Humanities III
and two further humanities courses.

Upper Division Requirements
History
Twenty four credit hours of 300 and 400 level history
courses, of which 12 hours must be in 400 level
courses. Students must take at least two courses from
any two groups, and at least one from the
remaining group. For a description of the three
groups, see “Major Program” on page 158.

Humanities
Twenty credit hours in upper division humanities
courses. Recommended
HUM 302-4 The Golden Age of Greece: An Integrated
Society
HUM 303-4 The Latin Humanist Tradition
HUM 305-4 Medieval Studies
HUM 307-4 Carolingian Civilization
HUM 311-4 Humanists and Humanism in the Italian
Renaissance
HUM 312-4 Renaissance Studies

Joint Major in Philosophy and
Humanities
This joint major explores the relationships between
the two disciplines. Students must plan their program in
consultation with advisors in each department.

Lower Division Requirements
Humanities
Fifteen credit hours including
HUM 101-3 Introduction to the Humanities
and two of
HUM 201-3 Great Texts in the Humanities I
HUM 202-3 Great Texts in the Humanities II
HUM 203-3 Great Texts in the Humanities III
and two further humanities courses.

Philosophy
Twelve credit hours including all of
PHIL 100-3 Knowledge and Reality
PHIL 120-3 Introduction to Moral Philosophy
PHIL 203-3 Metaphysics
and one of
PHIL 150-3 History of Philosophy I
PHIL 151-3 History of Philosophy II

Upper Division Requirements
Humanities
Twenty credit hours in upper division humanities
courses.

Recommended
HUM 320-4 The Humanities and Philosophy
HUM 321-4 The Humanities and Critical Thinking

Philosophy
Twenty-one credit hours which must include PHIL
301.

Joint Major in Women's Studies
and Humanities
For requirements, see “Joint Major in Humanities and
Women's Studies” on page 178.

Minor Program

Lower Division Requirements
Nine lower division credit hours including
HUM 101-3 Introduction to the Humanities
one of
HUM 201-3 Great Texts in the Humanities I
HUM 202-3 Great Texts in the Humanities II
HUM 203-3 Great Texts in the Humanities III
and one further humanities course.
Upper Division Requirements
Sixteen credit hours in upper division humanities courses comprising four courses, or three courses plus HUM 400. Students wishing to complete an individual research project should include HUM 400 in their program.

Extended Minor Program
Students may qualify for a BA with an extended minor in humanities plus one other extended minor, or may use the extended minor in combination with other programs in other degrees.

Lower Division Requirements
Students must complete the lower division requirements for the major in humanities.

Upper Division Requirements
Students complete sixteen upper division credit hours in humanities courses.

Post Baccalaureate Diploma in Humanities
This is for those who have completed a bachelor's degree. For information about the program's general regulations, see "Continuing Studies" on page 214.

Program Requirements
Students must successfully complete an approved program comprising 30 upper division or graduate credit hours including at least 16 HUM credit hours. Students should include HUM 400. The remaining 14 are selected in consultation with an advisor in the subject or discipline which most closely fits the student's goals. Contact the humanities advisor.

Co-operative Education
Co-operative education courses are for students who meet the requirements for the Faculty of Arts Co-operative Education Program and who wish practical experience related to their Humanities program. The program entails planned study semesters and employment. Refer to the course descriptions for HUM 471, 472, 473 and 474 (see "Undergraduate Courses" on page 219).

See "Co-operative Education" on page 216. Work semester arrangements are made through the Faculty of Arts co-op co-ordinator who should be consulted at least one semester in advance.

Latin American Studies Program
5054 Academic Quadrangle, (604) 291-3146 Tel, (604) 291-5799 Fax, www.sfu.ca/las
Director
J.A.C. Brohman BA (Can), MA, PhD (Calif)
Professor Emeritus
J. Garcia Prof Lit (Peru), MA (Alta), DoctCert (Madrid)
Associate Professor
G. Otero BA (Monterrey), MA (Tex), PhD (Wis)
Assistant Professor
A. Hira BA (Georgetown), MA (G Washington), PhD (Claremont)
Senior Lecturer
M. Escudero-Faust BA, MA (S Fraser) PhD (Br Col)
Associate Members
R.E. Boyer, History
J. Brohman, Geography
A. Ciapp, Geography
M. Escudero-Faust, Sociology
J. Garcia, Sociology and Anthropology
M. Gates, Anthropology
R.W. Jamieson, Archaeology
R.C. Newton, History
G. Otero, Sociology
Emeritus
Advisor
Ms. K. Payne, 5056 Academic Quadrangle, (604) 291-3726
This program, administered by the Department of Sociology and Anthropology, offers specialized contemporary Latin American courses from a multidisciplinary perspective. It provides a sound background for careers in teaching, journalism, travel, community relations, law, diplomacy, government, international trade, international development projects, as well as for those intending to pursue advanced scholarly work. An integral complement is the multidisciplinary field school in Latin America.

Minor Program
Latin American studies, an interdisciplinary program, offers students the maximum opportunity to integrate understanding of Latin America and its relationship with Canada, the Pacific Rim, and the world.

Language Requirements
Although all courses are taught in English, students must demonstrate a reading knowledge of Spanish (the equivalent of two college level courses) or Portuguese or, in exceptional circumstances, French. This is a recommended skill for upper division courses that frequently require independent investigation of specialized topics.

Lower Division Requirements
Students must complete 12 credit hours of Latin American Studies credit, including the following.

LAS 100-3 Images of Latin America
LAS 140-3 Cultural Heritage of Latin America
LAS 200-3 Introduction to Latin American Issues

The remaining three credit hours must be completed in other LAS or Latin American content courses.

Upper Division Requirements
Students must complete 15 upper division credit hours of Latin American studies, including at least 12 in LAS 300 and 400 division courses. The remaining three credit hours may be taken from upper division Latin American content courses.

Extended Minor Program
This program consists of the lower division requirements for a joint major and the upper division requirements for a minor. Students' programs must be approved by the advisor of the program.

Joint Major Programs
An interdisciplinary joint major combines selected disciplines leading to a BA or a BBA. Courses used toward the upper division Latin American studies requirements may not be used as part of the other discipline's credit requirements, or vice versa. The individual program disciplines are anthropology, archaeology, business administration, communication, economics, geography, history, political science, and sociology.

Language Requirements
Students must complete the following four courses, or equivalents.

SPAN 102-3 Introductory Spanish I
SPAN 103-3 Introductory Spanish II

Latin American Studies Requirements
Lower Division Requirements
A minimum of 12 lower division credit hours is required including the following.

LAS 100-3 Images of Latin America
LAS 140-3 Cultural Heritage of Latin America
LAS 200-3 Introduction to Latin American Issues

The remaining three credit hours are taken from the approved list of Latin American content courses. See "Courses with Exclusive Latin American Content" on page 163 and "Courses with Partial Latin American Content" on page 163.

Note: Students must also satisfy the lower division requirements of the selected joint discipline. (Please consult with appropriate department.)

Upper Division Requirements
A minimum of 40 upper division credit hours is required, including at least 20 in upper division Latin American studies, and 20-32 upper division credits in the joint discipline selected, as specified below. Students must complete 20 LAS upper division credit hours or Latin American studies content courses.

Other Discipline Requirements
To satisfy the requirements of the other joint major discipline, students must complete 20-32 credit hours, as indicated below for the specific discipline.

Anthropology
See "Joint Major in Sociology or Anthropology and Latin American Studies" on page 173.

Archaeology
See "Joint Major in Business Administration and Latin American Studies" on page 163.

Communication
Students must complete 24 communication upper division credit hours, including CMNS 347, 362, and 446 and also the faculty requirements of applied sciences or arts, depending on the desired degree: bachelor of arts (Faculty of Applied Sciences) or bachelor of arts (Faculty of Arts).

Economics
Students must complete 25 upper division credit hours including ECON 301, 305-5, and BUEC 333 and at least one 400 division ECON or BUEC course (excluding ECON 431, 435, BUEC 433 and 485).

Geography
Students must complete 32 geography credit hours as specified: 20 credit hours of 300 division courses including at least one course from Section A; and 12 credit hours of 400 division courses including at least one regional course on Latin America.

History
Students must complete 24 credit hours of 300 and 400 level history courses, of which 12 hours must be in 400 level courses. Students must take at least two courses from any two groups, and at least one from the remaining group. For a description of the three groups, see "Major Program" on page 158.

Political Science
Students must complete 32 credit hours in upper division political science, as required for political science majors. (POL 337 may not be used to satisfy LAS requirements.)

Sociology
Students must complete 20 credit hours in upper division sociology and must fulfill the theory and methods requirements as specified for the sociology major program.
Courses with Exclusive Latin American Content

See "Undergraduate Courses" on page 219 or the department concerned for course prerequisites and descriptions. Because departments offer courses taught by faculty with different professional interests, credit will be given only when they are taught by instructors shown above as associated faculty. Others may be offered in addition to the ones below. Consult the LAS advisor for a complete list each semester.

ARCH 273-3 Archaeology of the New World
ARCH 330-3 Prehistory of Latin America
GEOG 263-3 Selected Regions
GEOG 466-4 Latin American Regional Development
HIST 208-3 Latin America: The Colonial Period
HIST 209-3 Latin America: The National Period
HIST 458-4 Problems in Latin American Regional History
HIST 459-4 Problems in the Political and Social History of Latin America
POL 337-4 Government and Politics: Selected Latin American Nations I
SA 263-4 Peasants, Proletarians and the Global Economy
SA 321-4 Social Movements
SA 363-4 Processes of Development and Underdevelopment
SA 392-4 Latin America
SPAN 352-3 Texts of the Colonial Period
SPAN 456-5 Selected Topics in Modern Latin American Narrative
SPAN 457-5 Selected Topics in Modern Latin American Poetry and Theatre

* when the selected region is Latin America

Courses with Partial Latin American Content

Partial Latin American content courses or where Latin America may be emphasized, may fulfill requirements when the content is appropriately focused on the Latin American region. In questionable situations, consult course outlines in the general office and the Latin American Studies program advisor for specific authorization. Students wishing to take a special topics course for Latin American Studies credit should have the course approved by the co-ordinator.

CMNS 347-4 Communication in Conflict and Intervention
CMNS 444-4 Political Economy of International Communication
CMNS 446-4 The Science of Communication and the Transfer of Technology
ECON 355-4 Economic Development
ECON 362-4 Economics of Natural Resources
GEOG 422-4 Geography of the Third World
HIST 104-3 History of the Americas to 1763
HIST 299-3 Problems in History
HIST 324-4 Slavery in the Americas
HIST 485-4 Studies in History I (Special Topics)
HIST 488-4 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

This field school is unique in Canada, providing a full semester in Latin America and gaining through direct experience a deeper insight into the culture, politics, and economy. Faculty and up to 30 students travel every second year to a selected location.

Co-operative Education

The program is for qualified students who wish practical experience in Latin American studies related fields. For admission, students must have completed 30 credit hours with a minimum 2.75 CGPA. Prior to admission, students should complete LAS 106, 140, 200 and SPAN 102. Transfer students must complete at least 15 semester hours at Simon Fraser.

See "Co-operative Education" on page 216 for details. Arrangements for work semesters are made through the Faculty of Arts co-op co-ordinator who should be consulted at least one semester in advance.

Department of Linguistics

Chair
P. McFetridge BA, MA, PhD (S Fraser)
Professor Emeritus
J.A. Foley BA (Nebraska), PhD (MIT)
Professors
D.B. Gerds BA (Missouri), MA (Br Col), PhD (Calif)
E.W. Roberts BA (Wales), MA, PhD (Camb)
R. Saunders BA (Penn State), AM, PhD (Brown)
Associate Professors
N. Hedberg BA, PhD (Minn)
P. McFetridge BA, MA, PhD (S Fraser)
Z. McRobbie PhD (Budapest), PhD (Manit)
M. Munro BEd, MSc, PhD (Alta)
T.A. Perry BA (Wabash), MA, PhD (Indiana), Associate Dean of Arts
J.M. Sosa ProfLit&Ling (Venezuela Central), MA (Lond), PhD (Mass)
Assistant Professors
C-H. Han BA (Ewha Woman's University, Korea), MA, PhD (Penn)
T. Heitj I and II Staatsexamen (Germany), MA, PhD (S Fraser)
J.D. Mellow BA (Calg), MA (McG), PhD (Br Col)
Senior Lecturers
N. Omoe MA (Osaka), MPhil (Exe)
L. Zuccolo BA (Arg), MA (S Fraser)
Lecturer
B. Ng BA (Intl Christian, Japan), MA (Lond)
Associated Faculty
F. Popowich, Computing Science
W. Turnbull, Psychology
J. Walls, Humanities
M. Boesicher-Ignace, First Nations Studies, Sociology and Anthropology
Advisors
Ms. R. Parmar, 9200 Robert C. Brown Hall, (604) 291-5739
Mrs. H. Coleman, Certificate in First Nations Language Proficiency Advisor, 6199 Academic Quadrangle, (604) 291-5596
Mrs. L. Hill, 6204 Academic Quadrangle, (for Language Training Institute and Certificate in Spanish Language Proficiency advising only), (604) 291-4790

The Department of Linguistics offers honors, major, extended minor and minor programs in linguistics and participates in the interdisciplinary programs of the cognitive science program.

Program requirements for the honors, major, extended minor and minor programs are listed below. Students pursuing linguistics should seek advice early in their programs. General course descriptions are given in Undergraduate Courses.

Courses of Interest to Students Outside the Department

These general interest courses give insight into language and linguistics, and have no prerequisites.

LING 100-3 Communication and Language
LING 110-3 The Wonder of Words
LING 200-3 Introduction to the Description of English
LING 220-3 Introduction to Linguistics
LING 260-3 Language, Culture, and Society

The following courses, although they carry prerequisites, may interest those with particular language specialities (when they focus on the language of their interest).

LING 231-3 Introduction to an Amerindian Language I
LING 232-3 Introduction to an Amerindian Language II
LING 431-3 Language Structures I
LING 432-3 Language Structures II

The languages that are selected as a focus for these courses are shown in the Course Timetable and Exam Schedule for the semester in which the course is offered.

Major Program

Lower Division Requirements
LING 130-3 Practical Phonetics
LING 220-3 Introduction to Linguistics
LING 221-3 Introduction to Phonology
LING 222-3 Introduction to Syntax
plus three additional credit hours in 200 level linguistics courses.

Upper Division Requirements
LING 321-3 Phonology
LING 322-3 Syntax
plus any two of
LING 323-3 Morphology
LING 324-3 Semantics
LING 330-3 Phonetics
plus 18 additional credit hours in upper division linguistics courses.

Honors Program

Lower Division Requirements
LING 130-3 Practical Phonetics
LING 220-3 Introduction to Linguistics
LING 221-3 Introduction to Phonology
LING 222-3 Introduction to Syntax
plus three additional credit hours in 200 level linguistics courses.

Upper Division Requirements
LING 321-3 Phonology
LING 322-3 Syntax
LING 490-3 Honors Essay
plus any two of
LING 323-3 Morphology
LING 324-3 Semantics
LING 330-3 Phonetics
plus 35 additional hours chosen from upper division linguistics courses.

Minor Program

Lower Division Requirements
LING 130-3 Practical Phonetics
LING 220-3 Introduction to Linguistics
plus nine additional credit hours in 200 level linguistics courses.
Upper Division Requirements
Students must complete 15 hours of upper division linguistics courses.

Note: General course descriptions are given in the Undergraduate Courses section (page 163).

Extended Minor Program
An extended minor consists of the lower division requirements for a major and the upper division requirements for a minor. Certain other criteria may be set by individual departments and programs. A student must have their program approved by the advisor for the extended minor program.

Joint Major in Linguistics and Anthropology
Linguistics and anthropology are kindred disciplines, each concerned with culture, cognition and social relations. Students will acquire practical multidisciplinary expertise in anthropological aspects of language study.

The joint major is of special interest to those pursuing the certificate in First Nations language proficiency or the certificate in native studies research, as well as to students interested in the anthropology of language, anthropological linguistics, or cognitive science.

Lower Division Requirements
Anthropology
Students must complete both of SA 101-4 Introduction to Anthropology SA 254-3 Introduction to Social Research and one of SA 100-4 Perspectives on Canadian Society SA 150-4 Introduction to Sociology and one of SA 201-4 Anthropology of Contemporary Life SA 263-4 Peasants, Proletarians and the Global Economy SA 286-4 Aboriginal Peoples and British Columbia: Introduction (A) SA 293-4 Special Topics in Anthropology SA 294-4 Special Topics in Sociology and Anthropology*

*Linguistics
Students must complete both of LING 130-3 Practical Phonetics LING 220-3 Introduction to Linguistics and one of LING 241-3 Languages of the World LING 260-3 Language, Culture and Society plus six additional credit hours in 200 division LING courses. Note that LING 221 and 222 are required for most upper division LING courses.

Upper Division Requirements
Anthropology
Students must complete both of SA 301-4 Contemporary Ethnography (A) SA 356-4 Ethnography and Qualitative Methods (SA) plus 12 additional credit hours in upper division SA courses. The following courses are recommended.
SA 323-4 Symbol, Myth and Meaning SA 386-4 Native Peoples and Public Policy SA 402-4 The Practice of Anthropology SA 472-4 Anthropology and the Past

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 upper division LING credit hours. The following courses are recommended.
LING 407-3 Historical Linguistics LING 430-3 Native American Languages LING 441-3 Linguistic Universals and Typology

Co-operative Education
This program, for qualified students who wish to acquire practical experience in linguistics, entails planned semesters of study and employment. To be eligible for admission, students must normally have completed 30 credit hours, including LING 130 and 220, and three other linguistics courses. At least 15 of these 30 credit hours must be completed at SFU with a minimum CGPA of 2.75.

College transfer students must complete at least SFU 15 credit hours before becoming eligible for co-op education admission and must satisfy the requirements given above, or their equivalents.

College transfers who participated in co-op programs elsewhere may be credited with semester(s) already taken. The applicability of such semesters depends on the Department of Linguistics.

The following four courses are completed during four work semesters.
LING 370-0 Linguistics Practicum I LING 371-0 Linguistics Practicum II LING 470-0 Linguistics Practicum III LING 471-0 Linguistics Practicum IV

Arrangements for work semesters are made through the Faculty of Arts co-op co-ordinator at least one semester in advance. See “Co-operative Education” on page 216 for further details. To continue in the program, students must maintain a minimum CGPA of 2.75 in the academic course work. Interested students should contact the Department of Linguistics for further information and also see “Co-operative Education” on page 216.

Certificate in First Nations Language Proficiency
This program is for students who wish to acquire conversational and literacy skills in a particular First Nations language for purposes of teaching this language in elementary or secondary schools or to enhance their knowledge of a First Nations language for cultural reasons or professional objectives.

The certificate consists of 27 hours of course work. At least 12 of these must be earned by completing courses in the First Nations language itself.

The certificate can be taken on a full or part time basis. Advanced placement through course challenge to a maximum of nine credit hours is possible for those already fluent in their language. Credit may be applied to a specific language and is achieved by examination from an instructor in that language with the approval of the department.

Program Requirements
Students must complete or achieve equivalent credit for the following.
LING 130-3 Practical Phonetics

Certificate in Teaching ESL Linguistics
This certificate is for students preparing to teach English as a second language. While the certificate by itself is not a specific employment credential, it constitutes basic preparation for teaching English language skills in an environment in which some or all of the students are not native English speakers. Those pursuing a career in teaching English as a second language (TESL) may wish to take more advanced studies upon program completion. The certificate provides preparation for further studies in applied linguistics and TESL.

The program generally requires at least four to five semesters to complete. The certificate may be earned concurrently with an honors, major, extended minor or minor in linguistics.

Monolingual students who have never studied any language other than English are strongly advised to take at least two courses (six credit hours) in a language other than English.

Admission Requirements
Students should apply in person to the undergraduate advisor. In addition to meeting the normal University admission requirements, students must have an excellent command of spoken and written English – a requirement that is more stringent than the University's minimum English language requirement. An interview will be required of students whose primary language is not English.

Program Requirements
The program requires successful completion of 31 credit hours as set out below, with a minimum 2.0 GPA calculated on the basis of grades in the specified required courses. Students also must complete a supervised practicum (LING 363) which includes 25 to 30 hours of experience in an adult ESL classroom.

Lower Division
Required courses
LING 110-3 The Wonder of Words LING 130-3 Practical Phonetics LING 200-3 Introduction to the Description of English Grammar LING 220-3 Introduction to Linguistics 12 credit hours

plus two of EDUC 220-3 Introduction to Educational Psychology LING 221-3 Introduction to Phonology LING 241-3 Languages of the World LING 260-3 Language, Culture, and Society 6 credit hours
Upper Division
**Required courses**
EDUC 467-4 Curriculum and Instruction in Teaching English as a Second Language
LING 360-3 Linguistics and Language Teaching
LING 362-3 English as a Second Language: Theory
LING 363-3 English as a Second Language: Practice 13 credit hours

**Recommended courses**
EDUC 488-4 Cognition and Language in ESL Instruction
LING 350-3 First 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 consisting of members of the Department of Linguistics and the Faculty of Education under the following general requirements.

- Completion of a bachelor's degree
demonstrated knowledge of spoken and written English. See “English Language Requirements” on page 31.
- An undergraduate concentration in one or more related disciplines such as linguistics, education, English or psychology. Completion of the certificate in TESL, linguistics or equivalent preparation is accepted as fulfilling this requirement. Students may be admitted providing they take LING 310-6 in addition to the general program requirements.
- Some academic training or demonstrated ability in a language other than English

**Course Requirements**
Students complete a 31 credit hour minimum chosen from linguistics, education, and individual and social development. The requirements are as follows.

**Linguistics**
The program requires an understanding of general linguistic theory and analysis principles, English language linguistic structure and acquaintance with structures of the languages of English learners. Students must take 12 credit hours in upper division linguistics courses, consisting of any two of LING 321-3 Phonology, LING 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.

**Education**
Students should be conversant with the principles of language pedagogy and be able to apply this in various classroom situations. They should also have an understanding of testing and assessment principles and be able to apply these in classroom settings. Students are further required to have practical experience to develop classroom skills specific to teaching English to non-native speakers.

**Note:** Students are required to complete all of EDUC 467-4 Curriculum and Instruction in Teaching English as a Second Language
EDUC 470-4 Experience in Teaching Students Who Have Limited English Proficiency 8 credit hours

**Note:** Only students who have a current teaching placement should enrol in EDUC 470. In exceptional circumstances, alternative arrangements may be made after consultation with the steering committee.

**Language Backgrounds in Elementary Classrooms**
EDUC 422-4 Learning Disabilities
EDUC 424-4 Learning Disabilities: Laboratory
EDUC 468-4 Cognition and Language in ESL Instruction 8-12 credit hours

**Note:** Those with credit for courses in this list through previous programs may not take them again for further credit. Those with prior credit for EDUC 467 or the equivalent must select an alternative from this list.

**Individual and Social Development**
Theories of human development and language use, their implications for the classroom, and of the sociocultural context of learners and speakers represents a basic component in the preparation for language teaching.

**Note:** Students must complete any one of the following courses that has not been completed previously:
EDUC 320-3 Instructional Psychology
EDUC 326-3 Classroom Management and Discipline
EDUC 420-4 Cognitive Strategies in Learning
EDUC 422-4 Learning Disabilities
EDUC 425-4 School Counselling for the Classroom Teacher
EDUC 441-4 Multicultural Education
LING 350-3 First Language Acquisition
LING 409-3 Sociolinguistics
SA 400-4 Canadian Ethnic Minorities 3-4 credit hours

**Language Training Institute**
6204 Academic Quadrangle, (604) 291-4790 Tel, (604) 291-4989 Fax, www.sfu.ca/lti

**Director**
P. McFetridge BA, MA, PhD (S Fraser)

**Associated Faculty**
M. Escudero-Faust, Sociology and Anthropology
T. Heft, Linguistics
L. Kitching, Humanities
B. Ng, Linguistics
N. Omae, Linguistics
J. Walls, Humanities
L. Zuccolo, Linguistics

**Advisor**
M. L. Hill, 6204 Academic Quadrangle, (604) 291-4790

The Language Training Institute promotes the language skills acquisition across the University and provides facilities for the support of language instruction on campus through the Language Learning Centre. The Faculty of Arts and Continuing Studies extension credit programs collaborate through the Language Training Institute to provide credit and non-credit instruction for languages which lie outside of departmental programs.

**Course Challenge**
Up to 12 lower division Spanish credit hours may be challenged for credit for SPAN 102, 103, 201 and 202 only. Students wishing to challenge any or all of these must register in the courses to be challenged and in a Spanish language course for which the course(s) challenged is a prerequisite. A grade of at least C in the higher level course must be obtained to receive the challenge credit.

**Language Course Placement**
Students with Spanish language knowledge may take a short test in order to be placed in an appropriate language course. The test is also used to advise of obtaining advance placement or challenge credit. Students will not usually be able to take courses below the level in which they have been placed. Native speakers of Spanish or students who received their secondary education entirely within a Spanish speaking community will not normally be admitted to a 100 or 200 level Spanish language course.

Students who have completed the Spanish 12 program in Canadian high schools will not be admitted to Spanish 102.

Call the Language Learning Centre to make a placement test appointment.

**Certificate in Spanish Language Proficiency**
This program is for elementary and secondary school teachers and undergraduate students who wish to improve their Spanish oral and written proficiency. (Note that Spanish is not considered a ‘teachable subject’ for application to the professional development program (secondary).) It is also for those who want to enhance their language knowledge for cultural reasons, professional needs, or who, for employment purposes, desire official certification of their Spanish proficiency. However, this is not intended for native speakers of Spanish. Full or part-
time courses are offered during the day and evening. Additionally, a sequential offering of courses is scheduled, subject to sufficient enrolment, at the Harbour Centre campus each semester.

Requirements
Students must successfully complete all of:
- LAS 100-3 Images of Latin America
- SPAN 102-3 Introductory Spanish I
- SPAN 103-3 Introductory Spanish II
- SPAN 201-3 Intermediate Spanish I
- SPAN 202-3 Intermediate Spanish II
- SPAN 303-3 Spanish Conversation and Composition
- SPAN 304-3 Advanced Spanish Conversation and Composition
- SPAN 305-3 Spanish for Business

plus one of:
- LAS 140-3 Cultural Heritage of Latin America
- LAS 200-3 Introduction to Latin American Issues
- LAS 300-3 Latin American Literature

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 transfer credit approval), up to a maximum of six credit hours
- challenge credit for exempted courses (subject to University regulations governing challenge credit approval), 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 should consult the program co-ordinator or the departmental assistant early in their program.

Credit for this certificate may apply toward degree requirements under normal regulations but cannot be applied toward another SFU certificate or diploma.

Mathematics Program
K10512 Shrum Science Centre,
(604) 291-3331/3332 Tel, (604) 291-4947 Fax,
www.math.sfu.ca

Advisors
Mrs. M. Fankboner BA (Occidental), MSc (S Fraser),
K10511 Shrum Science Centre, (604) 291-4849/3332
Dr. M. Dubiel MA, PhD (Warsaw), K10515 Shrum Science Centre,
(604) 291-3800/3331

The department also maintains a committee of faculty advisors each year; their office hours are available through the Department of Mathematics general office. Students wishing to major in any of the programs sponsored by the Department of Mathematics should seek advice early in their academic careers about program planning from department faculty advisors.

Course descriptions and prerequisites are in the Mathematics and Mathematics and Computing (MACM) sections of the Undergraduate Courses section (page 219).

The Department of Mathematics offers a program of study within the Faculty of Arts leading to a bachelor of arts degree with a major or honors in mathematics. Students interested in a bachelor of science in mathematics should see page 202 in the Faculty of Science section. Requirements for the bachelor of arts in mathematics are set out below.

General Regulations
Students majoring or taking honors in mathematics for a BA must satisfy the requirements found in the Calendar entry for the Faculty of Arts. They must also satisfy general University cumulative grade point average and credit hour requirements. See “Mathematics MATH” on page 277 for entry level course requirements and department workshops.

Prerequisite Grade Requirement
To register in a course offered by the Department of Mathematics, a student must obtain either a grade of C- or better in each prerequisite course, or a special waiver from the department.

Major and Honors Programs

Lower Division Requirements
- CMPT 101-4 Introduction to Computer Programming
- CMPT 204-3 Data and Program Abstraction
- MACM 101-3 Discrete Mathematics I
- MACM 201-3 Discrete Mathematics II
- MACM 202-4 Mathematical Modeling and Computation
- MATH 151-3 Calculus I
- MATH 152-3 Calculus II
- MATH 232-3 Elementary Linear Algebra
- MATH 242-3 Introduction to Analysis*
- MATH 251-3 Calculus III
- STAT 270-3 Introduction to Probability and Statistics

*to be completed either as part of the student’s first 60 credit hours or as soon as possible after the student declares a major.

Note: With a grade of C or better in the relevant course, the following substitutions are permitted:
- CMPT 104 for CMPT 101,
- MATH 154 or 157 for MATH 151,
- MATH 155 or 158 for MATH 152.

However, where possible, students should take MATH 151 and 152.

Upper Division Requirements
All students must take
- one of:
  - MATH 308-3 Linear Programming
  - MATH 343-3 Applied Discrete Mathematics
- and one of:
  - MATH 320-3 Advanced Calculus of one Variable
  - MATH 322-3 Complex Variables
- and one of:
  - MATH 332-3 Introduction to Applied Algebraic Systems
  - MATH 342-3 Elementary Number Theory
- and one of:
  - MATH 310-3 Introduction to Ordinary Differential Equations
  - MACM 316-3 Numerical Analysis I

Students majoring in mathematics for a BA must obtain at least 30 credit hours in upper division mathematics (MATH), statistics (STAT*), actuarial mathematics (ACMA), or mathematics and computing science (MACM) courses, or PHYS 413. Of this minimum total of 48 upper division credit hours, at least 24 must come from MATH courses.

At least five of the courses used to satisfy the 48 credit hour requirement must be from the 400 division. Students may not use a directed studies, job practicum or honors essay course to fulfill the 400 division requirement.

None of STAT 301, 302 and 403 may be counted toward the 30 credit hours requirement for a major, or towards the 48 credit hours requirement for honors, although they may be counted as upper division elective credits.

Note: Mathematics students taking a major or honors are advised to take an upper division statistics course and an upper division MACM or CMPT course.

Majors and Honors Program Electives
In all cases the student’s overall program should include at least 65 credit hours in arts subjects.

Course offered by the Department of Mathematics may be counted towards this requirement. Also, the Faculty of Arts breadth requirements must be met. Students taking a major must complete at least 45 upper division credit hours including the requirements for the major. Students taking honors must complete at least 60 upper division credit hours including the requirements for honors.

Minor Program
For requirements for a mathematics minor see “Department of Mathematics” on page 202 in the Faculty of Science section.

Extended Minor Program
This program consists of the lower division requirements for a major and the upper division requirements for a minor. A student must have their program for the extended minor approved by the one of the department’s certifiers.

Department of Philosophy
4604 Diamond Building, (604) 291-3343 Tel,
(604) 291-4443 Fax, www.sfu.ca/philosophy

Chair
P.P. Hanson BA (Calg), MA, PhD (Prim)

Professors Emeriti
R.D. Bradley BA, MA (NZ), PhD (ANU)
S. Davis BA (Roch), MA, PhD (Ill)
L. Resnick BA, PhD (O’Neill)
N.M. Swartz BA (Harv), MA, PhD (Indiana)

Professors
R.E. Jennings BA, MA (Qu), PhD (Lond)
D. Zimmerman BA, MA, PhD (Mich)

Associate Professors
K. Akins BA (Manit), PhD (Mich)
S. Black BA (Concordia), PhD (Camb)
P.P. Hanson BA (Calg), MA, PhD (Prim)

J.H. Tietz BA (Pacific Lutheran), PhD (Claremont),
Associate Dean of Arts

Assistant Professors
M. Hahn BA (S Fraser), MA (Br Col), PhD (Calif)
K. Laird BA (Lond), DPhil (Ox)
O. Schulte Sc (Tor), MS, PhD (Carnegie Mellon)*
L. Shapiro BA (Wesleyan), PhD (Pitts)
E. Tiffany BA (Albion), PhD (Calif)

Senior Lecturer
P.T. Horban BA (Sask), MA, PhD (W Ont)
General Information

All 100 division courses (and PHIL 001) improve skills in critical thinking, logical analysis and clarity of expression. One hundred division courses and PHIL 001 have no prerequisites, may be taken in any order by any student in any faculty and teach some of the most important philosophical problems, perspectives and methods. All 100 division courses bear on particular problems and subjects encountered in other areas of study.

The 200 division courses are slightly more advanced with more specific subject matter. It is recommended, but not mandatory, that students wishing to enrol in a 200 division philosophy course have completed 15 credit hours of university work or equivalent. (PHIL 203 and 214 have additional prerequisites.)

For 300 and 400 division courses, students normally must have at least six credit hours of lower division philosophy before taking upper division. However, for those majoring in other departments who have a keen interest in a particular upper division course, this requirement may be waived by the department. Four hundred division courses are more advanced than 300 division courses (there is more reading, the reading is more difficult, and more writing is required). Students should take at least two 300 division courses before enrolling in a 400 division course.

Major Program

Lower Division Requirements
Students are required to complete at least 16 credit hours of lower division philosophy including all of PHIL 100-3 Knowledge and Reality, PHIL 120-3 Introduction to Moral Philosophy, PHIL 211-3 Metaphysics, and one of PHIL 150-3 History of Philosophy I, PHIL 151-3 History of Philosophy II.

Upper Division Requirements
Students are required to complete at least 30 credit hours upper division credit including the following courses:
- PHIL 301-3 Epistemology
- PHIL 310-3 Modal Logic and Its Applications
- PHIL 314-3 Topics in Logic I
- PHIL 320-3 Social and Political Philosophy
- PHIL 321-3 Moral Issues and Theories
- PHIL 322-3 Philosophy of Language I
- PHIL 323-3 Philosophy of Language II
- PHIL 330-3 Locke and Berkeley
- PHIL 334-3 Philosophy of Mind
- PHIL 335-3 Hume and Empiricism
- PHIL 351-4 Kant
- PHIL 352-3 19th Century European Philosophy
- PHIL 353-3 Locke and Berkeley
- PHIL 354-3 Descartes and Rationalism
- PHIL 355-3 Hume and Empiricism
- PHIL 356-3 Kant
- PHIL 357-3 19th Century European Philosophy
- PHIL 400-3 Natural Deductive Logic
- PHIL 403-3 Philosophy of Science
- PHIL 404-3 Philosophy of Mind
- PHIL 405-3 Philosophy of Language I
- PHIL 406-3 Philosophy of Language II
- PHIL 411-3 Introduction to Logic and Reasoning
- PHIL 420-3 Metaphysics
- PHIL 421-3 Epistemology
- PHIL 422-3 Philosophy of Science
- PHIL 423-3 Philosophy of Mind
- PHIL 424-3 Philosophy of Language I
- PHIL 425-3 Philosophy of Language II
- PHIL 426-3 Philosophy of Science
- PHIL 427-3 Philosophy of Mind
- PHIL 428-3 Philosophy of Language I
- PHIL 429-3 Philosophy of Language II
- PHIL 430-3 19th Century European Philosophy
- PHIL 431-3 Logic and Its Applications
- PHIL 432-3 Philosophy of Science
- PHIL 433-3 Philosophy of Mind
- PHIL 434-3 Philosophy of Language I
- PHIL 435-3 Philosophy of Language II
- PHIL 436-3 Philosophy of Science
- PHIL 437-3 Philosophy of Mind
- PHIL 438-3 Philosophy of Language I
- PHIL 439-3 Philosophy of Language II

Honors Program

This program is for those interested in advanced work in philosophy, and is strongly advised for students who plan a postgraduate degree in philosophy.

Course Requirements

Entering students must first complete 60 credit hours including 16 of philosophy, must fulfill lower division philosophy major requirements as listed above, and complete PHIL 301. A 3.0 GPA or higher for all philosophy courses is expected for entrance and continuation but does not by itself guarantee either. Students proposing honors must submit an application (available in the department office), consult the advisor. After one honors semester, a candidate must, in consultation with the advisor, devise a study program. Consideration of the application and proposed study program is based on assessment of the potential for advanced work.

Students pursuing honors must:
1. Fulfil the philosophy major program requirements.
2. Complete a total of at least 50 credit hours of upper division courses in philosophy.
3. 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 in the upper division. These courses may be either an individually designed program or those given in the core program below. one of PHIL 100-3 Knowledge and Reality
PHIL 110-3 Introduction to Logic and Reasoning
all of PHIL 120-3 Introduction to Moral Philosophy
PHIL 203-3 Metaphysics
PHIL 301-3 Epistemology
plus at least four additional upper division courses

With the undergraduate advisor, a student may design a minor program with an emphasis that complements a special interest. For example, programs may be designed for students with an interest in law, language, natural or social science, history of ideas, social theory, value theory or logic.

Extended Minor Program

This program consists of the lower division requirements for a major and the upper division requirements for a minor. Program approval by the advisor is required.

Joint Major in Philosophy and Humanities

See “Joint Major in Philosophy and Humanities” on page 167 for program information.

Seminars and Special Topics Courses

A student may not enrol in a philosophy seminar or selected topics course which deals with a general topic for which the student has received credit in another philosophy seminar or special topics course.

Reading Lists and Course Outlines

Reading lists and course outlines are available at the Department of Philosophy. The content of some courses varies considerably.

Program in Cognitive Science

See page 136 for program information.

Upper Division Courses Listed by Field (partial listing)

Epistemology and Metaphysics

The following two courses are continuations of PHIL 100 and 203 at a more advanced level.
PHIL 301-3 Epistemology
PHIL 455-4 Contemporary Issues in Epistemology and Metaphysics

Logic

The following two courses offer concentrated work in logic and are continuations of PHIL 210 and 214.
PHIL 310-3 Modal Logic and Its Applications
PHIL 324-3 Topics in Logic I

Ethics and Aesthetics

The following are continuations of PHIL 120 and 220, and present a wide range of issues in ethics, and in political and social philosophy.
PHIL 320-3 Social and Political Philosophy
PHIL 321-3 Moral Issues and Theories
PHIL 324-3 Ethical Theories

History of Philosophy

The following are continuations of PHIL 150 and 151, and examine, at a more advanced level, the philosophical foundations of Western culture.
PHIL 350-3 Ancient Philosophy
PHIL 351-4 Locke and Berkeley
PHIL 354-3 Descartes and Rationalism
PHIL 355-3 Hume and Empiricism
PHIL 356-3 Kant
PHIL 452-4 19th Century European Philosophy
PHIL 453-4 Background to Analytical Philosophy
PHIL 456-4 Twentieth Century European Philosophy

Methodology, Science, Mind, Language

The following five courses introduce special areas of philosophical interest.
PHIL 340-3 Philosophical Methods
PHIL 341-3 Philosophy of Science
PHIL 342-3 Philosophy of Mind
PHIL 344-3 Philosophy of Language I
PHIL 444-4 Philosophy of Language II

Department of Political Science

6067 Academic Quadrangle, (604) 291-4293 Tel, (604) 291-4786 Fax, www.sfu.ca/politics

Chair
L.J. Erickson BA, PhD (Alta)

Professors Emeriti
A. Ciria Abogado (Buenos Aires)
E. McWhinney QC, LLM, SJ (Yale)
F. Quo BA (Nat'l Taiwan), MA (Oregon), PhD (S Illinois)
M. Robin BA (Manit), MA, PhD (Tor)
A.H. Somjee MA (Agra), PhD (Lond)

Professors
L.J. Cohen BA, MA (Ill), PhD (Col)
T.H. Cohn BA (Mich), MA (Wayne), PhD (Mich)
M.A. Covell BA (Br Col), MA, PhD (Yale)
M. Griffin Cohen BA (Iowa Wesleyan), MA (NY), PhD (York)*
M. Howlett BSocSci (Ott), MA (Br Col), PhD (Qu)

Advisor
Mr. D. Bevington, 4625 Diamond Building, (604) 291-4852

* joint appointment with computer science
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

Field B Canadian Government and Politics

POL 221-3 Introduction to Canadian Government
POL 222-3 Introduction to Canadian Politics
POL 321-4 The Canadian Federal System
POL 322-4 Canadian Political Parties
POL 323-4 Provincial Government and Politics
POL 324-4 The Canadian Constitution
POL 327-4 Globalization and the Canadian State
POL 329-4 Selected Topics in Canadian Government and Politics
POL 347-4 Introduction to Canadian Foreign Policy
POL 422-4 Canadian International Security Relations
POL 423-4 BC Government and Politics
POL 424-4 Quebec Government and Politics

Field C Comparative Government and Politics

POL 231-3 Introduction to Comparative Government and Politics
POL 232-3 US Politics
POL 330-4 Government and Politics: Selected West European Nations
POL 333-4 Soviet and Post-Soviet Political Systems
POL 334-4 East European Political Systems

Field D International Relations

POL 241-3 Introduction to International Politics
POL 341-4 International Integration and Regional Association

Field E Public Policy/Administration and Local Government

POL 251-3 The Administration of Justice

Honors Program

Students with a 3.0 CGPA and an upper division GPA of 3.33 are encouraged to apply for the honors program. A complete application, available from the departmental advisor, includes the essay proposal for POL 499 (Honors Thesis) and a letter of evaluation from the faculty member who agrees to supervise and evaluate the essay. Once the application is submitted, it is reviewed by the undergraduate studies committee in the semester prior to honor program entrance.

Major Program

Lower Division Requirements

Students must complete

POL 100-3 Introduction to Politics and Government
and one of

POL 201-3 Research Methods in Political Science

STAT 203-3 Introduction to Statistics for the Social Sciences

If students plan to take both POL 201 and STAT 203, a Field A credit may be claimed for POL 201. In this situation, POL 201 should be taken before STAT 203.

In addition, 12 lower division POL credit hours, covering at least three of the five fields of study, are required.

Upper Division Requirements

Students complete 32 upper division POL credit hours. Eight of these 32 credit hours must be at the 400 level. This allows a student to concentrate course work in one field of study while attaining a broader understanding of the political science discipline.

Honors Program

Students with a 3.0 CGPA and an upper division GPA of 3.33 are encouraged to apply for the honors program. A complete application, available from the departmental advisor, includes the essay proposal for POL 499 (Honors Thesis) and a letter of evaluation from the faculty member who agrees to supervise and evaluate the essay. Once the application is submitted, it is reviewed by the undergraduate studies committee in the semester prior to honor program entrance.

Lower Division Requirements

Students must complete one of

POL 100-3 Introduction to Politics and Government
POL 201-3 Research Methods in Political Science
STAT 203-3 Introduction to Statistics for the Social Sciences

and one of

POL 210-3 Introduction to Political Philosophy

POL 315-4 Quantitative Methods in Political Science

( equivalent)
Upper Division Requirements
Students must complete 53 upper division POL credit hours, including five for POL 499 (Honors Essay). An additional 16 of these 53 must be at the 400 level.

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
This program is based on the lower division requirements (100 and 200 level courses) of the major program and the upper division requirements (300 and 400 level courses) of the minor program.

Joint Major in French, History and Politics

Please see "Joint Major in French, History and Politics" on page 153 for information.

Joint Major in Political Science and Canadian Studies
The lower division requirements are identical to those of the political science major program except that students are encouraged but not required to take POL 201 or STAT 203. Political science upper division requirements follow. Students complete 32 credit hours in three of five fields of study. Up to 12 credit hours that are available for credit in both political science and Canadian studies may count toward the upper division requirements of both departments.

For further information, see the political science or Canadian studies advisor. For complete details, see "Joint Major Programs" on page 134.

Joint Major in Political Science and Economics

This program explores the fields of political science and economics, and develops an appreciation of the ways in which economic and political phenomena condition and interact in the modern world. Consult advisors in both departments.

Lower Division Requirements
Political Science
Students must complete all of
POL 100-3 Introduction to Politics and Government
POL 221-3 Introduction to Canadian Government
POL 222-3 Introduction to Canadian Politics
POL 251-3 Introduction to Canadian Public Administration

plus one of
BUEC 232-3 Elementary Economic and Business Statistics I
CRIM 220-3 Research Methods in Criminology
POL 201-3 Research Methods in Political Science*
PSYC 201-4 Research Methods in Psychology
SA 255-4 Introduction to Social Research
STAT 203-3 Introduction to Statistics for the Social Sciences

STAT 270-3 Introduction to Probability and Statistics

plus six lower division credit hours taken from at least one of the remaining fields of study (field A, C or D) for a total of 21 credit hours.

Economics
Students must complete the following with a grade of at least C- prior to joint major program admission.
BUEC 232-3 Elementary Economic and Business Statistics I
ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
MATH 110-3 Introductory mathematics for the Social and Management Sciences
MATH 157-3 Calculus for the Social Sciences (or equivalent)

plus
• two 200 division ECON or BUEC courses in addition to BUEC 232
• one 000, 100 or 200 ENGL or PHIL course
• one 100 or 200 level HIST or POL course (fulfilled by political science requirements listed above)
• one 100 or 200 level SA or PSYC course
• one 100 or 200 level BISC, CHEM or PHYS course

Upper Division Requirements
Political Science
Students complete 24 credit hours from at least three political science fields of study, including a minimum of eight credit hours (two courses) in field E. Beyond field E, the following are highly recommended.

POL 313-4 Political Ideologies
POL 321-4 The Canadian Federal System
POL 342-4 Relations Between Developed and Developing Nations
POL 343-4 Global Political Economy
POL 345-4 The Nation-State and the Multinational Corporation
POL 427-4 The Legislative Process in Canada
POL 447-4 Theories of International Political Economy

Economics
Students complete at least 25 credit hours of upper division credit in economics including all of
BUEC 333-3 Elementary Economic and Business Statistics II
ECON 301-5 Intermediate Microeconomic Theory
ECON 305-5 Intermediate Macroeconomic Theory

and at least one 400 division ECON or BUEC course (excluding ECON 431, 435 and BUEC 433).

Finally, to meet the Department of Economics' group requirements for the economics major program, students must take at least one of
ECON 102-3 20th Century Economies
ECON 110-3 Foundations of Economic Ideas
ECON 208-3 History of Economic Thought
ECON 250-3 Economic Development in the Pre-Industrial Period
ECON 309-5 Introduction to Marxian Economics
ECON 353-4 Economic History of Canada
ECON 355-4 Economic Development
ECON 395-5 Comparative Economic Systems
ECON 404-3 Honors Seminar in Methodology of the Social Science
ECON 407-3 Seminar in Marxian Economics
ECON 409-3 Seminar in Economic Thought
ECON 450-3 Seminar in Quantitative Economic History
ECON 451-3 Seminar in European Economic History
ECON 455-3 Seminar in Economic Development

Joint Major in Political Science and Latin American Studies
Political science requirements are identical to the major program except that students are encouraged but not required to take POL 201 or STAT 203. POL 337 may not be used to satisfy Latin American studies requirements.

For further information see the political science or the Latin American studies departmental advisors. For details, see "Joint Major Programs" on page 162.

Joint Major in Political Science and Women's Studies

This program explores the political dimensions and context of women's experience, and the impact of women and feminist theory on the practice and study of politics. Consult advisors in both departments.

Lower Division Requirements
Political Science
POL 100-3 Introduction to Politics and Government

plus one of
BUEC 232-3 Elementary Economic and Business Statistics I
CRIM 220-3 Research Methods in Criminology
POL 201-3 Research Methods in Political Science*
PSYC 201-4 Research Methods in Psychology
SA 255-4 Introduction to Social Research
STAT 203-3 Introduction to Statistics for the Social Sciences

STAT 270-3 Introduction to Probability and Statistics

plus an additional nine credit hours of lower division courses taken from three of the five fields of study (field A, B, C, D and/or E), for a total of 15 lower division credit hours.

Women's Studies

Please see "Joint Major in French, History and Politics" on page 153 for information.

Women's Studies

Twenty credits in upper division women's studies courses are required including one of WS 400, 411 or 412. Students who have taken WS 311 or 312 have met this requirement.

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

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.

Co-operative Education Program

The Department of Political Science offers co-operative education for qualified students to obtain practical experience related to their political science studies. The program entails planned study semesters and employment, and is competitive. Not all applicants are able to participate in exactly the placements they choose, but the co-op program does endeavor to provide a placement to all qualified applicants.

For admission, students must have completed 30 credit hours with a minimum CGPA of 3.0. Transfer students must complete at least 15 credit hours at Simon Fraser University.

For details, see "Co-operative Education" on page 216. Work semester arrangements are made with the Faculty of Arts co-op co-ordinator at least one semester in advance.
Department of Psychology


Chair
(to be announced)

Professors Emeriti
E. Ames BSc (Tufts), PhD (C‘nell)  
P. Bakan BA, MA, PhD (NY)  
C.B. Crawford BA, MSc (Alta), PhD (McG)  
A.L. Diamond BA (Cinc), MA, PhD (Col)  
J.E. Marcia BA (Wittenberg), MA, PhD (Ohio State)  
V. Modigliani DottFisica (Rome), MA, PhD (Wayne State)  
A.C. Parpane BA, MA, PhD (Piona)  
J.N. Strayer BA (Col), MA, PhD (S Fraser)  
C.D. Webster BA (Br) Col), MA (Qu), PhD (Dal)

Professors
B.K. Alexander BA (Miami, Ohio), MS, PhD (Wis)  
M.L. Bowman BA (Alta), MSc, PhD (McG)  
S.D. Hart BA, PhD (Br Col)  
M. Kimball BA (Macalester), PhD (Mich)*  
D.L. Krebs BA (Br Col), MA, PhD (Harv)  
C.G. McFarland BA (Alta), MA, PhD (Wat)  
R. MISTILBERGER BA (McG), PhD (Chic)  
M.M. Moretti BA (Brock), MA, PhD (S Fraser)  
R.M. Roesch BS (Arizona), PhD (Ill)  
B.W.A. Whittlesea BA, MA (Windsor), PhD (McM)

Associate Professors
K. Bartholomeev BA (S Fraser), PhD (Stan)  
B.L. Beyerstein BA (S Fraser), PhD (Calif)  
A.R. Blackman BSc (Lond), BSc (Edin), MSc, PhD (McG), Associate Dean of Arts  
J. Carpendale BA, MA (S Fraser), PhD (Br Col)  
D.N. Cox BA, MA, PhD (Br Col)  
R.F. Koopman AB, PhD (Ill)  
W.R. Krane BA (Windsor), MA, PhD (York)  
R.G. Ley BA (S Fraser), MA, PhD (Wat)  
M.D. Maraun BA (S Fraser), MA (Guelph), PhD (Tor)  
I. Torres BA (Virginia), PhD (Memphis)**  
W. Turnbull BA (Tor), MA, PhD (N Carolina)  
N.V. Watson MA, MA (Wont), PhD (Br Col)  
R.D. Wright BA (Br Col), MA, PhD (Wont)  
A. Young BA (Guelph), MSc, PhD Wat

Assistant Professors
D. Connolly BA, MA (W Laur), LLB, PhD (Vic)  
G. Iarocci BA, MA, PhD (McG)  
J.J. McDonald BA (S Fraser), MA, PhD (Br Col)  
A.E. Thornton BA (Minnesota), MSc (Memphis State), PhD (Memphis)  
W.L. Thornton BA (St Olaf), MSc (Memphis State), PhD (Memphis)

Adjunct Professors
J. Anderson BA (Harv), PhD (Br Col)  
R. Brown BSc, PhD (Lond)  
R. Doll MSc (Br Col), MScW (Tor)  
D. Eaves MB, ChB (Liv)  
M. Gilbert BA (Br Col), MA (Queens), PhD (S Fraser)  
A. Gordon BSc (McG), MSc, PhD (Qu)  
R. Holland BA (York), MD (McMaster), FRCP  
J. Hood BA, MA (York), PhD (Tor)  
E. Huntsman BA (Azusa Pacific), MA (Pepperdine), PhD (Wash)  
K.L. Jang BA, MA (S Fraser), PhD (Wont)  
M. Kendrick BA, MA, PhD (Br Col)  
D. Kimura BA, MA, PhD (McG)  
W. Koch BA (Montana), MA, PhD (Alta)  
R. Kropp BA (Br Col), MA, PhD (S Fraser)  
D.R. Laws BA (Missouri), MA, PhD (S Illinois)  
B. Ledwidge BSc (Loyola), MA, PhD (S Fraser)  
J. McEvhan BA (McMaster), MA (Br Col), PhD (Vic)  
D.J. Meen BAA (Alta), PhD (Manitoba)  
J. Ogloff BA (Calg), MA (Sask), PhD, JD (Nebr)  
G. Poole BA (S Fraser), MA (USD), PhD (S Fraser)  
N.J. Roese BSc (Br Col), MA (Manit), PhD (Wont)  
C. Smiley BA (McM), MA (Villanova), PhD (Western)  
J. Ternes BA (Wat), MA, PhD (Br Col)  
G. Tien BSc, MA (SC), PhD (S Fraser)  
R.S. Tonkin MDCM, FRCP, OBC  
B. Zumbo BSc (Alta), MA, PhD (Carrl)

Associate Members
R. Corrado, Criminology  
A. Horvath, Education  
M. Jackson, Criminology  
A. Gordon BSc (Mcg), MSc, PhD (Qu)

Laboratory Instructor
E. Michno BA (Wat)

Senior Lecturers
G. Alder BA (S Fraser), MSc, PhD (Calg)  
R. Day BA (Vic), MA (Guelph), PhD (S Fraser)  
L.J. Foster BA (Br Col), MA (New Br)

Advisors
Ms. H. Rhodes, 5253 Robert C. Brown Hall, (604) 291-3359
Ms. B. Davino, 5249 Robert C. Brown Hall, (604) 291-4840

• joint appointment with women’s studies
• joint appointment with Riverview Hospital

Letters of Permission
Please see “General Information” on page 25.

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 enquiries to the psychology undergraduate advisor.

Major Program
To be admitted to the major program, students must obtain a final course grade of C (2.0) or better in each of the following courses.

PSYC 100-3 Introduction to Psychology I
PSYC 102-3 Introduction to Psychology II
PSYC 201-4 Introduction to Research Methods in Psychology
PSYC 207-3 Introduction to History of Psychology
PSYC 210-4 Introduction to Data Analysis in Psychology

Note*: The above 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 and the Faculty of Arts
• complete 60 upper division credit hours, of which 50 must be in upper division psychology courses, including both of PSYC 490-4 Honors Project* PSYC 499-6 Honors Project*

*together comprise the honors project and are to be taken only after completion of 90 credit hours, with at least 20 credit hours in upper division psychology courses.

No more than eight upper division credit hours 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 committees 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 Introduction to Research Methods in Psychology

Note: The above requirement applies to courses transferred from other institutions as well as to courses taken at Simon Fraser University.

Students must complete one of PSYC 221, 241, 250, 260, 270 or 280 and a minimum of 15 upper division psychology credit hours with a CGPA of 2.0. No more than 3 credit hours may be in directed studies courses. At least eight upper division credit hours must be taken at Simon Fraser University. Students who are approved majors or honors in criminology, intend to minor in psychology, and have
work with a faculty member on a reading or research project of mutual interest. Common reasons for a student requesting such a course are:

- to continue a reading or research project begun in a 400 level seminar
- to cover material not included in the regular course offerings

The minimum entry requirements are a B (3.0) average, at least 60 credit hours and department permission. Students taking a directed studies course must complete an application form (available in the department) in conjunction with the intended instructor.

### Department of Sociology and Anthropology

5054 Academic Quadrangle, (604) 291-3146 Tel, (604) 291-5799 Fax, www.sfu.ca/sociology

Affiliation with the two divisions within the department is shown as follows: A – anthropology; S – sociology, LAS – Latin American studies

#### Chair
E. Gee BA, PhD (Br Col)

#### Professors Emeriti
H. Adam Dipl Sociol DrPhil (Fran), Habilitation
H. Dicke-Clark BA (Rhodes), PhD (Natal) – S
H. Sharma MA (Delhi), MS (Cleveland), PhD (C’nell) – S
I.R. Whitaker MA (Camb), DPhil (Oslo) – A
R.W. Wylie BA (Leic) – S

#### Professors
N. Dyck BA, MA (Sask), PhD (Manc) – A
E. Gee BA, PhD (Br Col) – S
M. Howard BA, MA, PhD (WAust) – A
M. Kenny BA, MA (Virginia), DipSocAnthrop, DPhil (Oxf) – A
D.R. MacLean MD (Dal), LMCC, MA HealthSci (Tor)**** – S

#### Associate Professors
M. Boelsher-Ignace MA (Geom August Universitat), PhD (S Fraser)**** – A
D. Culhane BA, PhD (S Fraser) – A
P. Dossa BA, MA (Edin), PhD (Br Col) – A
M. Gates BA (Shef), 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.P. Nicholas BA (Franklin Pierce Coll), MA (Missouri), PhD (Mass)*** – A
G. Otero BA (Monterrey), MA (Tex), PhD (Wis) – S
S. Piggy BA, MA, PhD (C’nell) – A
J. Pulkingham MA, PhD (Edin) – S
G.B. Teeple BA, MA (Tor), DPhil (Sus) – S
J.M. Whitworth BA (Leic), DPhil (Oxf)* – A

#### Assistant Professors
K. Froschauer BA, MA (Br Col), PhD (Carl) – S
B. Mitchell BA, MA (Wat), PhD (McM)***** – S
A. Travers BA (S Fraser), MA (Br Col), PhD (Oregon) – S

#### Adjunct Professors
R. Bateman BA, MA, PhD (Johns Hopkins)
G. Rush BA (Br Col), PhD (Oregon)
S. Migliore, BA, MA, PhD (McM) – A

#### Lab Instructor
C. Szafnicki MA (Lodz), PhD (Warsaw) – A

#### Senior Lecturer
M. Escudero-Faust BA, MA (S Fraser) PhD (Br Col) – LAS

#### Lecturer
J. Bogardus BA, MA (Br Col), PhD (S Fraser) – A

### Joint Major in Psychology and Criminology

For information, see “Joint Major in Criminology and Psychology” on page 145.

### Joint Major in Psychology and Business Administration

For information see “Joint Major in Business Administration and Psychology” on page 183.

### Joint Major in Psychology and Women’s Studies

For information, see “Joint Major in Psychology and Women’s Studies” on page 171.

### Co-operative Education Program

Co-operative education, for qualified students who want work experience, entails study semesters and employment in the area of the student’s choice.

#### Note:
This program will not provide training in clinical psychology or therapeutic techniques.

For admission, 30 credit hours with a minimum 3.0 CGPA is required. Prior to admission, students must complete PSYC 100, 102, 201 and 210 or their equivalents. Transfer students must complete at least 15 credit hours at Simon Fraser University.

For details, see “Co-operative Education” on page 216. Work semester arrangements 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

To register in psychology courses, students must meet the prerequisites or special instructions. The listed prerequisites indicate the minimal background expected by instructors.

### Psychology and Statistics

A level of statistical sophistication is required before undertaking independent research or evaluating research of others. The department offers several courses in research methodology and data analysis: PSYC 201, 210, 301, 311, 410, 411. Students who have a special interest in more extensive statistical training to facilitate their work in psychology should also consider courses from STAT 270 and above, and in particular, STAT 270, 302, 330, 403, 410 and 490.

### Directed Studies Courses

(PSYC-493-498 Inclusive)

These courses enable an individual or small group to work with a faculty member on a reading or research program, courses listed in the Undergraduate Courses (page 291) are designated as follows:

- A – anthropology
- S – sociology

An SA course can be counted as either sociology or anthropology.
Major Programs

Lower Division Requirements
Lower division requirements provide a broad introduction to both disciplines, to critical analysis of Canadian society, to basic logic and methods used in social research, and to the application of these methods to topics of special interest to students. Students should complete all lower division requirements before taking upper division courses.

Anthropology Major
SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 201-4 Anthropology of Contemporary Life
SA 255-4 Introduction to Social Research
plus one additional 'A' course at the 200 level

Sociology Major
SA 100-4 Perspectives in Canadian Society
SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 250-4 Introduction to Sociological Theory
SA 255-4 Introduction to Social Research
STAT 203-3 Introduction to Statistics for Social Sciences
Note: Students with an equivalent post-secondary statistics course are exempt from STAT 203. It is, however, highly recommended that students take SA 255 before taking STAT 203.

Upper Division Requirements
Students must meet theory and methods requirements (see program options for specific requirements). In our information based society, many employers and most graduate schools require considerable knowledge of conceptualizing research problems, information gathering, analysis and presentation. Students are strongly urged to prepare by balancing theory courses with methods courses over and above the required minimum. Beyond this, they may choose to range broadly across the two disciplines or to focus on a special interest. Courses fall broadly into the following groups.

Anthropological Theory and Institutions of Social Life
SA 301-4 Contemporary Ethnography
SA 323-4 Symbol, Myth and Meaning
SA 332-4 The Anthropology of Childhood
SA 364-4 Urban Communities and Cultures
SA 371-4 The Environment and Society
SA 402-4 The Practice of Anthropology
SA 451-4 Issues in Anthropological Theory
SA 472-4 Anthropology and the Past

Canadian Native Peoples and Other Minority Indigenous Peoples
SA 386-4 Native Peoples and Public Policy
SA 387-4 Canadian Native Peoples
SA 388-4 Comparative Studies of Minority Indigenous Peoples
SA 486-4 Aboriginal Peoples and British Columbia: Advanced Seminar

Ethnic Relations
SA 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 333-4 Schooling and Society
SA 350-4 Classical Sociological Thought
SA 351-4 Classical Marxist Thought
SA 355-4 The Philosophy of the Social Sciences
SA 362-4 Society and the Changing Global Division of Labor
SA 416-4 Sociology of Art Forms
SA 450-4 Advanced Sociological Theory

Third World Studies
SA 363-4 Processes of Development and Underdevelopment
SA 374-4 South Africa: Socio-Political Development
SA 392-4 Latin America
SA 463-4 Special Topics in Development Studies

Theory and methods requirements should be taken as early as possible in the upper division program. Students are strongly urged to balance theory courses with methods courses over and above the required minimum.

Anthropology Major Program
Students must complete 32 credit hours in upper division SA courses, including the following.
SA 301-4 Contemporary Ethnography
SA 356-4 Ethnography and Qualitative Methods
SA 402-4 The Practice of Anthropology
plus two of
SA 318-4 The Anthropology of Medicine
SA 332-4 The Anthropology of Domestic Life
SA 401-4 The Politics of Culture in Contemporary Societies
SA 451-4 Issues in Anthropological Theory
SA 460-4 Issues in Anthropology and Sociology
(when an A topic only)
SA 472-4 Anthropology and the Past (highly recommended)
SA 486-4 Aboriginal Peoples and British Columbia: Advanced Seminar
An additional 12 upper division credit hours are required, to be chosen from any SA or A course. Courses designated A are highly recommended.

Sociology Major Program
Students must complete 32 credit hours in upper division SA courses, including
SA 350-4 Classical Sociological Thought
and one of
POL 315-4 Quantitative Methods in Political Science
SA 355-4 Quantitative Methods
(when an A topic only)
SA 463-4 Special Topics in Development Studies
(when an A topic only)
SA 472-4 Anthropology and the Past*
SA 486-4 Aboriginal Peoples and British Columbia: Advanced Seminar
An additional 12 upper division credit hours are required, to be chosen from any SA or S course.
*highly recommended

Joint Major Programs

Joint Major in Archaeology and Anthropology
Please see “Joint Major in Archaeology and Anthropology” on page 132.

Joint Major in Art and Culture Studies and Anthropology
Please see “Joint Major in Anthropology or Sociology, and Art and Culture Studies” on page 142.

Joint Major in Sociology or Anthropology and Canadian Studies
Please see “Joint Major Programs” on page 134.

Joint Major in Anthropology and Sociology

Lower Division Requirements
Refer to the Major Programs – Lower Division Requirements for the two discipline requirement specifications.

SA 100-4 Perspectives in Canadian Society
SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 201-4 Anthropology of Contemporary Life
SA 250-4 Introduction to Sociological Theory
SA 255-4 Introduction to Social Research
STAT 203-3 Introduction to Statistics for Social Sciences

plus one additional 'A' course at the 200 level

Note: Students with equivalent post secondary statistics courses are exempt from STAT 203. It is highly recommended that students take SA 255 before taking STAT 203.

When choosing lower division courses, consider the prerequisites for upper division courses.

Upper Division Requirements
Students must complete 40 credit hours in upper division SA courses, including the following.
SA 301-4 Contemporary Ethnography
SA 356-4 Ethnography and Qualitative Methods
SA 402-4 The Practice of Anthropology
plus one of
POL 315-4 Quantitative Methods in Political Science
SA 355-4 Quantitative Methods
(when an A topic only)
SA 463-4 Special Topics in Development Studies
(when an A topic only)
SA 472-4 Anthropology and the Past*
SA 486-4 Aboriginal Peoples and British Columbia: Advanced Seminar
An additional 12 upper division credit hours are required, to be chosen from any SA or S course.

Joint Major in Sociology or Anthropology and Communication

Sociology, anthropology and communications overlap in many concerns: nature, production, commodification, and politics of culture; the relationship between communicative processes and social identity, class, gender, etc. This joint major is for those who share these common interests.

Students must fulfill lower and upper division requirements for both sociology and anthropology, as listed below.
Requirements of the School of Criminology.
Admission is contingent upon the enrolment limitation major is recommended for students who share these phenomenon; and the general social, political, and economic frameworks of society that condition the nature and perception of social problems. This joint major is recommended for students who share these concerns.
Admission is contingent upon the enrolment limitation requirements of the School of Criminology.

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 Cultures and Images
and one of
CMNS 260-3 Introduction to Empirical Communication Research Methods
STAT 203-3 Introduction to Statistics for the Social Sciences

*fulfills communication major program requirements of a basic social science methods course

Lower Division Sociology Requirements
Students must complete all of
SA 100-4 Perspectives on Canadian Society
SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 250-4 Introduction to Sociological Theory
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 Communication Requirements
Students must complete a minimum of 21 lower division credit hours in communication including
CMNS 110-3 Introduction to Communication Studies
CMNS 130-3 Explorations in Mass Communication
CMNS 260-3 Introduction to Empirical Communication Research Methods
CMNS 261-3 Documentary Research in Communication

Upper Division Anthropology Requirements
Students must complete a minimum of 20 upper division credit hours in anthropology or SA courses (five courses) which must include the following.
SA 301-4 Contemporary Ethnography
SA 356-4 Ethnography and Qualitative Methods Recommended
SA 402-4 The Practice of Anthropology

Upper Division Sociology Requirements
Students must complete a minimum of 20 upper division credit hours in sociology or SA courses (five courses) which must include the following.
SA 350-4 Classical Sociological Thought
and one of
SA 355-4 Quantitative Methods
SA 356-4 Ethnography and Qualitative Methods

Upper Division Communication Requirements
Students must complete a minimum of 24 upper division credit hours in communication, including the following. Directed study and field placement courses may not be used to meet this requirement.

Joint Major in Sociology or Anthropology and Latin American Studies
Sociology/anthropology and criminology have some common methods and theoretical concerns; for example, the relation between such variables as class, gender, ethnicity and crime; the social construction of deviance; the law as a social phenomenon; and the general social, political, and economic frameworks of society that condition the nature and perception of social problems. This joint major is recommended for students who share these concerns.
Admission is contingent upon the enrolment limitation requirements of the School of Criminology.

Application for admission must follow the general procedures established by the school.
A grade of 1.67 (C-) or better is required in all non-elective courses.
The department offers degrees in sociology or anthropology and a joint degree in sociology and anthropology. Students interested in a joint program in sociology or anthropology and criminology should contact both department advisors.

Anthropology Requirements
Lower Division Requirements
SA 100-4 Perspectives on Canadian Society
SA 150-4 Introduction to Anthropology
SA 250-4 Introduction to Sociology
SA 251-4 Anthropology of Contemporary Life
plus one of
CRIM 220-3 Research Methods in Criminology
SA 255-4 Introduction to Social Research
plus one 200 level sociology/anthropology (SA) or anthropology (A) course.

Upper Division Requirements
Students must complete a minimum of 20 upper division credit hours including both of
SA 301-4 Contemporary Ethnography
SA 356-4 Ethnography and Qualitative Methods
plus 12 additional upper division credit hours in sociology/anthropology (SA) or anthropology (A). SA 402 is highly recommended.

Sociology Requirements
Lower Division Requirements
For the joint major in sociology and criminology, students must complete all of
SA 100-4 Perspectives on Canadian Society
SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 250-4 Introduction to Sociological Theory
plus one of
CRIM 220-3 Research Methods in Criminology
SA 255-4 Introduction to Social Research
plus one additional 200 level sociology/anthropology (SA) or sociology (S) course.

Upper Division Requirements
Students must complete a minimum of 20 upper division credit hours including
SA 304-4 Social Control
SA 350-4 Classical Sociological Thought
SA 355-4 Quantitative Methods
SA 356-4 Ethnography and Qualitative Methods (SA)
plus one additional upper division sociology/anthropology (SA) or sociology (S) course.

Criminology Requirements
For either the joint major in sociology and criminology, or in anthropology and criminology, students must complete the following criminology lower division requirements with a 2.25 CGPA.
Students must complete all criminology lower division requirements before application, and before formal admittance is granted to undertake upper division criminology courses.
CRIM 369 or 462 may not be used for credit towards this joint major.
Students who opt to withdraw from the joint major program and pursue a criminology major only will be required to complete additional course work consistent with the requirements for a major in criminology.

Lower Division Requirements
all of
CRIM 131-3 Introduction to the Criminal Justice System — A Total System Approach
CRIM 135-3 Introduction to Canadian Law and Legal Institutions: A Criminal Justice Perspective
CRIM 203-3 Historical Reactions to Crime and Deviance
CRIM 230-3 Criminal Law either both of
CRIM 100-5 Introduction to Criminology 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 of
BUCE 232-3 Elementary Economic and Business Statistics I
PSYC 210-4 Introduction to Data Analysis in Psychology
STAT 101-3 Introduction to Statistics
STAT 203-3 Introduction to Statistics for Social Sciences

*Students who take CRIM 220 must obtain, from the sociology/anthropology advisor, a waiver of the SA 255 prerequisite for SA 355 and 356 in advance of registering for these courses. Students who take SA 255 must obtain, from the criminology advisor, a waiver of the CRIM 220 prerequisite for CRIM 320 in advance of registering for this course.

Upper Division Requirements
Students must complete a minimum 20 credit hours in criminology with a C- or better including
CRIM 300-3 Current Theories and Perspectives in Criminology
CRIM 330-3 Criminal Procedure and Evidence
CRIM 332-3 Sociology of Law
CRIM 369 and 462 are not permitted.

Joint Major in Sociology or Anthropology and Latin American Studies
Lower Division Sociology Requirements
SA 100-4 Perspectives on Canadian Society
SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 250-4 Introduction to Sociological Theory
SA 250-4 Introduction to Sociological Theory
plus one of
CRIM 220-3 Research Methods in Criminology
SA 255-4 Introduction to Social Research
plus one 200 level sociology/anthropology (SA) or anthropology (A) course.

Upper Division Sociology Requirements
Students must complete a minimum of 20 credit hours in criminology with a C- or better including
CRIM 300-3 Current Theories and Perspectives in Criminology
CRIM 320-3 Introduction to Social Research

Upper Division Anthropology Requirements
These requirements are the same as for sociology except that SA 250 is not required. In addition, two 200 level anthropology or SA courses are required.

Upper Division Sociology Requirements
Students must complete 20 credit hours in sociology or SA courses, which must include
SA 350-4 Classical Sociological Thought
and one of
SA 355-4 Quantitative Methods
POL 315-4 Quantitative Methods in Political Science
and one of
SA 356-4 Ethnography and Qualitative Methods
SA 357-4 Survey Research

Upper Division Anthropology Requirements
Students must complete 20 credit hours in anthropology or SA courses, which must include
SA 301-4 Contemporary Ethnography
SA 356-4 Ethnography and Qualitative Methods

For complete requirements, see “Joint Major Programs” on page 172.
Joint Major in Anthropology and Linguistics
For requirements, see "Joint Major Programs" on page 172.

Joint Major in Sociology or Anthropology and Women's Studies
For requirements, see "Joint Major in Sociology or Anthropology and Women's Studies" on page 178.

Honors and Joint Honors Programs

Sociology Honors Program
In addition to the specified lower division requirements (see Major Programs above), students must complete 52 credit hours in upper division SA, 32 of which must be in sociology, with the remaining 20 in anthropology.
A 3.33 grade point average in all SA courses is required for admission to, and graduation from, the honors program. Also, honors students must complete SA 499.
Theory Requirements
Please refer to Theory Requirement, Sociology Major Program. Theory requirements should be taken as early as possible in the upper divisions.

Methods Requirements
Please refer to Methods Requirements, Sociology Major Program. Methods requirements should be taken as early as possible in the upper division program.
Note: Honors students are urged to balance theory courses with methods courses over and above the required minimum.

Anthropology Honors Program
In addition to the lower division requirements specified earlier (see Major Program, General Requirements), students must complete 52 credit hours in upper division SA courses, 32 credit hours of which must be in anthropology, with the remaining 20 credit hours in sociology. A GPA of 3.33 in all SA courses is required for admission to, and graduation from, the honors program. Also, honors students must complete SA 499.
Theory Requirements
Please refer to Theory Requirement, Anthropology Major Program. Theory requirements should be taken as early as possible in the upper division program.

Methods Requirements
Refer to Methods Requirements, Anthropology Major Program. Methods requirements should be taken as early as possible in the upper division program.
Note: Honors students are urged to balance theory courses with methods courses over and above the required minimum.

Joint Honors in Sociology and Anthropology
In addition to the lower division requirements specified earlier (see Major Program, General Requirements), students must complete 60 credit hours in upper division SA courses, 32 credit hours of which must be in one discipline, with the remaining 28 credit hours in the other discipline.
A 3.33 GPA in all SA courses is required for admission to, and graduation from, the honors program. Honors students must complete SA 499.
Theory Requirements
Please refer to Theory Requirements, Joint Major in Sociology and Anthropology. Theory requirements should be taken as early as possible in the upper division program.

Methods Requirements
Refer to Methods Requirements, Joint Major in Sociology and Anthropology. Theory requirements should be taken as early in the upper division program.
Note: Students are strongly urged to balance theory courses with methods courses over and above the required minimum.

Joint Honors in Sociology or Anthropology and Canadian Studies
See "Joint Honors Program" on page 135.

Minor Programs

Anthropology Minor Program
Lower Division Requirements
Completion of 12 lower division credit hours:
SA 101-4 Introduction to Anthropology
SA 201-4 Anthropology of Contemporary Life
SA 255-4 Introduction to Social Research*
*other courses may be substituted upon the advice and with permission of the department advisor.
Note: unassigned transfer credit, (SA 000-3) cannot be used instead of SA 101 or 201.

Upper Division Requirements
Completion of 16 upper division credit hours:
SA 301-4 Contemporary Ethnography
SA 356-4 Ethnography and Qualitative Methods
plus eight additional upper division credit hours, at least four of which must be an anthropology (A) course, at the 400 level.

Sociology Minor Program
Students must complete 12 lower division credit hours, of which eight must be an S designation or SA designation, and 16 upper division semester hours, all of which must be in S or SA designation courses.
Note: those upper division courses with an A designation will not be allowed for a sociology minor.

Extended Minor Program
An extended general minor consists of lower division requirements for a major and upper division requirements for a minor. Certain other criteria may be set by individual departments and programs. A student must have their program approved by the advisor for the extended minor program.

Southeast Asia Field School
Field School Leader
M. Howard BA, MA, PhD (WAust)
Through study and travel in Vietnam and Thailand, this field school serves as an introduction to Southeast Asia for undergraduate students.
The program is approximately 13 weeks and consists of three courses (12 credit hours). Arrangements can be made for students who have taken one or more of these courses to receive credit for other suitable courses. Arrangements can also be made for graduate students to participate.
All instruction will be in English, however there will be a brief introduction to the Thai language.
The first month of the field school is in northern Vietnam, including time in Hanoi, and field trips to mountain areas of the northwest. The remaining two months are spent in Thailand. Students reside on various university campuses and take field trips. In addition to long periods in southern Thailand (based in Hat Yai and Pattani) and in northern Thailand (based in Chiang Mai), the field school will visit various locales in central and northeastern Thailand.
The field school is generally held every other year, with the next one running in the summer semester 2002. Admission is by application. Students must be in good academic standing and have completed an introductory anthropology course. Information can be obtained either from the Department of Sociology and Anthropology or from SFU International.

Post Baccalaureate Diploma Program

Post Baccalaureate Diploma in Social Policy Issues
This program is for those with a bachelor's degree. It may be completed through a combination of courses available through distance education, on campus and at SFU at Harbour Centre. The program applies recent developments in social theory and research methods to the investigation of a range of social programs and social policy issues. As well as featuring courses which examine substantive social policy issues, the program provides critical perspectives needed to grasp the processes by which social problems are defined, understood, and acted upon in Canada and other societies.
For information about the post baccalaureate diploma program general regulations, see "Continuing Studies" on page 214.

Program Requirements
Students must successfully complete an approved program comprised of 30 credit hours of third and fourth year courses, at least 16 are to be taken from the set of core courses described below.

Core Courses
Students must complete at least four of the following courses, one of which must be SA 340.
SA 303-4 Ethnic Conflicts
SA 316-4 Tourism and Social Policy
SA 319-4 Culture, Ethnicity, and Aging
SA 320-4 Population and Society
SA 333-4 Schooling and Society
SA 335-4 Gender Relations and Social Issues
SA 340-4 Social Issues and Social Policy Analysis
SA 363-4 Processes of Development and Underdevelopment
SA 386-4 Native Peoples and Public Policy
SA 420-4 Sociology of Aging

Optional Courses
An additional four courses from the following list would complete the requirements for the program.

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 371-4 Environment and Society
SA 400-4 Canadian Ethnic Minorities
SA 402-4 The Practice of Anthropology
SA 463-4 Special Topics in Development Studies

To fulfill the optional course requirement, students may instead take additional core courses, or upon the program steering committee's recommendation, select a course not included among listed options, but with content appropriate to the program.
Acceptance of general SFU admission does not automatically guarantee admission to this program. Students must apply for entry directly to the Department of Sociology and Anthropology.
Certificate Programs

Certificate in Ethnic and Intercultural Relations

This interdisciplinary program is for those planning to work in multicultural or cross-cultural settings. In today's increasingly interdependent world, the need for critical understanding of ethnicity and social justice has been acknowledged by educators, community workers and other professionals. In response, the program offers the opportunity to explore causes of unequal treatment, to compare social justice issues internationally, and to develop strategies for social change in light of this knowledge.

The program is for both general students and those interested in working with human service professionals (social workers, educators, police, counsellors, personnel managers, health practitioners or civil servants) who are required to interact effectively with people from a variety of cultural and linguistic backgrounds. The goal is to foster better understanding of the nature of the multi-ethnic society in which we live and work.

Both day and evening courses are offered at the Burnaby campus and at the Harbour Centre campus. Some are available through Distance Education.

Program Objectives

Participation in the program enables students to develop:
• critical perspectives on current debates about racism, equality and social justice
• a clearer understanding of the concept of diversity as it relates to hierarchical structuring of differences
• knowledge based on immigration, citizenship and civil rights
• skills that will prepare you for professional work or further academic study in the field.

Program Requirements

Students must successfully complete 30 credit hours comprised of 12 required courses, and the remaining chosen from two sets of specified electives. These courses, which include both lower and upper division courses, provide critical and interdisciplinary material.

Minimum GPA of 2.50 calculated on the designated courses for the certificate. Duplicate courses will be counted only once.

Core Courses

POL 481-4 Ethnic Politics and National Identity: Comparative Perspectives
SA 203-4 Comparative Ethnic Relations
SA 345-4 Issues in Canadian Ethnic Relations*
SA 386-4 Native Peoples and Public Policy*

Elective Courses

Students must complete a minimum of 10 credit hours from the following:

ASC 101-3 Introduction to Asia-Canada Studies I
CRIM 335-3 Human Rights and Civil Liberties
CRIM 311-3 Minorities and the Criminal Justice System*
HIST 326-4 The History of Native People in Canada
SA 255-4 Introduction to Social Research
SA 286-4 Aboriginal Peoples and British Columbia: Introduction
SA 303-4 Ethnic Conflicts
SA 319-4 Culture Ethnicity and Aging
SA 340-4 Social Issues and Social Policy Analysis
SA 400-4 Canadian Ethnic Minorities
SA 435-4 Gender Colonialism Post-colonialism
WS 200-3 Women in Cross Cultural Perspective

Optional Courses

To fulfil the remaining eight credit hours, students must choose from the following list when content is applicable to multicultural issues. Please consult with the department.

CMNS 447-4 Negotiations as Communication
CRIM 419-3 Indigenous Peoples, Crime, and Criminal Justice
EDUC 441-4 Multicultural Education
GEOG 102-3 World Problems in Geographical Perspective
GEOG 420-4 Comparative Cultural Geography
HIST 24-4 Problems in the Cultural History of Canada
LAS 320-3 Canada and Latin America
SA 387-4 Canadian Native Peoples
SA 402-4 The Practice of Anthropology
WS 309-4 Gender and Development

*available through the Centre for Distance Education

Subject to steering committee approval, students may substitute relevant special topics or related courses.

Note: It is the student's responsibility to ensure completion of prerequisites and other department requirements before choosing elective courses.

Certificate in Family Studies

This program facilitates the study of families from an interdisciplinary perspective. Students gain an understanding of families from the perspectives of psychology, sociology, gerontology and health. Students may supplement core courses with electives in relevant disciplines such as communications, education, history, and women's studies.

Admission Requirements

In addition to normal University admission requirements, students must complete PSYC 100, 102, and SA 150 prior to formal program admission. GERO 300 is highly recommended. Students can be admitted under regular or special entry requirements.

Program Requirements

• successful completion of 30 credit hours, of which 14 are earned by completing four required core courses. The remaining 16 hours are selected from a set of three courses from which the student selects one, and 12 hours of elective credit. Some have prerequisites that are not included in the certificate program.
• minimum grade point average of 2.25 calculated on all courses applied to the certificate. Duplicate courses are counted once.
• completion of the certificate normally within five years of admission to the certificate program.

Core Courses (18 credit hours)
GERO 408-4 Families and Aging
PSYC 250-3 Introduction to Developmental Psychology
SA 231-4 The Sociology of Domestic Life
SA 320-3 Canada and Latin America
SA 150-4 Introduction to Sociology
KIN 110-3 Human Nutrition: Current Issues
KIN 140-3 Contemporary Health Issues
HIST 310-4 Women and the Family in Modern Europe
SA 331-4 Politics of the Family
SA 332-4 Anthropology of Childhood
PSYC 210-4 Introduction to Data Analysis in Psychology
SA 340-4 Social Issues and Social Policy Analysis

Transfer Credit

Up to 14 credit hours assigned to specific courses may be transferred to the certificate, subject to University transfer credit regulations and the co-ordinator's approval. Normally, required upper division core courses will be completed at SFU.

Co-operative Education

This program provides practical social sciences experience and entails planned study semesters and employment in an area of the student's choice.

Requirements

To be admitted into the program, students must have completed 29 hours with a minimum CGPA of 2.75. Prior to admission, students must complete all of SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 255-4 Introduction to Social Research
SA 349-4 Introduction to Anthropology
SA 201-4 Anthropology of Contemporary Life
SA 250-4 Introduction to Sociological Theory
SA 202-4 Post-Industrial Society
SA 203-4 Comparative Ethnic Relations
SA 263-4 Peasants, Proletarians and the Global Economy

College transfer students who participated in co-op programs elsewhere may be credited with semester(s) already taken. The applicability of such semesters depends on the evaluation of the Department of Sociology and Anthropology.

Work semester arrangements are made through the Faculty of Arts and department co-op co-ordinators.

To continue in the program, students must maintain a minimum cumulative GPA of 2.75 in their course work.

See “Co-operative Education” on page 216. Contact the department for information.

Statistics Program

TLX10545 Shrum Science Centre,
(604) 291-3803 Tel, (604) 291-4368 Fax,
www.stat.sfu.ca

Chair of Statistics and Actuarial Science
C.J. Schwarz BSc, MMath (Wat), MSc, PhD (Manit)

Professor Emeritus
M.A. Stephens BSc (Brist), AM (Harv), PhD (Tor)

Associated Faculty within Department of Statistics
and Actuarial Science

C.B. Dean
J. Graham
R.A. Lockhart
D. MacLean
B. McNenery
R.D. Routledge
C. Schwartz
R.R. Sitter
A program of study within the Faculty of Arts leading to a bachelor of arts with a major or honors in statistics is offered. Students interested in a bachelor of science degree in statistics should see “Department of Statistics and Actuarial Science” on page 210 in the Faculty of Science section.

The following programs train students, not only in the analysis of large data sets, but also in the design and analysis of scientific experiments and sample surveys. These techniques are applied in a broad range of fields. To fully appreciate their application, students will gain advanced training in an area of potential application. To this end, major or honors students complete a minor in a field other than mathematics and statistics. In keeping with the almost universal applicability of statistical methodology, there are no other restrictions on the selection of a minor. Students are encouraged to discuss the selection of a minor with an advisor early in their program.

Prerequisite Grade Requirement
A grade of C- or better in prerequisites for courses labelled STAT offered by the Department of Statistics and Actuarial Science is required.

Faculty of Arts Requirements
Students planning to complete a bachelor of arts with a major or honors in statistics must satisfy the Faculty of Arts requirements.

Major Program
A major in statistics requires 120 credit hours, of which at least 65 must be within the Faculty of Arts and Department of Statistics and Actuarial Science. Please see “Bachelor of Arts Degree” on page 128 for general regulations, breadth requirements, upper division credit, etc. Students must obtain credit for the following.

a) Lower Division Requirements
Mathematics
Students must complete one of
MATH 151-3 Calculus I
MATH 154-3 Calculus I for the Biological Sciences
MATH 157-3 Calculus for the Social Sciences 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

b) Upper Division Requirements
Mathematics and Computing Science
Students must complete
MACM 316-3 Numerical Analysis I
Probability and Statistics
Students must complete all of
STAT 330-3 Introduction to Statistical Inference

Extended Minor Program
According to faculty regulations, an extended minor contains the lower division requirements for a major plus the upper division requirements for a minor. At least seven upper division credit hours counted toward this requirement must be taken at SFU. For a statistics extended minor, students complete all course requirements for a minor plus
STAT 280-3 Applied Probability Models
and one of
CMPT 100-3 Software Packages and Programming
CMPT 101-4 Introduction to Computer Programming
CMPT 102-3 Introduction to Scientific Computer Programming

Minor Program
Statistics minor program requirements are listed in the Department of Statistics and Actuarial Science (page 210) in the Faculty of Science section.

Honors Program
This bachelor of arts program requires 132 credit hours, of which at least 65 must be within the Faculty of Arts and Department of Statistics and Actuarial Science. See “Bachelor of Arts Degree” on page 128 for general regulations, breadth requirements, upper division credit and other requirements. In addition to the requirements for a major, candidates must obtain credit for the following.

e) Additional Mathematics Requirements
Students must complete all of
MATH 242-3 Introduction to Analysis
MATH 320-3 Advanced Calculus of One Variable
MATH 322-3 Complex Variables
plus one of
MATH 352-3 Introduction to Applied Algebraic Systems
MATH 339-3 Groups and Symmetry
MATH 438-3 Linear Algebra

f) Additional Statistics Requirements
Students must complete both of
STAT 420-3 Non-Parametric Statistics
STAT 460-3 Decision Analysis and Bayesian Inference

Department of Women’s Studies
5102A Academic Quadrangle, (604) 291-3333 Tel, (604) 291-5518 Fax, www.sfu.ca/womens-studies

Chair
M. Kimball BA (Macalester), PhD (Mich)

Professor Emeritus
A. Lebowitz BA (New Rochelle), MA (Wis)

Ruth Wynn Woodward Endowed Chair
(to be announced)

Professors
M. Griffin Cohen BA (Iowa Wesleyan), MA (NY), PhD (York)***
M. Kimball BA (Macalester), PhD (Mich)****
M.L. Stewart BA (Calg), MA, PhD (Col)***
S. Wendell BA (NY State), PhD (Br Col)

Associate Professors
J. Levitin BA, MA (Wash), PhD (NY State)*
H. Zaman BA (Dhaka), MA, PhD (Man)

Assistant Professors
H. Leung BA (Oxf), MA, PhD (Wisc)
M. MacDonald BEd (Qu), BSc (MiAll), PhD (WOnt)

Associate Members
B. Burtch, Criminology
H. Dawkins, 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, korstrom@sfu.ca

*joint appointment with contemporary arts
**joint appointment with history
***joint appointment with political science
****joint appointment with psychology

Major Program
Breadth Requirements
Students 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 208-3 Researching Women’s Issues: How Do We Do What We Do?
WS 313-4 Women and the Environment

Social Sciences
WS 200-3 Women in Cross-Cultural Perspective
WS 201-3 Women in Canada 1860-1920
WS 202-3 Women in Canada 1920 to the Present
WS 203-3 Female Roles in Contemporary Society
WS 207-3 Introduction to Feminist Theory
WS 208-3 Researching Women’s Issues: How Do We Do What We Do?
WS 307-4 Women in British Columbia
WS 308-4 Women and Work
WS 309-4 Gender and Development
WS 314-4 Race, Class and Gender
WS 400-4 Methodological Issues in Women’s Studies
WS 411-4 Feminist Psychoanalytic Theories

Humanities and Fine Arts
WS 205-3 Women and Popular Culture
WS 304-4 Women and Religion
WS 305-4 Women and Utopias
WS 306-4 Women’s Autobiographies, Memoirs and Journals
WS 412-5 Women and Film
Lower Division Requirements
Students must complete 12 lower division credit hours in women’s studies including both of
WS 101-3 Introduction to Women’s Issues in Canada
WS 102-3 Introduction to Western Feminisms

Upper Division Requirements
Students must complete 32 upper division women’s studies credit hours including one of WS 400, 405 or 412. Those who have taken WS 311 or 312 have met this requirement. Students may substitute up to eight hours of upper division credit offered by other departments and approved by women’s studies.

Joint Major in Criminology and Women’s Studies
Advisors
Ms. M. Mclvor, School of Criminology, 2644 Diamond Building, (604) 291-3645
Ms. B. Korstrom, Department of Women’s Studies, 5105 Academic Quadrangle, (604) 291-3593

Interested students should contact advisors in both the School of Criminology and the Department of Women’s Studies.

To be admitted, students must satisfy admission requirements for both departments and should refer to those Calendar sections. The School of Criminology must approve the student’s admission before the student will be approved by the Department of Women’s Studies.

To continue in this program, students must maintain a cumulative GPA of 2.25 and cannot register in upper division CRIM courses with a CGPA of less than that. However, a student whose CGPA is between 2.00 and 2.25 may be eligible to apply for admission to the Department of Women’s Studies major program.

Women’s Studies Requirements
Lower Division Requirements
Students must complete 15 credit hours in women’s studies including
WS 101-3 Introduction to Women’s Studies in Canada
WS 102-3 Introduction to Western Feminisms
plus three 200 level women’s studies courses.

Upper Division Requirements
Students must complete a minimum of 20 upper division WS credit hours including one of
WS 400-4 Methodological Issues in Women’s Studies
WS 405-4 Theoretical Issues in Women’s Studies

The special topics course WS 303-4 is recommended when offered as Women and the Law.

Exceptionally and only with the permission of the department, one course of designated women’s studies credit offered by another department may be substituted for one course.

Criminology Requirements
All criminology lower division requirements must be completed with a cumulative GPA of not less than 2.25 before applying to the school for program acceptance, and before admittance is granted to undertake the upper division criminology courses. A C- grade or better is required in all required courses.

Lower Division Requirements
Students must complete a minimum of 60 credit hours including all of
CRIM 101-3 Introduction to Criminology
CRIM 103-3 Psychological Explanations of Criminal and Deviant Behaviour
CRIM 104-3 Sociological Explanations of Criminal and Deviant Behaviour
CRIM 131-3 Introduction to the Criminal Justice System — A Total System Approach
CRIM 135-3 Introduction to Canadian Law and Legal institutions: A Criminal Justice Perspective
CRIM 213-3 Introduction to Women and Criminal Justice
CRIM 220-3 Research Methods in Criminology
CRIM 230-3 Criminal Law
SA 150-4 Introduction to Sociology
plus one of
PHIL 001-3 Critical Thinking
PHIL 103-3 Knowledge and Reality
PHIL 110-3 Introduction to Logic and reasoning
PHIL 120-3 Introduction to Moral Philosophy
PHIL 150-3 History of Philosophy I
PHIL 151-3 History of Philosophy II
PHIL 220-3 Introduction to Social and Political Philosophy
PHIL 244-3 Introduction to the Philosophy of Natural and Social Science
PHIL 280-3 Introduction to Existentialism
plus one of
POL 100-3 Introduction to Politics and Government
POL 151-3 The Administration of Justice
plus both of
PSYC 100-3 Introduction to Psychology I
PSYC 102-3 Introduction to Psychology II

plus one of
STAT 101-3 Introduction to Statistics
STAT 203-3 Introduction to Statistics for Social Sciences

Upper Division Requirements
Students must complete a minimum of 25 upper division credit hours in criminology with a minimum CGPA of 2.25 including all of
CRIM 300-3 Current Theories and Perspectives in Criminology
CRIM 320-5 Advanced research Issues in Criminology
CRIM 330-3 Criminal Procedure and Evidence
CRIM 333-3 Women, Law and the State
CRIM 432-3 Gender in the Courts and the Legal Profession

Note: Students in this joint major program are not permitted to complete CRIM 369 nor 462.

Electives
The remaining required credit hours may be selected at the student’s discretion. Faculty of Arts breadth requirements must be completed so general electives should be considered for that purpose.

Joint Major in English and Women’s Studies
Advisors
Ms. B. Thorburn, Department of English, 6133 Academic Quadrangle, (604) 291-4835
Ms. B. Korstrom, Department of Women’s Studies, 5105 Academic Quadrangle, (604) 291-3593

This is an inter-department program for those who are interested in exploring the relationship between history and women’s studies. Interested students must plan their program in consultation with the advisors in each department.

Joint Major in History and Women’s Studies
Advisors
Mrs. T. Wright, Department of History, 6026 Academic Quadrangle, (604) 291-4429
Ms. B. Korstrom, Department of Women’s Studies, 5105 Academic Quadrangle, (604) 291-3593

This is an inter-department program for those who are interested in exploring the relationship between history and women’s studies. Interested students must plan their program in consultation with the advisors in each department.

Lower Division Requirements
Women’s Studies
Students must complete 15 credit hours in lower division women’s studies courses including all of
WS 101-3 Introduction to Women’s Issues in Canada
WS 102-3 Introduction to Western Feminisms

English
Students must complete 20 upper division English credit hours as follows: one from the series ENGL 300-308, one from the series ENGL 310-322 and the remainder from anywhere in the series ENGL 300-394 and ENGL 441-446.

The following courses are recommended if the student is interested in critical theory.

ENGL 364-4 History and Principles of Literary Criticism
ENGL 366-4 Studies in Critical Approaches to Literature

Women’s Studies
Twenty credit hours in upper division women’s studies courses are required including one of WS 400, 405, or 412. 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 313-4 Women and the Environment

The remaining credit hours are chosen from 300 and 400 division WS courses. Exceptionally and only with department permission, a maximum of one course of designated women’s studies credit offered by another department may substitute for one WS course. The remaining required upper division hours are at the student’s discretion.
Upper Division Requirements

Women's Studies
Students must complete 20 credit hours in upper division women's studies courses including
WS 307-4 Women in British Columbia
and one of
WS 400-4 Methodological Issues in Women's Studies
WS 405-4 Theoretical Issues in Women's Studies

History
Students must complete 24 credit hours of 300 and 400 level history courses, of which 12 hours must be in 400 level courses. Students must take at least two from any two groups, and at least one from the remaining group. For a description of the groups, see "Lower Division Requirements" on page 158.

Joint Major in Humanities and Women's Studies
Advisors
Ms. C. Prisland, Department of Humanities, 5114 Academic Quadrangle, (604) 291-4094
Ms. B. Korstrom, Department of Women's Studies, 5105 Academic Quadrangle, (604) 291-3593

This inter-departmental program is for those interested in exploring relationships between humanities and women's studies. Students must plan their program in consultation with advisors in each department.

Lower Division Requirements
Women's Studies
Students must complete 15 credit hours in lower division women's studies courses including both of
WS 101-3 Introduction to Women's Issues in Canada
WS 102-3 Introduction to Western Feminisms

Humanities
Students must complete 15 credit hours including
HUM 101-3 Introduction to the Humanities
and two of
HUM 201-3 Great Texts in the Humanities I
HUM 202-3 Great Texts in the Humanities II
HUM 203-3 Great Texts in the Humanities III

and two further humanities courses at the lower division.

Upper Division Requirements
Women's Studies
Students must complete 20 credit hours in upper division women's studies courses including
WS 400-4 Methodological Issues in Women's Studies
WS 405-4 Theoretical Issues in Women's Studies

Exceptionally and only with permission of the department, one course of designated women's studies credit offered by another department may be substituted for one course.

Humanities
Students must complete 20 credit hours comprising five courses that may include HUM 400. The following courses are recommended to fulfill this requirement.
HUM 320-4 The Humanities and Philosophy
HUM 321-4 The Humanities and Critical Thinking
HUM 326-4 Humanity and the Natural World

Joint Major in Political Science and Women's Studies
For requirements, see "Joint Major in Political Science and Women's Studies" on page 169.

Joint Major in Women's Studies and Psychology
Advisors
Ms. H. Rhodes, Department of Psychology, 5252 Robert C. Brown Hall, (604) 291-3359
Ms. B. Davino, Department of Psychology, 5249 Robert C. Brown Hall, (604) 291-4840
Ms. B. Korstrom, Department of Women's Studies, 5105 Academic Quadrangle, (604) 291-3593

Students are encouraged to consult advisors from both departments. This inter-departmental program explores relationships between psychology and women's studies. Joint major students (or prospective students) must plan their program in consultation with department advisors.

Lower Division Requirements
Psychology
To be admitted to the major program, students must obtain a final course grade of C (2.0) or better in each of the following courses.
PSYC 100-3 Introduction to Psychology I
PSYC 102-3 Introduction to Psychology II
PSYC 201-4 Introduction to Research Methods in Psychology
PSYC 207-3 Introduction to the History of Psychology
PSYC 210-4 Introduction to Data Analysis in Psychology

Note: The above requirement applies to courses transferred from other institutions as well as to courses taken at Simon Fraser University.

Complete two of
PSYC 221-3 Introduction to Cognitive Psychology
PSYC 241-3 Introduction to Abnormal Psychology
PSYC 250-3 Introduction to Developmental Psychology
PSYC 260-3 Introduction to Social Psychology
PSYC 270-3 Introduction to Theories of Personality
PSYC 290-3 Introduction to Biological Psychology

Women's Studies
all of
WS 101-3 Introduction to Women's Issues in Canada
WS 102-3 Introduction to Western Feminisms
WS 203-3 Female Roles in Contemporary Society

plus any two of
WS 200-3 Women in Cross-Cultural Perspective
WS 203-3 Women in Canada, 1600-1920
WS 204-3 Women, Science and Technology
WS 205-3 Women and Popular Culture
WS 206-3 Issues in Women's Health and Health Care
WS 207-3 Introduction to Feminist Theory
WS 208-3 Researching Women's Issues

15 credit hours

Upper Division Requirements
Psychology
Students must complete 20 upper division psychology credit hours. No more than five of these credit hours may be in directed studies. At least 11 upper division psychology credit hours must be taken at SFU.

Women's Studies
Twenty credit hours in upper division women's studies are required including one of WS 400, 405 or 412.

Students who have taken WS 311 or 312 have met this requirement.

Exceptionally, and only with the permission of the department, one course of designated women's studies credit offered by another department may be substituted for one course.

Joint Major in Sociology or Anthropology and Women's Studies
The Departments of Sociology and Anthropology, and Women's Studies have common interests in women's issues and social sciences teaching and research. This joint major is for those who share these interests.

Lower Division Requirements
Sociology
SA 101-4 Introduction to Anthropology
SA 150-4 Introduction to Sociology
SA 250-4 Introduction to Sociological Theory
SA 255-4 Introduction to Social Research
STAT 203-3 Introduction to Statistics for the Social Sciences

SA 231 is highly recommended.

Anthropology
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 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
WS 203-3 Female Roles in Contemporary Society
WS 204-3 Women, Science and Technology
WS 205-3 Women and Popular Culture
WS 206-3 Issues in Women's Health and Health Care
WS 207-3 Introduction to Feminist Theory
WS 208-3 Researching Women's Issues

Upper Division Requirements
Sociology
SA 350-4 Classical Sociological Thought
SA 355-4 Quantitative Methods

Students must also complete an additional 12 credit hours of upper division SA credit.

Anthropology Requirements
SA 301-4 Contemporary Ethnography
SA 356-4 Ethnography and Qualitative Methods

Students must also complete an additional 12 credit hours of upper division SA credit.

The following are highly recommended for both sociology and anthropology.
SA 319-4 Culture, Ethnicity and Aging
SA 356-4 Ethnography and Qualitative Methods
SA 332-4 The Anthropology of Childhood
SA 335-4 Gender Relations and Social Issues
SA 340-4 Social Issues and Social Policy Analysis
SA 420-4 Sociology of Aging

Women's Studies
Twenty upper division women's studies credit hours are required including one of WS 400, 405 or 412.

Students who have taken WS 311 or 312 have met this requirement. Exceptionally and only with department permission, one course designated as women's studies credit offered by another department may be substituted for one WS course.
Minor Program
A women's studies minor may be taken with any major or honors bachelor's degree, or with a bachelor of general studies. The program offers students the maximum opportunity to integrate their understanding of the role of women in their society and culture.

Lower Division Requirements
Students must complete nine credit hours including WS 101 and 102 plus any one of
WS 200-3 Women in Cross-Cultural Perspective
WS 201-3 Women in Canada 1600-1920
WS 202-3 Women in Canada 1920 to the Present
WS 203-3 Female Roles in Contemporary Society
WS 204-3 Women, Science and Technology
WS 205-3 Women and Popular Culture
WS 206-3 Issues in Women’s Health and Health Care
WS 207-3 Introduction to Feminist Theory
WS 208-3 Researching Women’s Issues

Unassigned 200 division women’s studies transfer credit may be substituted for the above 200 division course. All students in the minor program must complete WS 101 and 102 or approved equivalents.

Upper Division Requirements
Students complete 16 credit hours, including one of
WS 400, 405 or 412. Students who have taken WS 311 or 312 have met this requirement. Those pursuing a minor normally must fulfill lower division requirements before enrolling in 400 division courses, except with permission of the department.

Additional courses in various departments are designated for inclusion in the minor; a list is available from the department. Other courses which may have high women's studies content will be considered for designated credit toward the women's studies minor upon application by the student to the department.

Only five credit hours of designated courses will count toward the minor.
Candidates for a history honors or major may count either or both of WS 201 and 202 toward the 18 lower division history credits that are required.

Extended Minor Program
An extended minor consists of the lower division major requirements and the upper division minor requirements in a subject area. See “Extended Minor Program” on page 129 for further details.

Certificate Program
This program provides academic training in women's studies and practical training in community work on behalf of women. It is open to all who meet university admission requirements.

Lower Division Requirements
Eighteen credit hours including WS 101 or 102 are required.
Students must also complete five of
WS 200-3 Women in Cross Cultural Perspectives
WS 201-3 Women in Canada 1600-1920
WS 202-3 Women in Canada 1920 to Present
WS 203-3 Female Roles in Contemporary Society
WS 204-3 Women, Science and Technology
WS 205-3 Women and Popular Culture
WS 206-3 Issues in Women’s Health and Health Care
WS 207-3 Introduction to Feminist Theory
WS 208-3 Researching Women’s Issues

Upper Division Requirements
Twelve credit hours from any 300-400 division WS courses is required. One course in another department or program may fulfill this requirement, if the course is designated for women's studies credit.

Practicum
The practicum consists of satisfactory completion of supervised training and work in a community group which promotes the well-being of women (no grade is given). The practicum’s terms are arranged by the women’s studies faculty advisor, the community group and the student. Students work at the practicum two and a half days a week for 13 weeks. At the end, the women's studies curriculum committee, in consultation with the community group and student, evaluates the student’s performance. Those who have experience in an appropriate community group, and/or who are working in an appropriate community group while in this program, may apply to count that work toward partial or full completion of the practicum. The practicum develops skills and experience in applying the knowledge acquired in women’s studies courses to community work and/or applying community work experiences to academic work.

Co-operative Education
This program is for qualified students who wish to acquire practical experience in women's studies. For admission, students must have completed 30 credit hours with a CGPA of 3.0 and have completed WS 101, 102, and two 200 division women's studies courses. Transfer students must complete at least 15 credit hours at Simon Fraser University.

For further details, see "Co-operative Education" on page 216. Arrangements for work semesters are made through the Faculty of Arts co-op co-ordinator, who should be consulted at least one semester in advance.
Faculty of Business Administration


Dean
C.E. Love BEng, MBA (McM), PhD (Lond)

Associate Deans
L.N. Meredith BA, MA, PhD (S Fraser)
B.H. Reich BA, MSc, PhD (Br Col)

Professors Emeriti
P.L. Cheng BS (Natn 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 (WOnt), PhD (Stan)
S.J. Shapiro AB (Harv), MBA, PhD (Penn)
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.L. 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)
C.E. Love BEng, MBA (McM), PhD (Lond)
G.A. Mauser BA, PhD (Calif)
L.N. Meredith BA, MA, PhD (S Fraser)
L.T. Pinfield BSc (Leeds), MS (Carnegie Tech), PhD (Stan)
G.G. Poitras BA (Dal), MA (McG), MPhil, PhD (Col)
J.G. Richards BA (Sask), BA (Camb), MA, PhD (Wash, Mo)
D.M. Shapiro BA (Calg), MA, PhD (C'nell)
R.L. Tung BA (York), MBA, PhD (Br Col), FRS(C)
A.R. Vining LLB (London), MBA, MPP, PhD (Calif)
J.H. Waterhouse BSc, MBA (Alta), PhD (Wash)
W.C. Wedley BCom (Br Col), MBA, PhD (Calif)
M.N. Wexler BA (McG), MA (WOnt), PhD (York, Can)
R.G. Wyckham BA, MBA (WOnt), PhD (Mich State)
J.L. Ziackowski BHE (Br Col), MSc (Guelph), PhD (Calif)

Associate Professors
N.A.R. Abramson BA (Sask), MA, MBA, PhD (WOnt)
A. Bick BSc, MSc (Tel Aviv), MBA (Jerusalem), PhD (Calif)
G.W. Blazenko BA (S Fraser), MA (WOnt), PhD (Br Col)
E.W. Bukszar, Jr. BA (J Carroll), MBA, PhD (Arizona)
G.R. Bushe BA (C'dia), PhD (Case R Reserve)
C.P. Egri BCom, MSc, PhD (Br Col)
C.E.N. Embry BCom (Manit), MBA (Br Col), PhD (Alta), CA
J.N.P. Francis BSc (WI), MBA (York), PhD (Wash)
A.M.G. Gelardi Cert in Educ (Keele), MSc (Miami, Fla), PhD (Arizona), CA
I.M. Gordon BA, MA, PhD (S Fraser), CGA
J.W. Heaney BA, MSc (Sask), MA, PhD (S Fraser), PhD (Alta)
R.D. Iverson BA, MA (Monash), PhD (Iowa)
I.P. McCarthy BEng (Kingston Polytechnic, UK), MSc, PhD (Sheff)
H. Merchant BCom (Bom), MBA (Clariorn), PhD (Purdue)
M. Parent BCom, MBA, PhD (Qu)
D.C. Parker BCom, MBA (Calif), PhD (WOnt)
B.H. Reich BA, MSc, PhD (Br Col)
R.W. Schwindt AB, PhD (Calif)*
J.P. Sheppard BS (Penn State), MBA (Indiana), PhD (Wash)
C.F. Smart BCom, MBA, PhD (Br Col)
D.C. Thomas BSc (Appalachian State), MBA (N Carolina), PhD (S Carolina)
A.R. Warburton BA (Br Col), MSc (Montr), PhD (Br Col)

Assistant Professors
M.J. Brydon BEng, MEng (RMC)
C.M. Collins-Dodd BCom, PhD (Alta)
M. Favere-Marchesi BSc, MAcc (Bingham Young), PhD (S Calif), CPA
A.C. Gemino BA, MA, MBA (S Fraser), PhD (Br Col)
D.R. Hannah BCom (Br Col), PhD (Tex)
J. Jermias BA (Indonesia), MAccpg, PhD (Wat)
P.C. Klein BSc, LLB, MBA (WOnt), PhD (Tor), CFA
R. Krider BSc, MSc, PhD (Br Col)
B.A. Lautsch BA (Regina), MIR (Qu), PhD (MIT)
N. MacKay BMth, MSc (Wat), PhD (Cant)
E.M.A. Maine BA, BSc (Qu), SM (MIT), PhD (Camb)
A.D. Pavlic BSc (Sonoma), MBA (Thunderbird), MA, PhD (Calif)
C.D. Zatzick BA, PhD (Calif)

Adjunct Professors
N.J. Campbell BCom (Br Col), MBA (S Fraser), CA
W.F.J. van Lierop MA, PhD (Vrije, Amsterdam)
G. Wagenheim BS (Maryland), MBA (Syracuse)
Z.G. Zhang BSc, MA (Nankai, China), MBA (York), PhD (Wat)

Senior Lecturers
A. Duncan BA (Qu), MBA (York, Can), CA
M.R. Fizzell BEd, BComm, MSc (Sask), CMA

Lecturers
E.A. Macdonald BSc (S Fraser), MBA, MBus (Br Col)
D.L. Patient LLB (Lond), MBA (Br Col)
K.G. Stewart BA (McM), MA (Br Col)
R.A. Yates LLB, MBA (Br Col)

Instructors
J.C.W. Chang BA, MEng (C'nell)
M.B. Lazarova M Intl Econ Relations (Nl & World Econ, Sofia, Bulgaria), MSc (Rutgers)
D.R. Smith BBusiness, MBusiness (OId UT)

*joint appointment with economics

Undergraduate Programs Offered
Bachelor of Business Administration (Honors) Bachelor of Business Administration

Programs Offered
BBA – General Program
Major in Business Administration
Joint Major in Business Administration and Communication
Joint Major in Business Administration and Economics
Joint Major in Business Administration and Geography
Joint Major in Information Systems in Business Administration and Computing Science
Joint Major in Business and Latin American Studies
Joint Major in Business Administration and Psychology
BBA – Honors Program
Honors in Business Administration
Honors in Business Administration and Economics

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, www.bus.sfu.ca/ugrad

Introduction
The faculty offers honors, major and minor programs, in co-operation with the Faculties of Applied Sciences and Arts. The faculty also offers joint programs. For a complete list, please see Programs Offered above.

The value of a broadly based education is emphasized. Because of this objective, students will take mainly non-business courses during the first 60 hours, completing three categories of courses. The first category consists of lower division requirements. These are mainly tool courses to prepare for more advanced upper division business courses. The second category consists of group requirements which roughly correspond to humanities, social sciences and sciences. In the third category, students choose 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 at other post-secondary institutions including the lower division requirement courses (except BUS 207 and 254 which
Admission Requirements

To be considered for admission to the faculty, students must meet the following criteria:

- Minimum Grade: Students must obtain a minimum grade of C- (C minus).
- Course Acceptance: A core course must be accepted in a student's program for a course to be accepted as fulfilling a requirement. Courses taken as part of a program are accepted "as is." Note to the following.
- CGPA: For all programs, a minimum CGPA of 2.00 is required. For all business administration programs, a minimum CGPA of 2.25 is required.
- Additional Requirements: Fraser University faculties may have specific course requirements modified by the faculty, upon request. Frasrer University faculties may have specific course requirements modified by the faculty, upon request.

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, are completed. Students not accepted upon initial application may reapply. Unsuccessful applicants may appeal through the faculty appeals committee.

Application Deadlines

April 1* for summer semester
August 1* for fall semester
December 1* for spring semester

*application earlier in the semester is recommended

Application forms are available in the undergraduate program offices in the second month of each semester.

Non-Majors Access to Business Courses

Priority in upper division business courses is given to those students who are approved in a business program. (A business program is defined as major, minor, honors and joint programs.) Students are permitted to undertake the lower division business courses without formal faculty admission.

Students other than those accepted into a program in business administration may take upper division business administration courses contingent upon

- space available at the end of the first week of classes
- meeting the prerequisites for the individual course requested

First bachelor's degree candidates in other Simon Fraser University faculties may have specific course requirements modified by the faculty, upon request.

General Requirements

In addition to the specific requirements for major, minor, honors and joint programs, all students should note the following:

- Normal University Grade Point Average: In all programs a minimum CGPA of 2.25 and a minimum CGPA of 2.00 in all business administration courses.
- Course Requirements: 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).
- Upper Division Requirements: For a course to be accepted as fulfilling a course requirement, the student must be accepted in a student's program and have completed all prerequisites for the course. Courses taken as part of a program as "as is." Note the following.
- Core Courses: 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 a group requirement (see "Group Requirements" below) or non-BUS or non-BUEC courses taken as part of the lower division requirements may count toward the 50 credit hours outside business administration.

Lower Division Requirements

BUEC 232-4 Data and Decisions (or STAT 270)
BUS 207-3 Managerial Economics* (or ECON 301)
BUS 237-3 Introduction to Computers and Information Systems in Business (or a 200 level CMPT course)
BUS 251-3 Financial Accounting I
BUS 254-3 Managerial Accounting I*
BUS 272-3 Behavior in Organizations
ECON 103-3 Principles of Macroeconomics
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 101-3 Critical Thinking
PHIL 100-3 Knowledge and Reality
PHIL 120-3 Introduction to Moral Philosophy

*courses with an asterisk (BUS 207 and 254) may be completed following admission to the faculty.

Group Requirements

To satisfy the three group requirements (groups A, B and C), students must complete the following.

Group A
Students must complete four courses from at least two departments from the following: contemporary arts, English, general studies, history, humanities, languages, linguistics, philosophy.

Group B
Students must complete four courses from at least two departments from the following: archaeology, Asia-Canada, Canadian studies, communication, criminology, economics, education, geography (excluding all physical geography courses), gerontology, Latin American studies, political science, psychology, sociology and anthropology, women's studies.

Group C
Students must complete two courses from the following: biochemistry, biological sciences, chemistry, computing science, earth sciences, kinesiology, mathematics, physical geography; GEOG 111, 112, 213, 214, 215, 311, 313, 314, 315, 317, 412, 413, 414, 415, 416, 417, 418, 419, physics, statistics.

Note: courses selected to meet the group requirements may be upper or lower division and need not be completed prior to application to the faculty.

Upper Division Requirements

In the last 60 credit hours, students must take a minimum of 45 credit hours in upper division courses, of which a minimum of 36 hours must be in business administration or BUEC courses.

The 36 upper division credit hours in business administration must include the following:

- all core courses (see Core Courses below)
- an area of concentration (see Areas of Concentration below)
- at least three 400 division BUS or BUEC courses (excluding practicum courses and BUS 478). These courses may count toward the requirements for the area(s) of concentration.

Further upper division courses in any discipline must be completed to bring the total upper division credit to 45 credit hours minimum.

Students may not register in upper division (300 and 400 level) business administration courses before completing the first 60 lower division credit hours, with two exceptions:

- approved business majors and minors may take upper division BUS courses after the completion of 45 credit hours
- Any 300 or 400 division course taken before the completion of 60 credit hours will not count as fulfilling the 45 upper division credit hours required in the final 60 hours of the program, or as part of the upper division courses for the major or minor.

Core Courses

Students majoring in business administration are required to complete all of

BUS 303-3 Business, Society and Ethics
BUS 312-4 Introduction to Finance
BUS 343-3 Introduction to Marketing
BUS 360-3 Business Communication
BUS 393-3 Commercial Law
BUS 478-3 Seminar in Administrative Policy

and one of

BUS 374-3 Organization Theory
BUS 381-3 Introduction to Human Resource Management

It is recommended that students complete BUS 360 before their 75th credit hour.

Areas of Concentration

Students must complete a concentration within one or more of the following areas by completing the courses specified below.

Accounting

BUS 251-3 Financial Accounting I
BUS 254-3 Managerial Accounting I
BUS 319-3 Integrative Financial and Managerial Accounting
BUS 320-3 Financial Accounting: Assets
BUS 321-3 Financial Accounting: Equities
BUS 421-3 Accounting Theory
BUS 424-3 Managerial Accounting II

Finance

BUS 312-4 Introduction to Finance
BUS 315-4 Investments
BUS 316-3 Derivative Securities

and two of

BUS 410-3 Financial Institutions
BUS 413-4 Corporate Finance
BUS 418-3 International Financial Management

International Business

BUS 346-3 International Business
BUS 380-3 Comparative Management
BUS 435-3 Management of International Firms

and two of

BUS 418-3 International Financial Management
BUS 431-3 Business with East Asian Countries
BUS 432-3 International Human Resources Management
BUS 447-3 International Marketing Management

Other upper division courses deemed to have significant international business relevance may, with prior faculty permission, be substituted for the above courses. These may be offered in another faculty.

Note: students concentrating in international business are strongly advised to consider combining it with another business concentration.

Management and Organization Studies
Hons.
BUEC 384-3 Industrial Relations
BUS 374-3 Organization Theory
BUS 381-3 Introduction to Human Resource Management
and two of
BUEC 485-3 Collective Bargaining
BUS 432-3 International Human Resources Management

Management Information Systems
BUS 362-4 Information Analysis and Systems Design
BUS 364-3 Information Systems in Organizations and Society
BUS 468-3 Management Issues in Information Systems
and one of
CMPT 110-3 Event Driven Programming in Visual Basic
CMPT 117-3 Internet Programming Using JAVA
and two of
BUS 462-4 Management Support Systems
BUS 484-3 Decision Analysis in Business
BUS 490-496-3 Selected Topics courses

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 462-4 Management Support Systems

Marketing
BUS 343-3 Introduction to Marketing
BUS 347-3 Consumer Behavior
BUS 442-3 Introduction to Marketing Research
and two of
BUS 344-3 Business to Business Marketing
BUS 445-3 Analysis of Data for Management
BUS 446-3 Marketing Strategy
BUS 447-3 International Marketing Management
BUS 448-4 Advertising and Sales Promotion
BUS 449-3 Marketing and Society

*at least one of these must be selected from 344, 446, or 447

Honors Program
After the completion of 15 upper division business administration credit hours, students can apply to enter the honors program. Both the CGPA and GPA for upper division BUS and BUEC courses must be at least 3.00 (or 3.50 for honors first class) for entry into and continuance in the honors program.

Honors students must meet all major program requirements. The honors program requires 12 credit hours of 400 division courses beyond the 120 hours required for the major degree. These hours must be in 400 division BUS or BUEC courses or in other faculties that are approved by the area co-ordinator. These 12 credit hours are in addition to those required for the area of concentration and core course requirements for the major program. Approvals in advance by the area co-ordinator and the faculty are required for these 12 credit hours.

In the student’s upper level (normally the last 72 hours of the honors program), the student must take a minimum of 57 upper division credit hours, of which 42 must be in BUS or BUEC courses.

Minor Program

Lower Division Requirements
BUEC 232-4 Data and Decisions I (or STAT 270)
BUS 237-3 Introduction to Computers and Information Systems in Business (or a 200 level CMPT course)
BUS 251-3 Financial Accounting I
BUS 254-3 Managerial Accounting I*
BUS 272-3 Behavior in Organizations
ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
MATH 157-3 Calculus for the Social Sciences I

*may be completed after admission to the faculty

Upper Division Requirements
Students should note that, if permission is granted to take any 300 or 400 level BUS or BUEC course before the completion of 60 credit hours, then those courses will not count toward fulfilling the 16 upper division hours for the minor.

At least 16 credit hours of upper division BUS or BUEC credit hours are required including the following.

BUS 312-4 Business Finance
BUS 343-3 Introduction to Marketing
and one of
BUS 374-3 Organizational Theory
BUS 381-3 Introduction to Human Resource Management

Joint Programs

Common Requirements of All Joint Programs
All joint major and honors programs require that the student must qualify for and receive admission to, and must remain qualified for continuance in, the Faculty of Business Administration, and must be accepted as a joint major or joint honors in the co-operating department or school.

The lower division requirements and core courses of the Faculty of Business Administration must be completed, except as specifically modified below (“Core Courses” on page 181). 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 marketing.

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

Communication Lower Division Requirements
CMNS 110-3 Introduction to Communication Studies
CMNS 130-3 Explorations in Mass Communication
and five additional lower division courses for a total of 21 hours in communication including all of
CMNS 221-3 Media and Audiences
CMNS 260-3 Introduction to Empirical Communication Research Methods
CMNS 261-3 Documentary Research in Communication

Communication Upper Division Requirements for Marketing Concentration
Required
Students must complete 24 credit hours of upper division courses in communication including both of
CMNS 323-4 Cultural Dimensions in Advertising
CMNS 425-4 Applied Communication for Social Issues

Directed studies (readings) and field placement credit will not count as part of the upper division hours required by communication for the joint major. The completion of a course in basic science or social science methods, as required for the communication major, will be deemed fulfilled by the requirements for a major in business administration.

Joint Major in Information Systems in Business Administration and Computing Science
Students must qualify for and receive admission to, and must remain qualified for continuance in, the Faculty of Business Administration, and must be accepted as a computing science joint major.

Lower Division Requirements
BUEC 232-4 Data and Decisions I (or STAT 270)
BUS 251-3 Financial Accounting I
BUS 254-3 Managerial Accounting I
BUS 272-3 Behavior in Organizations
CMPT 104-1 Introduction to Computer Programming (or CMPT 104)
CMPT 150-3 Introduction to Computer Design
CMPT 201-4 Data and Program Abstraction
CMPT 276-4 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 Introduction to Finance
BUS 336-4 Data and Decisions II
BUS 343-3 Introduction to Marketing
BUS 364-3 Information Systems in Organizations and Society
BUS 468-3 Management Issues in Information Systems
BUS 479-3 Seminar in Administrative Policy
CMPT 300-3 Operating Systems
CMPT 307-3 Data Structures and Algorithms
CMPT 320-3 Social Implications of a Computerized Society
CMPT 354-3 Database Systems and Structures
CMPT 370-3 Information System Design
and one of
BUS 374-3 Organization Theory
BUS 381-3 Introduction to Human Resource Management
and one of
BUS 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 upper division credit hours in business administration or BUEC,* including the core courses with the following exceptions.
• BUS 207 and 303 are waived.
• BUEC 333, which must be taken, will count as upper division economics hours rather than as upper division business administration hours.

Three courses beyond the core must be completed within the requirements of a single concentration.
At least two 400 division BUS or BUEC courses* (excluding practicum courses and BUS 478) *These courses may be within the area of concentration.
Students must also complete at least 25 upper division credit hours in economics or BUEC* including
ECON 301-5 Intermediate Microeconomics
ECON 305-5 Intermediate Macroeconomic Theory
and at least one 400 division economics or BUEC* course (excluding ECON 431, 435, BUEC 433 and 485).

Economics Group Requirements
Students must complete one
ECON 102-3 Contemporary World Economies
ECON 110-3 Foundations of Economic Ideas
ECON 208-3 History of Economic Thought
ECON 250-3 Economic Development in the Pre-Industrial Period
ECON 309-3 Introduction to Marxian Economics
ECON 353-4 Economic History of Canada
ECON 355-4 Economic Development
ECON 395-5 Comparative Economic Systems

Upper Division Requirements
all of
ECON 404-3 Honors Seminar in Methodology of the Social Sciences
ECON 407-3 Seminar in Marxian Economics
ECON 409-3 Seminar in Economic Thought
ECON 450-3 Seminar in Quantitative Economic History
ECON 451-3 Seminar in European Economic History
ECON 455-3 Seminar in Economic Development
* 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 360-3 Comparative Management
BUS 434-3 Foreign Market Entry
BUS 436-3 Management of International Firms
BUS 439-3 North American International Trade Issues
BUS 447-3 International Marketing Management
With the permission of the international business area co-ordinator and the faculty, another course may be substituted for one the seven listed above.

Latin American Studies Requirements

Lower Division
Students must demonstrate reading and speaking competence in Spanish or Portuguese equivalent to successful completion of three college level courses.
A minimum of 12 hours is required including the following courses.
LAS100-3 Images of Latin America
LAS 140-3 Cultural Heritage of Latin America
LAS 200-3 Introduction to Latin American Issues
The remaining three credit hours are taken from the approved list of Latin American content courses. (*Latin American Studies Program” on page 162).

Upper Division
Students are required to complete 20 upper division credit hours of Latin American studies credit, including at least 16 credit hours in both LAS 300 and 400 division courses. The remaining four credit hours may be taken from the list of approved Latin American content courses.

Joint Major in Molecular Biology and Biochemistry and Business Administration

For information, see “Joint Major in Molecular Biology and Biochemistry and Business Administration” on page 206.

Joint Major in Business Administration and Psychology

Business Administration Requirements
• The student must successfully complete at least one 400 management and organization studies course.
• Students must successfully complete the business administration core courses, except with advance permission of the Faculty of Business Administration, the combination of PSYC 210 and 301 may be substituted for the combination of BUEC 232 and BUS 336.

See note below.

Psychology Requirements
Lower Division Requirements
all of
PSYC 100-3 Introduction to Psychology I*
PSYC 102-3 Introduction to Psychology II*
PSYC 201-4 Introduction to Research Methods in Psychology*
PSYC 207-3 Introduction to the History of Psychology*
PSYC 210-4 Introduction to Data Analysis in Psychology*
PSYC 260-3 Introduction to Social Psychology
*to be admitted to the psychology program, students must obtain a final course grade of C (2.0) or better in each of these courses.

Note: The above requirement applies to courses transferred from other institutions as well as to courses taken at Simon Fraser University.

Complete one of
PSYC 221-3 Introduction to Cognitive Psychology
PSYC 241-3 Introduction to Abnormal Behavior
PSYC 250-3 Introduction to Developmental Psychology
PSYC 270-3 Introduction to Theories Personality
PSYC 280-3 Introduction to Biological Psychology

Upper Division Requirements
Complete 21 credit hours in upper division psychology courses. No more than five of these credit hours may be in directed studies. At least 11 upper division psychology credit hours must be taken at Simon Fraser University.

Note: students must complete either BUEC 232* and BUS 336 or PSYC 210 and 301. Students who complete BUS 336 must still fulfill a minimum of 21 upper division credit hours in psychology. Students who complete PSYC 301 must still fulfill a minimum of 24 upper division credit hours in business administration.

Joint Honors in Business Administration and Economics

Economics Group Requirements
Students must include at least one
ECON 102-3 Twentieth Century 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 306-3 Introduction to Marxian Economics
ECON 353-5 Economic History of Canada
ECON 355-4 Economic Development
ECON 395-5 Comparative Economic Systems
ECON 404-3 Honors Seminar in Methodology of the
Social Sciences
ECON 407-3 Seminar in Marxian Economics
ECON 409-3 Seminar in Economic Thought
ECON 450-3 Seminar in Quantitative Economic
History
ECON 451-3 Seminar in European Economic History
ECON 455-3 Seminar in Economic Development

Lower Division Requirements
The requirements are the same as for the joint major
in business administration and economics. Refer to
that section.

Upper Division Requirements
• at least 36 credit hours of upper division credit in
business administration including the core courses.
• an area of concentration
• at least three 400 division courses (excluding
practicum courses and BUS 478). These courses
may be within the area of concentration.
• plus at least 32 credit hours of upper division credit
in Economics or BUEC including
BUEC 333-3 Elementary Economics and Business
Statistics II
ECON 301-5 Intermediate Microeconomic Theory
ECON 305-5 Intermediate Macroeconomic Theory
ECON 331-5 Introduction to Mathematical Economics
ECON 402-3 Advanced Topics in Microeconomics (or
403)
ECON 435-5 Quantitative Methods in Economics
ECON 499-6 Honors Seminar in Economics

Exchange Programs
Contacts
C. Hamblin, undergraduate program co-ordinator,
2389 Lohn Building, (604) 291-4624
D. Hucal, student exchange co-ordinator, SFU
International, 1200 Maggie Benston Student Services
Centre, (604) 291-5887

The faculty participates in undergraduate student
exchange agreements with the following institutions.

Australia
Swinburne University of Technology

Canada
Laval University

Korea
Yonsei University

Mexico
Instituto Tecnologico Autonomo de Mexico (ITAM)
Instituto Tecnologico y de Estudios Superiores de
Monterrey (ITESM)
Universidad de Las Americas-Puebla
Universidad de Guadalajara

Netherlands
Hanzehogeschool Groningen

Norway
Norwegian School of Management

Scotland
Heriot-Watt University

Thailand
Chulalongkorn University
Thammasat University

Turkey
Koc University

United States
San Diego State University
University of Maine

For more information, contact the above listed
individuals. Also, “SFU International” on page 14.

Co-operative Education Program
2310 Lohn Building, (604) 291-3619 Tel,
(604) 291-5922 Fax, www.sfu.ca/coop
The Faculty of Business Administration offers
co-operative education to qualified students.
Co-operative education formally integrates a student's
academic studies on campus with relevant work
experience. Employers from business, industry and
government support and participate in the program.
This 'hands-on' approach to education extends the
learning process beyond the limits of the classroom
and into the working world by alternating full time
study semesters with full time paid work semesters of
career-related practical experience.

For those seeking a professional accounting
designation (CA, CGA, CMA) arrangements have
been made with respective accounting organizations
so that work experience obtained during the program
may be recognized toward the required practical
experience.

Admission
Admission to the Faculty of Business Administration
is generally required before application to the
co-operative education program is considered.

A student must remain in good academic standing in
the Faculty of Business Administration to continue in
the program.

Admission to the program will normally be based on a
student's academic record and a personal interview
with one of the business co-op program's co-ordinators.

Withdrawal
Admitted students who fail to secure a placement
through job competition in two consecutive semesters
may be required to withdraw from co-operative
education. This withdrawal does not necessarily effect
continuance in the Faculty of Business
Administration. Normally, withdrawal from a work
semester constitutes withdrawal from co-operative
education.

Practicum Course Requirements
To qualify for the bachelor of business administration
with a major in business administration and a
co-operative education designation, students must
meet University and Faculty of Business
Administration graduation requirements.

In addition, students who choose the chartered
accountancy option must complete five work
semesters. A co-operation education designation
requires four work semesters and a certificate
requires three work semesters.

During study semesters a student must maintain full
time status. A brochure which outlines program
features is available from the business administration
co-op education program co-ordinators.

Business Career Services
4303 Lohn Building, www.bus.sfu.ca/ecs,
business-career-services@sfu.ca

Co-ordinator
Ms. J. Martin BA, MBA (S Fraser),
(604) 291-4075 Tel, (604) 291-3312 Fax

Business Career Services office assists students in
preparing for their business careers and provides
access to full time, part time, on-going and temporary
work opportunities. In addition to one-on-one
assistance, extensive career information and
resources are available on the Business
Administration Career Services website, which is
accessible 24 hours a day from any computer with an
Internet connection.
Faculty of Education


Dean
(to be announced)

Professors Emeriti

P.E. Coleman BA, MA, EdD (Br Col)
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)
M. McClaren BEd, PhD (Br Col)
J.V. Trivett BSc (Lond), DipEd, MA (Brst)
S. Wassermann BS, MS (CCNY), EdD (NY)
M.F. Wideon BEd, BA, MEd (Sask), PhD (Colorado)

Assistant Professors

M. Zola BA (Brist), MEd (Leeds)
J. Thompson BA (Vic, BC), PhD (Ott)
MEd (Qld), PhD (Alta)

T.J. O'Shea BEng (McG), BEd (Sask), MSc (Calg), PhD (Br Col)
A.M. MacKinnon BSc, BEd, MSc (Calg), EdD (Br Col)
S. Bailin BA (Oxf), CertEd, PhD (Lond)
J. Case Dip Ed (Vic, BC), MA, PhD (Br Col)
S.C. de Castell BA (Sir G Wms), MA, PhD (Lond)
K. Egan BA, Cert Teaching (Lond), PhD (C'nell)
I. Geva-May BA (Jerusalem), MA (Haifa), PhD (Manc)
P.P. Grimmett BA (Newcastle, UK), BEd (Keele), MA, MEd (Alta), EdD (Br Col)
C.M. Mamchur BA, BEd, MEd (Sask), EdD (Flor)
C.B. Kenny BA, AA (Loyola), MA (Br Col), PhD (Fielding)
D. Zandvliet BSc (Guelph), MA (Vic, BC), PhD (Curt)
J. Van Aalst BEd (WOnt), MSc (Alta), PhD (Tor)
D. Zandvliet BSc (Guelph), MA (Vic, BC), PhD (Curt)

Diplomas and Certificates Offered

Certificate in Literacy Instruction
Post Baccalaureate Diploma
Post Baccalaureate Diploma in Early Childhood Education

Undergraduate Degrees Offered

Bachelor of Education (Honors)
Bachelor of Education

Bachelor of Education Program

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.

The BEd is designed to prepare students academically and professionally for a teaching career at the elementary or secondary school level. Students considering the BEd degree should seek academic counselling for:

Lower divisions (first 60 credit hours)
Contact Student Academic Resources, 3300 Maggie Benston Student Service Centre, (604) 291-4356.

Upper divisions (BEd degree, education minors, certificate in liberal arts, academic counselling for:
Contact the Undergraduate Advising Office, 8625 Education Building, 404 (604) 291-3798.

Transfer Credit
Students may be admitted to the BEd program with advance standing. Credit may be granted for appropriate work completed at other institutions to a maximum of 60 credit hours excluding professional education or 90 credit hours including an acceptable year of professional education (EDUC 401, 402 and 405).

General Program Requirements

Students must complete a minimum of 150 credit hours which includes one of the following.

- a major from the Faculties of Applied Sciences, Arts or Science
- two minors/extended minors, completed from the Faculties of Applied Sciences, Arts or Science or the Mathematical Sciences specialization completed from the Faculty of Education and all of the following
- a minor from the Faculty of Education (may be fully or partially completed during EDUC 404)

- a minimum of 54 credit hours in upper division courses (numbered 300 and 400), excluding EDUC 401, 402, 405 and 406
- two of EDUC 220, 230, 240 or 250
- a minimum of 24 credit hours of upper division education courses (excludes EDUC 401, 402, 405, 406) which must include two Faculty of Education Designs for Learning courses (may include courses taken for EDUC 404 or for the education minor)

- certificate in liberal arts
- Students must achieve both a minimum cumulative grade point average (CGPA) of 2.0 and a minimum grade point average (GPA) of 2.0 calculated on the basis of all upper division courses taken at Simon Fraser University.

Honors Program Requirements

Students must complete a minimum of 162 credit hours which include:

- an honors from the Faculties of Applied Sciences, Arts or Science
- a minor from the Faculty of Education (may be fully or partially completed during EDUC 404)
- a minimum of 54 credit hours in upper division courses (numbered 300 and 400), excluding EDUC 401, 402, 405 and 406
- two of EDUC 220, 230, 240 or 250

Bachelor of Education as a Second Degree

To be admitted, students must possess a bachelor's degree and have completed EDUC 401 and 402.

Requirements

The residency requirement is 60 credit hours which must include
EDUC 401-8 Introduction to Classroom Teaching EDUC 402-7 Studies of Educational Theory and Practice
EDUC 405-15 Teaching Seminar

plus a minor from the Faculty of Education

plus 30 credit hours of EDUC courses (24 credit hours must be upper division and excludes EDUC 401, 402, 405 and 406) which must include two Designs for Learning courses (may include courses taken for EDUC 404 and the education minor)

Any additional work needed to address academic requirements for a professional certificate must be done over and above the required 60 credits.

Professional Development Program

This program (one year teacher training) 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 (PDP)" on page 188.
Mathematical Sciences Specialization
For a bachelor of education degree with a mathematical sciences specialization, students must complete 150 hours which include the following, as well as all the bachelor of education requirements.

Lower Division Requirements
Students must complete at least 20 credit hours from the following.
CMPT 101-4 Introduction to Computer Programming
CMPT 201-4 Data and Program Abstraction
MACM 101-3 Discrete Mathematics I
MACM 201-3 Discrete Mathematics II
MATH 113-3 Euclidean Geometry
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 154-3 Calculus I for the Biological Sciences
MATH 155-3 Calculus II for the Biological Sciences
MATH 171-1 Computer Explorations in Calculus I
MATH 172-1 Computer Explorations in Calculus II
MATH 190-4 Principles of Mathematics for Teachers*
MATH 232-3 Elementary Linear Algebra
MATH 242-3 Introduction to Analysis
STAT 270-3 Introduction to Probability and Statistics
*students who have taken, or are currently taking, any calculus course may not take MATH 190 for further credit

Upper Division Requirements
Students must also complete at least 30 credit hours from the following.
CMPT 320-3 Social Implications of a Computerized Society
CNS 491-3 Technology and Canadian Society
HIST 360-4 History of Science: 1100-1725
MACM 316-3 Numerical Analysis I
MATH 308-3 Linear Programming
MATH 310-3 Introduction to Ordinary Differential Equations
MATH 332-3 Introduction to Applied Algebraic Systems
MATH 339-3 Groups and Symmetry
MATH 342-3 Elementary Number Theory
MATH 343-3 Applied Discrete Mathematics
MATH 380-3 History of Mathematics
MATH 439-3 Algebraic Systems
MATH 447-4 Coding Theory
STAT 330-3 Introduction to Statistical Inference

Minor Programs

Minor in Counselling and Human Development
This minor teaches a combination of theoretical, empirical, and practical matters central to the understanding and practice of counselling and human development. The course work provides students with a strong theoretical and critical foundation on which to base and evaluate counselling and teaching practices aimed at enhancing human development.

Lower Division Requirements
EDUC 220-3 Introduction to Educational Psychology
EDUC 222-3 Research Methods in Educational Psychology
PSYC 250-3 Introduction to Developmental Psychology

Upper Division Requirements
(minimum of 15 credit hours)
Students must complete both of
EDUC 322-3 Social Lives of School Children
EDUC 323-3 Introduction to Counselling Theories
Students must also complete three electives selected from the following. At least two of
EDUC 327-3 Self, Psychology and Education
EDUC 328-3 Theories of Career Development and Education
EDUC 423-4 Helping Relationships
EDUC 464-4 Early Childhood Education

Fundamentals. For a teaching career, it provides a research based foundation in the psychology of teaching and learning underlying a professional studies program. For others, the minor articulates applied psychology serving one of our society’s most important aims, education of people of all ages.

Lower Division Requirements
EDUC 220-3 Introduction to Educational Psychology
EDUC 222-3 Research Methods in Educational Psychology

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

Minor in Education and Technology
This minor develops teachers' skills in the design and operation of environmental and outdoor education programs from kindergarten through grade 12, and in the organization and operation of residential and day centre outdoor education, wilderness outdoor recreation, and other interdisciplinary environmental school programs.

Prerequisite Courses
Students must complete a minimum of nine hours selected from below.
BISC 102-4 General Biology
BISC 204-3 Introduction to Ecology*
EDUC 240-3 Social Issues in Education
EDUC 230-3 Introduction to Philosophy of Education
EDUC 240-3 Social Issues in Education

Minor in Early Childhood Education
This minor provides a focus for students wishing to work with children aged three through eight.

Lower Division Requirements
PSYC 250-3 Child Psychology

Upper Division Requirements
EDUC 464-4 Early Childhood Education

Fundamentals. For a teaching career, it provides a research based foundation in the psychology of teaching and learning underlying a professional studies program. For others, the minor articulates applied psychology serving one of our society’s most important aims, education of people of all ages.

Upper Division Requirements
Students must complete 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

Minor in Education and Technology
This minor provides a structure for undergraduate studies of education and technology.

Lower Division Requirements
Students must complete both of
EDUC 260-3 Learning and Teaching Through Technology
and one of
EDUC 220-3 Introduction to Educational Psychology
EDUC 230-3 Introduction to Philosophy of Education
EDUC 240-3 Social Issues in Education

Upper Division Requirements
Students must complete all of
EDUC 358-3 Foundations of Educational Technology
EDUC 463-4 Multimedia for Curriculum Design
EDUC 482-4 Designs for Learning: Information Technology
and one of
EDUC 320-3 Instructional Psychology
EDUC 424-8 Nature and Nurture of Gifted Students
EDUC 437-4 Ethical Issues in Education
EDUC 471-4 Curriculum Development: Theory and Practice

Minor in Environmental Education
This minor develops teachers' skills in the design and operation of environmental and outdoor education programs from kindergarten through grade 12, and in the organization and operation of residential and day centre outdoor education, wilderness outdoor recreation, and other interdisciplinary environmental school programs.

Prerequisite Courses
Students must complete a minimum of nine hours selected from below.
BISC 102-4 General Biology
BISC 204-3 Introduction to Ecology*
EDUC 240-3 Social Issues in Education
EDUC 230-3 Introduction to Philosophy of Education
EDUC 240-3 Social Issues in Education

Minor in Educational Psychology
Educational psychology has two main items on its agenda: (1) theoretical and experimental inquiries into how students learn from instruction, how they acquire and express motivation in educational settings, and how they develop skills in school subjects and for learning, and (2) studies how this first line of inquiry contributes to designs for instructional experiences that promote a full spectrum of students’ achievements.

This minor consists of required courses that develop a broad background in educational psychology supplemented by electives that deepen
Required Courses
Students must complete a minimum of 14 hours as specified below.
EDUC 420-8 Environmental Education
plus two of
BISC 304-3 Animal Ecology
BISC 306-3 Invertebrate Biology
BISC 310-3 The Natural History of British Columbia
BISC 317-3 Insect Biology
BISC 337-3 Plant Biology
BISC 404-3 Plant Ecology
EDUC 414-4 Designs for Learning: Secondary Social Studies
EDUC 416-4 Designs for Learning: Secondary Science
EDUC 433-4 Philosophical Issues in Curriculum
EDUC 471-4 Curriculum Development: Theory and Practice
EDUC 474-4 Designs for Learning: Elementary Social Studies
EDUC 476-4 Designs for Learning: Elementary Science
EDUC 459-4 Instructional Activities in Physical Education
EDUC 482-4 Designs for Learning: Information Technology
GEOG 322-4 World Resources
GEOG 369-4 Human Microgeography

Minor in Learning Disabilities
This minor enhances understanding of learning disabilities and provides competence in identification and non-clinical treatment of learning disabilities.

Lower Division Requirements
EDUC 220-3 Introduction to Education Psychology

Recommended Lower Division Courses
It is strongly recommended that students intending to complete this minor program complete at least one of the following courses.
KIN 110-3 Human Nutrition: Current Issues
PSYC 100-3 Introductory Psychology I
PSYC 102-3 Introduction to Psychology II
PSYC 221-3 Introduction to Cognitive Psychology
PSYC 250-3 Introduction to Developmental Psychology

Upper Division Requirements
Students must complete a minimum of 14 credit hours as specified below.
EDUC 422-4 Learning Disabilities
EDUC 424-4 Learning Disabilities: Laboratory
plus one of
EDUC 320-3 Instructional Psychology
EDUC 473-4 Designs for Learning: Reading
plus one of
EDUC 326-3 Classroom Management and Discipline
EDUC 367-4 Teaching Children from Minority Language Backgrounds in Elementary Classrooms
EDUC 428-4 Nature and Nurture of Gifted Students
EDUC 467-4 Curriculum and Instruction in Teaching English as a Second Language
EDUC 475-4 Designs for Learning: Mathematics
PSYC 325-4 Memory and Mind
PSYC 355-4 Adolescent Development

Minor in Physical Education
This minor program provides students in the professional development program with competence to teach physical education.

Prerequisite Courses
Prospective students should complete at least three of the following courses (or approved transfer courses from community colleges or other universities) prior to enrolling in EDUC 401. Students should choose those courses which are prerequisites to the upper division courses they will take for the minor.
EDUC 220-3 Introduction to Education Psychology
EDUC 230-3 Introduction to Philosophy of Education
EDUC 240-3 Social Issues in Education
FPA 120-3 Introduction to Contemporary Dance
KIN 105-3 Fundamentals of Human Structure and Function
KIN 110-3 Human Nutrition: Current Issues
KIN 140-3 Contemporary Health Issues
KIN 142-3 Introduction to Kinesiology
KIN 143-3 Exercise Management
KIN 205-3 Introduction to Human Physiology
KIN 241-3 Sports Injuries — Prevention and Rehabilitation

This minor is normally available to fall semester entry PDP students only. All minor candidates must complete designated curriculum seminars and workshops during EDUC 402 and a specified teaching assignment in physical education during EDUC 405. Details of these requirements are available during EDUC 401. The minor in physical education may not be declared on a student’s program until all prerequisites, including a practicum placement in EDUC 405, are met.

Upper Division Requirements
Students must complete a minimum of 14 hours as specified below.
EDUC 459-4 Instructional Activities in Physical Education
EDUC 479-4 Designs for Learning: Physical Education
plus two of
EDUC 330-3 Movement Language Elements for Dance in Education
EDUC 457-4 Education and Drama
KIN 342-3 Active Health
Students can include only one Designs for Learning course chosen from the following.
EDUC 412-4 Designs for Learning: Secondary Language Arts
EDUC 414-4 Designs for Learning: Secondary Social Studies
EDUC 415-4 Designs for Learning: Secondary Mathematics
EDUC 416-4 Designs for Learning: Secondary Science
EDUC 430-4 Designs for Learning: Dance
EDUC 472-4 Designs for Learning: Elementary Language Arts
EDUC 473-4 Designs for Learning: Reading
EDUC 474-4 Designs for Learning: Elementary Social Studies
EDUC 475-4 Designs for Learning: Elementary Mathematics
EDUC 476-4 Designs for Learning: Elementary Science
EDUC 477-4 Designs for Learning: Art
EDUC 478-4 Designs for Learning: Music
EDUC 480-4 Designs for Learning: French as a Second Language
EDUC 481-4 Designs for Learning: French Immersion and Programme-cadre de Français
EDUC 482-4 Designs for Learning: Information Technology
EDUC 485-8 Designs for Learning: Writing

Certificate in Literacy Instruction
Contact the Undergraduate Advising Office, 8625 Education Building, (604) 291-3488.
This certificate prepares students to teach literacy skills to adult learners. By combining courses from different disciplines with opportunities for guided practice, it provides historical and contextual perspectives on literacy, acquaints students with current field practices and develops practical skills. Completion of the certificate is normally within five years of admission to the program.

Program Requirements
Students must complete 29 credit hours, of which 23 are in the following seven required courses.
EDUC 240-3 Social Issues in Education
EDUC 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
plus two of
ENGL 101-3 Introduction to Fiction
ENGL 102-3 Introduction to Poetry
ENGL 103-3 Introduction to Drama
ENGL 104-3 Introduction to Prose Genres
In addition, students must complete at least an additional six credit hours in Faculty of Education or Faculty of Arts courses designated below. Students must select courses that will further their own specific interests in literacy instruction and should be aware that some courses require the completion of prerequisites outside the certificate program.

Faculty of Education
EDUC 325-3 Assessment for Classroom Teaching
EDUC 422-4 Learning Disabilities
EDUC 441-4 Multicultural Education
EDUC 467-4 Curriculum and Instruction in Teaching English as a Second Language
EDUC 471-4 Curriculum Development: Theory and Practice
EDUC 472-4 Designs for Learning: Language Arts
EDUC 473-4 Designs for Learning: Reading

Faculty of Arts
ENGL 370-4 Studies in Language
ENGL 371-4 Writing: Theory and Practice
HUM 320-4 The Humanities and Philosophy
HUM 321-4 The Humanities and Critical Thinking
LING 260-3 Language, Culture and Society
PHIL 001-3 Critical Thinking
PSYC 206-3 Introduction to Psychological Assessment
SA 334-4 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 2.0 GPA, calculated on all Simon Fraser University courses applied to the program, with the exception that duplicate courses are counted only once.
• The certificate program cannot be used in place of the Faculty of Education’s professional development program or equivalent as a route to a British Columbia teaching certificate.

Post Baccalaureate Diploma
Contact the Undergraduate Advising Office, 8625 Education Building, (604) 291-3488.
This post baccalaureate diploma offers students the opportunity to design and pursue a program of individualized study. Students wishing to use the post baccalaureate diploma to raise their teacher qualifications should speak 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 is required. A minimum of 15 of the 30 credit hours must be earned in education and/or
professional courses and a maximum of 12 may be transfer credits. Students must maintain a 2.5 GPA on courses used for the diploma. Courses taken during the EDUC 404 semester may not be used toward a post baccalaureate diploma.

**Post Baccalaureate Diploma in Early Childhood Education**

This post baccalaureate diploma program provides a focus for students wishing to work with children aged three through eight.

In addition to the following requirements, you must also meet the requirements stated above, in the Program Requirements section of the Post Baccalaureate Diploma.

**Program Requirements**


**Post Baccalaureate Diploma In English As a Second Language**

See “Post Baccalaureate Diploma in Teaching English as a Second Language” on page 165.

**Post Baccalaureate Diploma In French and Education**

See “Post Baccalaureate Diploma in French and Education” on page 153.

**Field Programs**


**Professional Programs**

8531 Education Building, (604) 291-4326 Tel, (604) 291-5691 Fax, www.educ.sfu.ca/pdp/admissions

**Director**

Dr. S. Smith DipT, BEd (Kelvin Grove CAE), BHMS, MEd (Qld), PhD (Alta)

**Admissions Advisor**

Ms. D. Kelso, 8624 Education Building, (604) 291-3620/3149

**External Programs Admissions Advisor**

Ms. J. Bicknell, 8625 Education Building, (604) 291-3798/3488

**Professional Development Program (PDP)**

Applicants must be attending SFU or be admissible. See “Admission and Readmission” on page 29.

- All candidates are required to submit the Professional Development Program application form to the PDP office in the Faculty of Education.
- Candidates who have not attended SFU previously, or who have not attended in any of the three semesters prior to intended registration, must submit to the PDP office a university admission application. See “Admission and Readmission” on page 29.
- All applications must be submitted to the PDP admissions office by January 15 for the fall semester and May 15 for the spring semester.
- All applicants must pay the PDP application fee directly to the PDP admissions office, Faculty of Education.

**Elementary Applicants**

Elementary applicants must, by the date of application, have completed a minimum of 76 credit hours of courses acceptable for credit at SFU (should include 16 credit hours of upper division coursework) including the following prerequisite courses.

- six credit hours in English,
- one course (three credit hours) in each of Canadian history, Canadian geography, mathematics (MATH 190 is recommended), and laboratory science
- elementary applicants should have education, fine and performing arts and kinesiology courses

**Secondary Applicants**

Applicants who plan to teach at the secondary level must fulfill the requirements of a teachable major subject or two teachable minor subjects. These requirements must be completed prior to commencing PDP.

**Teachable Majors or Minors**

biology
Canadian studies (minor only)*
chemistry
computing science (minor only)
dance (FPA) (minor only)
earth sciences
English
English and French literatures (joint major)
First Nations (minor only)*
French
French, history and politics (joint major)*
geography (social studies)*
history*
humanities (minor only)*
kinesiology (contact PDP)
mathematics
music (FPA)
physics
social studies*
theatre (FPA) (minor only)
visual art (FPA)*

*see requirements sheet that is available in the Faculty of Education

All students who plan to teach at the secondary level are required to have completed their degree requirements prior to commencing PDP. The exception to this is the BEd candidates who cannot complete their degree until they have successfully completed PDP. These BEd candidates must have completed the academic requirements of one teachable major or two teachable minors prior to commencing PDP. Students from other institutions may apply prior to the completion of their degree, but are required to have completed the degree one full semester prior to commencing PDP.

Secondary applicants must complete six English credit hours one full semester prior to starting PDP.

Secondary applicants are encouraged to have education courses.

**All Applicants**

- A minimum of two reference letters, and no more than three (one should describe the candidate’s experience in teaching/instructional related functions) must be submitted.
- A written analysis of a teaching situation (described further in the PDP application package) may be required.
- A resume must also be submitted by all applicants (refer to PDP application package for additional information).
- Before admission to the program, applicants are required to demonstrate competence in written and oral English (and written and oral French in the case of French immersion and French as a second language programs).
- Students may be asked to submit evidence of good health before being considered for admission to the program.
- Students may be required to have an interview before being considered for admission to the program.
- If the number of applicants to PDP exceeds facilities and staffing capabilities, the admissions committee will select those candidates considered to be best qualified.
- Preference in selection of candidates for admission is generally given to students whose applications show experience with and commitment to some community service that may include teaching or other helping roles.
- Given the number of well qualified applicants who present their credentials for admission to the professional development program each year, it is most improbable that candidates who have been unsuccessful in four previous competitions will be considered favorably in any subsequent competition. Therefore, candidates who have been unsuccessful in gaining entry to the program on at least four occasions are discouraged from making further application.

**Program Description**

The professional development program is three semesters in duration. Professional studies and activities are arranged in the following sequence.

**First Semester of Professional Development Program**

EDUC 401-8 Introduction to Classroom Teaching*
EDUC 402-7 Studies of Educational Theory and Practice*

*not offered in summer semester

EDUC 401 and 402 are offered as an integrated program, combining theory and practice in both on campus seminars and in-school practice in the first semester of PDP. This is accomplished by alternating blocks of classroom teaching with workshops and instruction on campus.

During EDUC 401, students are assigned to a teacher (school associate) identified by school
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 courses.

Students must meet program goals, as outlined in the Professional Development Handbook.

• This program is normally completed in three consecutive semesters. However, those with valid reasons may be given permission by the director of professional programs to interrupt their program participation. A formal request must be submitted in writing to the director.
• A program interruption requested by a student may normally last no longer than two years.
• Students who indicate their intention to undertake a given semester of the professional development program and who do not honor this commitment are considered to have withdrawn from the program. Permission to re-enter is not given automatically.

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. “Registration” on page 40
• Normally, students can register in course challenge for EDUC 405 only while registered in EDUC 401/402. Additional full fees will be levied for challenging EDUC 405 regardless of whether the challenge is successful.
• Course challenge credit for EDUC 405 will not be granted before successful completion of EDUC 401/402.
• Application forms are available from the director of professional programs and must be submitted by: May 15 for the fall semester; September 15 for the spring semester.

External Professional Development Programs
There are two external professional development programs that operate under the auspices of a consortia of local community colleges, northern school districts and Simon Fraser University. The consortia invite 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) (subject to funding) Telephone 1-804-785-6861 local 51 for information.

NWTEC – Northwest Teacher Education Consortium (Terrace, Kitimat, Prince Rupert, Bulkley Valley [subject to funding]). Telephone (604) 291-3488 for information.

HEART (Helping Expand Access for Returning Teachers)
EDUC 406-12 (HEART) Supervised Observation and Teaching
This EDUC 406 option within professional programs is a supervised 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/withdrawal basis.

Applicants to HEART must be attending Simon Fraser University or be admissible to the University. See “Admission and Readmission” on page 29.
Candidates who have not attended Simon Fraser University previously, or who have not attended in any of three semesters prior to intended registration in EDUC 406, must submit the application for undergraduate admission form to the Office of the Registrar.

Students intending to complete Simon Fraser courses in preparation for application to EDUC 406 should contact the Faculty of Education [6824 Education Building, 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 is awarded after successful completion of an acceptable four year program. Included in the acceptable four year program are both academic and professional studies. The professional certificate is awarded after successful completion of an acceptable five year program of professional and academic studies culminating in a degree.

The standard certificate requires a minimum of 76 credit hours (five semesters) in applied sciences, arts, business administration, science, or education, plus the professional development program (three semesters). The standard certificate (a minimum of 120 credit hours of academic and professional credit) will normally qualify for Teacher Qualification Service category four.

Notes Regarding Requirements for Teaching Certificates
The following are required for teacher certification.

• a minimum of six credit hours in the Department of English effective September 1, 2000, students must meet the BC College of Teachers acceptable degree policy restricting the academic preparation acceptable for qualifying teachers. Contact the Faculty of Education for further information.
Applying for a Certificate
The Faculty of Education sends the College of Teachers a list of students who have completed 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

General Science Program
This program, consisting of 120 credit hours, provides a broad general education in several fields with some specialization in at least two fields. It requires two minors, one of which must be chosen from within the Faculty of Science. The groupings of courses from which the two minors can be chosen are given under the General Science Program section in the Calendar, along with the general course requirements for this degree. It should be noted that all lower division requirements for the two chosen minors must also be completed.

Co-operative Education Programs
These programs are available in biological sciences, chemistry, earth sciences, environmental science, geography, mathematics, molecular biology and biochemistry, physics, and statistics and actuarial science. Details are given in the departmental sections and in the Co-operative Education section.

Withdrawal of Program Approval
A student whose progress, in the judgment of the department, is below the standard for graduation from a program may be refused entry to, or required to withdraw from, that program in the department.

Transfer Credit and Bachelor of Science Degrees for Students Who Successfully Complete First Year Medical Science Professional Training
Students who complete at least 90 credit hours in a science degree program and are accepted into an accredited professional program in medicine, dentistry, optometry or veterinary medicine are eligible for an SFU bachelor of science degree after successful completion of the first year of professional study. To be acceptable, courses taken in the professional program must not duplicate courses already taken at SFU and must be acceptable for transfer credit in a major or honors program. Candidates must apply for transfer credit and a bachelor's degree through SFU's Office of the Registrar. Since official transcripts of the work completed in the first year of the professional program are required for transfer credit, application for graduation should be delayed until the summer semester following the completion of requirements.

Faculty of Dentistry at the University of British Columbia requires the following courses which are prerequisites for applying to enter the first year of dentistry (DMD). ENGL 199 and one of 101 or 102 or 103 or 104 or 105 MBB 222 and 321 BISC 101 and 102 CHEM 121, 122, 126, 281, 282, 286 MATH 151 and 152 PHYS (101, 102, 130) or (120, 121, 131) Additional courses are required to complete six semesters (90 credit hours). These should be chosen in accordance with a specific SFU degree program but students are advised to select some courses from disciplines in the humanities and social sciences.
Contact address
For student admissions: Faculty of Dentistry – Admissions and Student Affairs, University of British Columbia, 278 – 2199 Wesbrook Mall, Vancouver, BC, V6T 2Z3. Telephone (604) 822-4446, Fax (604) 822-7205, admissions@ubc.ca, www.ubc.ca/dental

Faculty of Forestry at the University of British Columbia
The Faculty of Forestry offers four year degree programs in forest resources management, forest operations, forest science, natural resources conservation, and wood products processing. The curricula allows two admission pathways: one directly from high school; the other follows a year of science at the University of British Columbia or its equivalent at another post-secondary institution. If first year science is taken at Simon Fraser University, the following courses are required.

CHEM 121 or PHYS 100 or 101
BISC 101 and 102
MATH 151 and 152
ECON 103 and 105

Students who apply after one year of science need three or four years after completion of the first year of science to fulfill the forestry degree requirements, depending on the forestry program chosen.

Contact address
Co-ordinator of Student Services, Faculty of Forestry, University of British Columbia, Forest Science Centre, room 2615, 2424 Main Mall, Vancouver, BC, V6T 1Z3. Telephone (604) 822-3547, helens@interchgr.ubc.ca

Faculty of Medicine at the University of British Columbia requires the following courses which are prerequisites for applying to enter the first year of medicine.

English: any two of ENGL 101, 102, 103, 104, 199 (199 recommended)
Chemistry: all of CHEM 121, 122, 126, 281, 282, 286
Biochemistry: both of MBB 222 and 321 (MBB 221 is a prerequisite for 222)
Biology: both of BISC 101 and 102

Official admission requirements are defined in the UBC School of Medicine Calendar and may be subject to change.

Early medical school admission is available at several Canadian universities (including UBC) but applications considerably exceed spaces. Students planning to enter medicine after the sixth level at SFU (i.e. after completing 90 credit hours) should arrange their program so that in the event they are not accepted into medical school, they can complete their major program at Simon Fraser in a timely fashion.

Contact address
For the admissions office: Faculty of Medicine, University of British Columbia, 317 – 2194 Health Sciences Mall, Vancouver, BC, V6T 1Z3. Telephone (604) 822-4442, admissions.md@ubc.ca, www.med.ubc.ca

Faculty of Pharmaceutical Sciences at the University of British Columbia requires the following courses which are prerequisites for applying to enter the first year of a four year program of pharmacy.

BISC 101 and 102
CHEM 121 / 122 / 126
ENGL any two of ENGL 199, 101, 102, 103, 104
MATH 151 / 152 or 154 (155 recommended)
PHYS 101 / 120 or 130 (120 / 121 / 131)

Refer to a current University of British Columbia Calendar for specific information. All applicants must submit additional supplemental admission requirements. Students should consult the Faculty of Pharmaceutical Sciences at the University of British Columbia for details.

Contact address

The School of Rehabilitation Sciences at the University of British Columbia offers programs in occupational therapy and physical therapy. The following courses are prerequisites.

Occupational Therapy (30 credit minimum)
BISC 101 and 102
one of ENGL 199 (recommended) or 101 or 102 or 103
PSYC 100 and/or 102 or 280 or 221 or 241
SA (3-6 credits at the 100 or 200 level)
STAT 270 or 101 or 201
Electives 3-15 credits

Physical Therapy (30 credit minimum)
BISC 101 and 102
CHEM 121, 122, 126
ENGL 3-6 credits, ENGL 199 recommended
PSYC 100 and/or 102 or 280 or 221 or 241
STAT 270 or 101 or 201
Electives 3-12 credits

A minimum of 70 hours of experience with disabled persons is required by February 28. An orientation session is offered in November. Intending applicants should contact the school in September. These are guidelines only. Contact the School of Rehabilitation Sciences in writing for current prerequisites.

Contact address
The School of Rehabilitation Sciences, University of British Columbia, T325 – Koerner Pavilion, 2211 Wesbrook Mall, Vancouver, BC, V6T 2B5. Admissions@rehab.ubc.ca, www.rehab.ubc.ca

Western College of Veterinary Medicine at the University of Saskatchewan, Saskatoon, requires the following courses as prerequisites for applying to enter this program.

ENGL any two of 101, 102, 103 or 104
BISC 101, 102, 202, 303
CHEM 121, 122, 126, 281
MATH 151, 152 or 154, 155 or 157, 158
STAT 201 or 202 or 203 or 204 or 205
PHYS 101, 102, 120 or (120, 121, 131)
Electives 15 credit hours

Electives should be based on the program in which the student is enrolled, and may include non-science related subjects. Students are encouraged to choose electives that broaden perspectives. The electives should not include courses which are equivalent to BC high school grade 12, or which are general education courses at the 000 division.

Contact address
Admission Office, Western College of Veterinary Medicine, University of Saskatchewan, 52 Campus Drive, Saskatoon, Saskatchewan, S7N 5B4

General Note
All course requirements should be completed by the end of the spring semester preceding the proposed date of entry to a professional school.

The Western College of Veterinary Medicine requires a minimum 70% cumulative average for veterinary program admission. Grades are converted to a common scale for comparative purposes and this converted average will be used.

The college has recently, with Saskatchewan Human Rights Commission approval, introduced an Educational Equity Program for Aboriginal students. A defined number of seats have been allocated for self-identified Aboriginal descent applicants who will be ranked among themselves and not against the general applicant pool. Proof of Aboriginal ancestry is required and must be provided at the time of application. For the purpose of admission the accepted documents for Aboriginal ancestry proof are in the University of Saskatchewan Calendar.

Teaching Careers
Students interested in elementary or secondary teaching should consult the Faculty of Education regarding requirements for entry into the professional development program and teacher certification before entering the upper divisions of their programs. Please see “Faculty of Education” on page 185.

Languages other than English
Most graduate schools require proficiency in a language other than English. Students intending to pursue graduate work should include at least six course work hours in languages other than English. The most useful languages for reading research papers are German, French and Russian.

General Interest Science Courses
Several courses have no prerequisite and convey a broad perspective of scientific outlook for non-specialists science students. They follow.

Biological Sciences
BISC 004-3 Apiculture: An Introduction to Bees and Beekeeping

General Science
SCI 300-3 Science and its Impact on Society

Physics
PHYS 190-3 Introduction to Astronomy

In addition, a course is offered on forefront, interdisciplinary topics in contemporary science for both science and non-science students.

SCI 010-1, 2, or 3 Contemporary Topics in the Natural Sciences

This course may be offered as one, two or three credit hours. A student may acquire a maximum of three. This course may be offered by any Faculty of Science department or may be taught by faculty members from across the faculty.

Department of Biological Sciences

B8255 Shrum Science Centre, (604) 291-4475 Tel, (604) 291-3496 Fax, www.sfu.ca/biology

Chair
N.H. Haunerland MSc, PhD (Mün)

Professors Emeriti
F. Cook BA, MA, PhD (Camb)
L.D. Druelh BSc (Wash State), MSc (Wash), PhD (Br Col)
T. Finlayson BA (Tor), LLD (S Fraser)
F.J.F. Fisher BSc, MSc, PhD (Cant), PhD (NZ)
J.P.M. Mackauer DrPhilNat (Fran), FESC
B.A. McKeown BSc (Br Col), PhD (S Fraser)
L.M. Srivastava BSc, MSc (Alld), PhD (Calif)
A.L. Turnbull BSF, MF, (Br Col), DPhil (Oxf)
N.A.M. Verbeek BSc (Br Col), MSc (Montr), PhD (Calif)
W.E. Vidaver AB (San Francisco), PhD (Stan)
J.M. Webster BSc, PhD, DSc (Lond), ARCS, DIC

Professors
L.J. Albright BSc (McG), MSc, PhD (Oreg)
A.T. Beckenbach BSc (Florida Presbyterian), MSc (Flor), PhD (Calif)
J.H. Borden BSc (Wash State), MSc, PhD (Calif), RPF, RPE, FESC
Programs offered include: 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-professional program (e.g. pre-medicine, pre-veterinary medicine, pre-dentistry, etc.) should advise the department and an advisor who is familiar with the professional program requirements will be assigned.

**Minimum Grade Requirement**

A grade of C- or better is required on all prerequisite BISC and MBB courses.

**Major Program**

Basic credit hour requirements underlying all areas of emphasis follow.

- **BISC/MBB (lower division) 20 credit hours**
- **MBB (upper division) 37 credit hours**

*Electives must include a minimum of 12 credit hours in subjects taken outside the Faculty of Science (excluding EDUC 401, 402, 405, and 406). A minimum of six of these must be from the Faculty of Arts. Additional upper division credit must be included in the program to complete the BSc requirement of a minimum of 44 credit hours of upper division credit.

Six credit hours of English should be completed by all major/honor students in biological sciences.

**Lower Division Core**

Normally all biological sciences majors must complete the following, or equivalents, within the first 60 hours (four semesters) of their programs.

- **BISC 101-4 Introduction to Biology**
- **BISC 104-4 Introduction to Biology**
- **BISC 202-3 Genetics**
- **BISC 204-3 Introduction to Ecology**
- **CHEM 121-4 General Chemistry and Laboratory I**
- **CHEM 122-2 General Chemistry I**
- **CHEM 281-4 Organic Chemistry I**
- **MBB 221-3 Cell Biology and Biochemistry**
- **MBB 222-3 Molecular Biology and Biochemistry**
- **STAT 201-3 Statistics for the Life Sciences**

Students must complete one physiology course from following:

**BISC 303-4 Animal Physiology**
**BISC 366-3 Plant Physiology**
**BISC 403-3 Current Topics in Cell Biology**

**Courses in the Faculty of Science**

- **BISC 305-3 Animal Physiology**
- **BISC 306-3 Invertebrate Biology**
- **BISC 316-3 Vertebrate Biology**
- **BISC 326-3 Biology of Non-vascular Plants**
- **BISC 337-3 Plant Biology**
- **BISC 366-3 Plant Physiology**

**Upper Division Requirements and Electives**

All biological sciences majors will complete a minimum of 12 upper division BISC/MBB courses.

The following three courses form an upper division core required by all BISC major/honors students.

**Course Title**

- **BISC 329-4 Introduction to Experimental Techniques**
- **BISC 333-3 Developmental Biology**
- **BISC 400-3 Evolution**

Students should choose their remaining requirements in an area of specialization. Currently, four streams of biology are offered: cell and molecular biology, integrative biology, ecology and evolution and an open stream. The open stream will provide broad biological training, or may be used to specialize in an area not offered by the three main streams (students should consult the undergraduate program advisor, individual faculty, or the department web page for advice on other areas of specialization). The course requirements for each stream are as follows.

**Cell and Molecular Biology**

Students must complete one physiology course from:

- **BISC 305-3 Animal Physiology**
- **BISC 366-3 Plant Physiology**
- **BISC 403-3 Current Topics in Cell Biology**
- **BISC 405-3 Cell Physiology**
- **BISC 429-3 Separation Methods**
- **BISC 431-4 Molecular Biotechnology**
- **BISC 439-3 Industrial Microbiology**
- **BISC 449-3 Histochemistry**
- **BISC 453-3 Advanced Developmental Biology**
- **BISC 457-3 Plant Molecular Biology and Biotechnology**
- **BISC 498-3 Undergraduate Research I**
- **BISC 499-3 Undergraduate Research II**
- **MBB 322-3 Molecular Physiology**

**Integrative Biology**

Students must complete one physiology course from:

- **BISC 305-3 Animal Physiology**
- **BISC 366-3 Plant Physiology**
- **BISC 303-3 Microbiology**
- **BISC 306-3 Invertebrate Biology**
- **BISC 316-3 Vertebrate Biology**
- **BISC 326-3 Biology of Non-vascular Plants**
- **BISC 337-3 Plant Biology**

**Associate Professors**

- L.I. Bendell-Young BSc, PhD (Tor)
- T. McMullan BSc, MPM (S Fraser)
- C. Thong BSc (Singapore), PhD (S Fraser)
- G. Tibbits, Kinesiology
- B. Galdikas, Archaeology
- B. Smith BSc (New Br), MSc (Dal), PhD (Br Col)
- M. Goettel BSc (Concordia), MSc (Ott), PhD (Alta)
- R.S. Vernon BSc, MPM, PhD (S Fraser)
- B. Smith BSc (New Br), MSc (Dal), PhD (Br Col)
- F. Breden BA (S Florida), MS (Georgia), PhD (Chic)
- R.W. Mathewes BSc (S Fraser), MSc, PhD (Br Col)
- R. Elner BSc (Newcastle, UK), PhD (Bangor, UK)
- H.L. Ching BA, MSc (Oregon State), PhD (Neb)
- R. Mattson BSc, PhD (UPpsala)
- A.R. Mooers BSc (McG), DPhil (Oxf)
- I. Novales-Flamarique BSc (McG), MSc, PhD (Ont)
- A.L. Plant BSc, PhD (Nott)
- N.P.D. Angeilli BSc, PhD (S Fraser)
- D. Bertram BSc (Vic, BC), MSc (S Fraser), PhD (McG)
- S. Boyd BSc, MSc (Dalhousie), PhD (S Fraser)
- R.W. Butler BSc, MSc (S Fraser), PhD (Br Col)
- H.L. Ching BA, MSc (Oregon State), PhD (Neb)
- R. Einer BSc (Newcastle, UK), PhD (Bangor, UK)
- D. Gillespie BSc, MSc, PhD (S Fraser)
- M. Goettel BSc (Concordia), MSc (Ott), PhD (Alta)
- D.B. Lank BS (Marl), MS (Minn), PhD (C'nell)
- B. Smith BSc (New Br), MSc (Dal), PhD (Br Col)
- R.S. Vernon BSc, MPM, PhD (S Fraser)
- T. Vrain BSc, MSc (Caen), PhD (N Carolina)
- I.R. Walker BSc (Mt Alison), MSc (Waf), PhD (S Fraser)

**Adjunct Professors**

- E. Elle BSc, MA (New York), PhD (Rutgers)
- J. Mattson BSc, PhD (UPpsala)
- A.R. Mooers BSc (McG), DPhil (Oxf)
- I. Novales-Flamarique BSc (McG), MSc, PhD (Ont)
- E. Palsson, CandMag (Oslo), MA, PhD (Princ)

**Senior Lecturers**

- J. Sharp BA, BSc (McG), MSc (Br Col)
- C. Thong BSc (Singapore), PhD (S Fraser)
- D.R. Wilson BSc, MSc (S Fraser)

**Lab Instructor**

- M. Fernando BSc (Sri Lanka), MSc, PhD (Br Col)

**Undergraduate Advisors**

- E. Kirkwood BSc (S Fraser), MBA (City University), undergraduate program advisor, B8270 Shrum Science Centre, (604) 291-3539
- B. Medford MSc (Alta), undergraduate program co-ordinator, B8263 Shrum Science Centre, (604) 291-3301

*joint appointment with geography
**joint appointment with biochemistry
plus one of the following lab courses
BISC 302-3 Genetic Analysis
BISC 307-3 Animal Physiology Laboratory
BISC 376-3 Plant Physiology Laboratory
MBB 383-3 Molecular Biology and Biochemistry Laboratory I
plus six courses (18 credit hours) chosen from any upper division undergraduate BISC or MASC or special topics courses (e.g. MBB, KIN) as approved by the program advisor.
Students must complete two additional lab courses (including BISC 498 or 499) among the six electives (i.e. a total of four lab courses plus BISC 329).

**Typical Lower Division Core Program**
Although there are many variations, the following is a typical program for the first four semesters.

**Semester 1**
- BISC 102-4 Introduction to Biology
- CHEM 121-4 General Chemistry and Laboratory I
- MATH 154-3 Calculus I for the Biological Sciences
- PHYS 101-3 General Physics I

**Semester 2**
- BISC 101-4 Introduction to Biology
- CHEM 122-2 General Chemistry II
- CHEM 281-4 Organic Chemistry I
- MATH 155-3 Calculus II for the Biological Sciences

**Semester 3**
- CHEM 282-2 Organic Chemistry II
- MBB 221-3 Cell Biology and Biochemistry
- PHYS 102-3 General Physics II
- Elective
  - and one of
  - BISC 202-3 Genetics
  - BISC 204-3 Introduction to Ecology

**Semester 4**
- MBB 222-3 Molecular Biology and Biochemistry
- STAT 201-3 Statistics for the Life Sciences (or 102)
  - Electives
  - and one of
  - BISC 202-3 Genetics
  - BISC 204-3 Introduction to Ecology

**Note:** Biological sciences majors normally complete the chemistry, mathematics and physics requirements as well as the lower division biological sciences courses within the first 60 hours (four semesters).

**Honors Program**
This is for biology students pursuing an advanced degree. It requires a minimum of 60 upper division biological sciences credit hours, or related subjects, which is selected for each student in consultation with appropriate advisors, in relation to career goals.
Departmental approval is required for honors entry. Students must have completed 30 credit hours at SFU in a biological sciences major program.
Applications received after more than 90 credit hours have been completed will not normally be considered.
The program requires the following.
- maintenance of a minimum of 3.00 CGPA
- completion of 60 hours of upper division biological sciences or related subjects, which will include the core courses required for the major plus BISC 490, 491 and 492, these latter to constitute the honors thesis, and
- completion of appropriate electives totaling 132 credit hours, including at least 12 from courses outside the Faculty of Science (including a minimum of six credit hours from the Faculty of Arts and excluding EDUC 401, 402, 405, 406).

**Co-operative Education Program**
Majors and honors students may apply for co-operative education. The program includes four work semesters during the normal academic program. See www.sfu.ca/coop/science or contact the science co-op co-ordinators in room 8101 South Science Building, (604) 291-5934.

**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.

- all of
  - BISC 101-4 Introduction to Biology
  - BISC 102-4 Introduction to Biology
  - CHEM 121-4 General Chemistry and Laboratory I
  - CHEM 122-2 General Chemistry II
  - CHEM 281-4 Organic Chemistry I
  - CHEM 282-2 Organic Chemistry II
  - MBB 221-3 Cell Biology and Biochemistry
  - PHYS 102-3 General Physics II
- and one of
  - MBB 222-3 Molecular Biology and Biochemistry
  - STAT 201-3 Statistics for the Life Sciences
- and one of
  - BISC 204-3 Introduction to Ecology
  - EVSC 200-3 Introduction to Environmental Science

**Upper Division Requirements**
- BISC 312-3 Environmental Toxicology I
- BISC 313-3 Environmental Toxicology II
- BISC 432-3 Chemical Pesticides and the Environment
- plus two of
  - BISC 445-3 Environmental Physiology of Animals
  - CHEM 371-3 Chemistry of the Aqueous Environment
  - KIN 431-3 Environmental Carcinogenesis
and their prerequisites as noted in the Undergraduate Courses.

Upper division credit may not fulfill credit hours for more than one program. Some substitutions may be required. Appropriate course substitutions follow.

BICH 412-4 Enzymology
BISC 366-3 Plant Ecophysiology
BISC 405-3 Cell Physiology
KIN 305-3 Human Physiology I
KIN 306-3 Human Physiology II (Principles of Physiological Regulation)

Students interested in a minor in environmental toxicology should contact the Department of Biological Sciences as soon as possible.

A GPA of 2.00 or higher, is required for the courses in the minor program.

Post Baccalaureate Diploma Programs

Biological Sciences

Post baccalaureate diploma programs are available in various areas of biological sciences for students who have already completed a degree (usually) in science and who wish to upgrade their academic credentials.

Note: See "Biological Sciences Graduate Courses" on page 377 for 600 and 800 level course descriptions in the Graduate Studies section.

Environmental Toxicology

This program specifically meets 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 post baccalaureate diploma program general regulations, "Post Baccalaureate Diploma Programs" on page 214.

Program Requirements

all of
BISC 312-3 Environmental Toxicology I
BISC 313-3 Environmental Toxicology II
BISC 432-3 Chemical Pesticides and the Environment

plus two of
BISC 445-3 Environmental Physiology of Animals
CHEM 371-3 Chemistry of the Aqueous Environment
KIN 431-3 Environmental Carcinogenesis

plus one of
BISC 329-4 Introduction to Experimental Techniques
BISC 429-3 Environmental Techniques I: Separation Methods

BISC 449-3 Experimental Techniques III: Histochemistry
CHEM 316-4 Introductory Instrumental Analysis
CHEM 380-4 Chemical and Instrumental Methods of Identification of Organic Compounds
KIN 336-3 Microscopic Anatomy (Histology)

plus all of
BISC 650-3 Environmental Risk Assessment
BISC 654-3 Food and Drug Toxicology
BISC 652-3 Environmental Toxicology Testing II: Mammalian Toxicology
BISC 846-3 Insecticide Chemistry and Toxicology

and their prerequisites. Please see "Undergraduate Courses" on page 219. If any of the above requirements (except prerequisites) have been used to fulfill requirements for another degree, additional electives in the area of specialization will be required. Consult the Department of Biological Sciences.

Marine Science

Marine science programs may include both BISC and MASC courses to fulfill upper division biological sciences requirements. MASC courses are offered at Bamfield Marine Station, Bamfield, BC in conjunction with certain universities in the summer and fall in three or six week blocks. Consult the Department of Biological Sciences in January for course offerings, and for their use as substitutes for upper division BISC courses in major, minor or honors programs.

Course entry requires application through the Department of Biological Sciences well in advance of course commencement because candidate selection across several universities is limited. For information about application entry, fees, etc., consult the Department of Biological Sciences. To take marine science courses, students must apply for university admission through the usual procedures, and be accepted (see "Admission and Readmission" on page 29). MASC courses are offered at the Bamfield Marine Station (see page 276 for a list of courses).

From time to time graduate level courses will be offered. For information, see "Department of Biological Sciences" on page 376.

Students from other Departments

Certain courses may be taken by those not enrolled in biological sciences programs: BISC 004, 100, 101, 102. Admission to certain other courses is by permission of the department.

Chemical Physics Program

P8429 Shrum Science Centre, (604) 291-4465 Tel, (604) 291-3592 Fax
Advisor:
Dr. B.J. Frisken, P8456 Shrum Science Centre, (604) 291-5767

An honors and a major is offered jointly by the departments of Chemistry and Physics; entry requires permission of both. Computing skills such as those in CMPT 102 are expected of those entering second year physics. Honors program graduates may do graduate work in either chemistry or physics.

Major Program

Lower Division Requirements

(55-56 credit hours)

Students must complete all of
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
CHEM 215-4 Introduction to Analytical Chemistry
CHEM 230-3 Inorganic Chemistry
CHEM 236-2 Inorganic Chemistry Laboratory
CHEM 281-4 Organic Chemistry I
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus III
MATH 362-3 Vector Calculus
PHYS 120-3 Modern Physics and Mechanics
PHYS 121-3 Optics, Electricity and Magnetism
PHYS 131-2 Physics Laboratory I
PHYS 211-3 Intermediate Mechanics
PHYS 221-3 Intermediate Electricity and Magnetism
PHYS 234-3 Computers in Physics Laboratory

and one of
CHEM 260-4 Atoms, Molecules, Spectroscopy
PHYS 285-3 Introduction to Relativity and Quantum Mechanics

Students are strongly encouraged to take at least three lower division computing science credit hours.

Upper Division Requirements

(40-42 credit hours)

all of
CHEM 316-4 Introductory Instrumental Analysis
CHEM 340-3 Materials Chemistry
CHEM 366-2 Physical Chemistry Laboratory I
CHEM 462-3 Molecular Spectroscopy
MATH 310-3 Introduction to Ordinary Differential Equations
NUSC 341-3 Introduction to Radiochemistry
PHYS 326-3 Electronics and Instrumentation
PHYS 331-3 Electronics Laboratory

and one of
CHEM 360-3 Kinetics and Thermodynamics
PHYS 344-3 Thermal Physics

and one of
CHEM 460-3 Advanced Physical Chemistry
PHYS 445-3 Statistical Physics

and one of
CHEM 464-3 Quantum Chemistry
PHYS 385-3 Quantum Physics

and one of
PHYS 324-3 Electromagnetics
PHYS 455-3 Applied Optics
PHYS 465-3 Solid State Physics

and either
PHYS 431-4 Advanced Physics Laboratory
or both of
PHYS 332-3 Optics Laboratory
PHYS 355-3 Optics

Additional courses must be taken to total at least 44 upper division credit hours, to total at least 120 credit hours. Of these, 12 must be outside the Faculty of Science (excluding EDUC 401-406) including six credit hours from the Faculty of Arts. Also, see "Requirements for Major" on page 191.

Honors Program

Lower Division Requirements

(55-56 credit hours)

Requirements are the same as for the major.

Upper Division Requirements

(50-52 credit hours)

Students must complete all of
CHEM 340-3 Materials Chemistry
CHEM 366-2 Physical Chemistry Laboratory I
CHEM 462-3 Molecular Spectroscopy
MATH 310-3 Introduction to Ordinary Differential Equations
PHYS 324-3 Electromagnetics
PHYS 326-3 Electronics and Instrumentation
PHYS 331-3 Electronics Laboratory
PHYS 384-3 Methods of Theoretical Physics I
PHYS 415-3 Quantum Mechanics
PHYS 465-3 Solid State Physics

plus one of
CHEM 360-3 Kinetics and Thermodynamics
PHYS 344-3 Thermal Physics

and one of
CHEM 460-3 Advanced Physical Chemistry
PHYS 445-3 Statistical Physics

and one of
CHEM 464-3 Quantum Chemistry
PHYS 385-3 Quantum Physics

and one of
PHYS 324-3 Electromagnetics
PHYS 455-3 Applied Optics
PHYS 465-3 Solid State Physics

plus both of
PHYS 332-3 Optics Laboratory
PHYS 355-3 Optics
Department of Chemistry

C8035 Shrum Science Centre, (604) 291-3590 Tel, (604) 291-3765 Fax, www.sfu.ca/chemistry

Chair
B.M. Pinto BSc, PhD (Qu), FCIC

Professors Emeriti
S. Aronoff AB, PhD (Calif)
T.N. Bell BSc, PhD (Durf)
K.S. MacFarlane BSc, MSc, PhD (Br Col), C8049

Professors
A.J. Bennet BSc, PhD (Bristol), associate chair
R.B. Cornell BSc (Houghton), PhD (Penn)*
J.M. D'Auria BSc (Rensselaer), MSc, PhD (Br Col)
I.D. Gay BSc, MSc (Dal), PhD (Lond)
R.H. Hill BSc, PhD (Wont), FCIC
S. Holdcroft BSc (Salt), PhD (S Fraser), FCIC
C.H.W. Jones BSc, PhD (Man)
G.L. Malli BSc (Delhi), MSc (MeM), MS, PhD (Chic)
P.W. Percival BA, MA, DPhil (Oxf), FCIC
B.M. Pinto BSc, PhD (Qu), FCIC
R.K. Pomeroy BSc (Lond), PhD (Alta)
W.R. Richards AB, PhD (Calif)*
D. Sen BA (Camb), MPhil, PhD (Yale)*
K.N. Slessor BSc, PhD (Br Col)

Associate Professors
G. Agnes BSc (Wat), PhD (Alta)
T.J. Borgford BSc, PhD (Manit)*
N.R. Branda BSc (Tor), PhD (MIT)
W.G. Leach BSc, MSc, PhD (Tor)
Z.G. Ye BSc (Hefei), MSc (Xian), PhD (Bordeaux)

Assistant Professors
J.A.C. Clyborne BSc (Acad), PhD (Dal)
D.B. Leznoff BSc (York), PhD (Br Col)
P.C.H. Li BSc (HK), MSc, PhD (Tor)
E. Plettner BSc, PhD (S Fraser)
J.J. Wilkie BSc, MSc, PhD (Tor)

V. Williams BSc, PhD (Qu)
P.D. Wilson BSc (Newcastle, UK), MSc, PhD (Manc)
H.Z. Yu BSc, MSc (Shandong, China), PhD (Peking, China)

Associate Member
D.H. Boal, Physics

Adjunct Professors
G.C. Ball BSc (Alta) PhD (Calif)
M.J. Gresser BA, PhD (Brandes)
T.J. Ruth BSc, PhD (Clark)
L.E. Sojo, BSc, PhD (C'dia)
A.S. Tracey BSc, PhD (S Fraser)
N.N. Weinberg MSc, PhD (Moscow)

Senior Lecturers
R.J. Batchelor BSc (Brl Col), PhD (McM)
J.C. Brodovitch BSc (Stras), PhD (McG)
A.J.L. Hanlan BSc, PhD (Tor)
R.D. Sharma MSc, PhD (Panjab)

Lecturers
U.C. Kreis MSc, Dr-Ing (Darmstadt)
S.M. Lavieri MSc (Venezolanode Investigaciones Cientificas, Venezuela), PhD (Central de Venezuela)

*joint appointment with biochemistry

Advisor
K.S. MacFarlane BSc, MSc, PhD (Br Col), C8049

Note for Major and Honors Programs

The requirement of PHYS 233 as a prerequisite for PHYS 234 is waived for students in this program.

Co-operative Education Program

Co-op combines work experience with academic studies. The student spends alternate semesters on campus and in study related jobs. Please see “Co-operative Education” on page 197 and page 210.

Typical Course Sequence

The following is a typical course sequence for the first four semesters. Variations are possible.

Semester 1
CHEM 121-4 General Chemistry and Laboratory I
MATH 151-3 Calculus I
PHYS 120-3 Modern Physics and Mechanics
CMPT 102-3 Introduction to Scientific Computer Programming elective

Semester 2
CHEM 122-3 General Chemistry II Laboratory
CHEM 281-4 Organic Chemistry I
MATH 251-3 Calculus III
CMPT 202-3 Introduction to Scientific Computer Programming elective

Semester 3
CHEM 282-2 Organic Chemistry II Laboratory
CHEM 286-2 Organic Chemistry Laboratory II
CHEM 286-2 Organic Chemistry Laboratory II
MATH 252-3 Elementary Linear Algebra elective

Semester 4
CHEM 286-2 Organic Chemistry Laboratory II
CHEM 282-2 Organic Chemistry Laboratory
CHEM 281-4 Organic Chemistry I
MATH 252-3 Elementary Linear Algebra

Honors Program

Lower Division Requirements (57-58 credit hours)
CHEM 121-4 General Chemistry I
CHEM 122-2 General Chemistry II
CHEM 281-4 Organic Chemistry I
MATH 232-3 Elementary Linear Algebra

Typical Course Sequence

Lower Division Requirements
CHEM 121-4 General Chemistry I
CHEM 122-2 General Chemistry II
CHEM 281-4 Organic Chemistry I
MATH 232-3 Elementary Linear Algebra

Typical Course Sequence

Lower Division Requirements
CHEM 121-4 General Chemistry I
CHEM 122-2 General Chemistry II
CHEM 281-4 Organic Chemistry I
MATH 232-3 Elementary Linear Algebra
Upper Division Requirements (48 credit hours)

CHEM 316-4 Advanced Instrumental Analysis
CHEM 322-3 The Chemistry of Transition Metals
CHEM 336-2 Advanced Inorganic Chemistry
CHEM 360-3 Kinetics and Thermodynamics
CHEM 380-4 Chemical and Instrumental Methods of Identification of Organic Compounds
CHEM 398-3 Novel Aspects of Nuclear Chemistry
CHEM 415-3 Selected Topics in Analytical Chemistry
CHEM 444-3 Special Topics in Nuclear Science
CHEM 482-3 Directed Study in Advanced Topics of Chemistry
CHEM 485-3 Particle Physics
PHYS 385-3 Quantum Physics

Advice to Students from Other Faculties

Prerequisites and corequisites cited in the Undergraduate Courses section are for those intending to specialize in science. Some may be waived for programs in the Faculties of Applied Sciences, Arts, Business Administration, and Education. CHEM 110 and 111 are suitable for students with no previous training in chemistry.

Other Programs

Interdisciplinary programs in biochemistry and chemical physics are also available. Also, see "Department of Molecular Biology and Biochemistry" on page 205 and "Major Program" on page 205.

Co-operative Education

M.S. Ventry, co-op co-ordinator, Faculty of Science, (604) 291-4694

This program combines work experience with academic studies. The student alternates semesters on campus and in study-related jobs. A major and honors program leading to a BSc degree, and a co-operative education program incorporating four work semesters are available in chemistry and related areas. The work practicum requirements are CHEM 306, 307, 406 and 407.

Application is at least three months prior to the start of the semester in which they take CHEM 306. Students should seek department advice as early as possible. They must obtain a minimum 2.67 CGPA to enrol and continue in the major in co-op education. Higher averages are required for entry to and continuance in an honors program in co-operative education. See "Co-operative Education" on page 216.

Department of Earth Sciences


Chair
E.J. Hickin BA, PhD (Syd), PGeo

Endowed Forest Research BC Chair in Forestry

D. Stead BSc (Exe), MSc (Leeds), PhD (Nott), CEng

Shrum Chair in the Faculty of Science

J.J. Clague BA (Occidental), MSc (Calif), PhD (Br Col), PGeo

Professors
E.J. Hickin BA, PhD (Syd), PGeo*
M.C. Roberts BSc (Lond), MA (Tor), PhD (Iowa), PGeo*

Associate Professors
A.J. Calvert BA (Oxf), PhD (Camb)
J.A. MacEachern BSc, MSc (Regina), PhD (Alta)
P.S. Mustard BSc (Calg), MSc, PhD (Car), PGeo
D.J. Thorkelson BSc, MSc (Br Col), PhD (Car)

Assistant Professors
D.M. Allen BSc, MSc, PhD (Car)
L. Godin BSc, MSc (Queb), PhD (Car)
D. Marshall BSc, MSc (Car), DSc (Lausanne)
B.C. Ward BSc, PhD (Ala)

Adjunct Professors
R. Enkin BSc, MSc (Tor), Diplomate Doctorat (Paris)
J.W. Haggart BS (Ariz), MS, PhD (Calif)
L. Jackson BA (San Francisco), MSc (Stan), PhD (Calif)
O. Lian BSc, MSc (S Fraser), PhD (WOnt)
J.W.H. Monger BSc (Reading), MSc (Kans), PhD (Br Col)
J. Moore BSc, PhD (MIT)

Lecturers
K. Cameron BSc (St. Mary's), MSc (Nfld)
R. Dunlop BSc (Alta), MSc (Br Col)

Advisor
Ms. L. McGregor BCom (McM), P9305 Shrum Science Centre, (604) 291-4779

*joint appointment with geography

Major Program

Lower Division Requirements (56 credit hours)

CHEM 121-4 General Chemistry I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
EASC 101-3 Physical Geology
EASC 102-3 Historical Geology
EASC 201-3 Stratigraphy and Sedimentation
EASC 202-3 Introduction to Mineralogy
EASC 203-3 Paleontology
EASC 204-3 Structural Geology I
EASC 205-3 Introduction to Petrology
EASC 206-1 Field Geology I
EASC 207-3 Introduction to Geophysics
EASC 208-3 Introduction to Geochemistry
GEOG 213-3 Geomorphology
MATH 151-3 Calculus I
MATH 152-3 Calculus II
PHYS 113-3 Modern Physics and Mechanics
PHYS 115-3 Optics and Electricity
PHYS 121-3 Modern Physics and Mechanics

Upper Division Requirements

Students must complete a minimum of 38 credit hours as defined below.

The following 17 required credit hours:
EASC 301-3 Igneous and Metamorphic Petrology
EASC 302-3 Sedimentary Petrology
EASC 303-3 Environmental Geoscience
EASC 304-3 Hydrogeology
EASC 306-2 Field Geology II
EASC 309-3 Global Tectonics

plus three credit hours chosen from:
EASC 406-3 Field Geology III
EASC 410-3 Field Methods in Hydrogeology

plus an additional credit hours chosen from:
EASC 307-3 Applied Geophysics
EASC 313-3 Introduction to Soil and Rock Engineering
EASC 317-3 Global Geophysics
GEOG 313-4 Geomorphology II
EASC 401-3 Mineral Deposits
EASC 402-3 Sedimentology
EASC 403-3 Quaternary Geology
EASC 404-3 Structural Geology II
EASC 406-3 Field Geology III
EASC 408-3 Regional Geology of Western Canada
EASC 409-3 Rivers: Environments & Engineering
EASC 410-3 Groundwater Geochemistry and Contaminant Transport
EASC 411-3 Advanced Environmental Geology
EASC 412-3 Advanced Geochemistry
EASC 413-3 Forest Geotechnics
EASC 414-3 Field Methods in Hydrogeology
EASC 417-3 Exploration Seismology
EASC 491-1 Directed Reading* 
EASC 492-2 Directed Reading* 
EASC 493-3 Directed Reading* 
*students may only complete a maximum of three credit hours from a combination of EASC 491, 492, or 493

Other Requirements
Students must also complete six additional upper division credit hours in the Faculty of Science or physical geography. These courses may be used toward the minor’s requirements in another department. Students who intend to apply for registration with APEGBC may be required to complete some additional courses that are not required for the major program. Seek advice from the Department of Earth Sciences.

Honors Program
This program offers a wider cross-section of discipline-related courses while providing an opportunity for independent research. Entry requires a 3.00 or higher CGPA, and permission of the Department of Earth Sciences. This BSc honors program has the same requirements as for the major except that students must also satisfy the following additional requirements.

- maintenance of a minimum GPA of 3.00
- a minimum of 60 credit hours of 300 and 400 level EASC or physical geography courses, or related courses approved by the department. Students are strongly advised to select courses in consultation with advisors and considering career goals.
- completion of appropriate electives to achieve a final total of at least 132 credits hours, including at least 12 credit hours from outside the Faculty of Science
- the completion of EASC 499

Minor Program
Students must complete the following two courses.
EASC 101-3 Physical Geology
EASC 102-3 Historical Geology
and at least three of
EASC 201-3 Stratigraphy and Sedimentation
EASC 202-3 Introduction to Mineralogy
EASC 203-3 Paleontology
EASC 204-3 Structural Geology
EASC 205-3 Introduction to Petrology
EASC 207-3 Introduction to Geophysics
EASC 208-3 Introduction to Geochemistry
plus 14 credit hours in any 300 and 400 level EASC courses excluding EASC 491, 492, 493 and 499.

Certificate in Forestry Geoscience
This program provides an opportunity to obtain a specialization in geoscience courses having direct relevance to forestry industry careers. It is directed, in the first place, to undergraduate taking a major in earth sciences or physical geography. Credits applied to this certificate may not be applied to another Simon Fraser University certificate or diploma.

Program Requirements
The certificate requires the completion of 30-32 credit hours of required course work and electives as follows.

Required Courses (24 credit hours)
EASC 204-3 Structural Geology I
EASC 313-3 Introduction to Soil and Rock Engineering
EASC 411-3 Applied Environmental Geology
EASC 413-3 Forest Geotechnics
EASC 418-1 Terrain Stability: Assessment and Mitigation
EASC 419-1 Forest Harvesting Technology
GEOG 311-4 Hydrology I
GEOG 317-4 Soil Science I
and either
GEOG 253-4 Aerial Photographic Interpretation
or both of
EASC 206-1 Field Geology
EASC 306-2 Field Geology II
Elective Courses
Students must complete one of
EASC 304-3 Hydrogeology
GEOG 311-4 Hydrology I
and one of
EASC 403-3 Quaternary Geology
GEOG 313-3 Geomorphology II
GEOG 412-4 Glacial Processes and Environments
GEOG 417-4 Soil Science II

Co-operative Education Program
Co-operative education, combining relevant work experience with academic studies in alternate semesters on campus and in study related employment, includes pre-employment orientation and four full-time paid work semesters. Co-operative education is available to qualified earth sciences major and honors students.
To enrol, students should attend the co-op information meetings held in the first two weeks of the semester prior to the semester in which they wish to work. Students should seek advice from the science and environment co-operative education office as early as possible in their university careers to facilitate optimal scheduling. Contact the Co-operative Education Office, 8108 South Science Building. (604) 291-4716.

Professional Registration as a BC Geoscientist
The right to practice in, and to accept professional responsibility for geoscience in BC is limited to registered members of the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC). Requirements can be met through the Department of Earth Sciences and selected courses from other university departments. Consult the advisor for further details.

Environmental Science Program
www.sfu.ca/envsci
Program Director
Dr. R. Routledge, Department of Statistics and Actuarial Science, 10537 Shrum Science Centre, (604) 291-4478 Tel, (604) 291-4947, richard_routledge@sfu.ca
Advisors
Dr. G. Agnes, Department of Chemistry, 7102 South Science Building, (604) 291-4587 Tel, (604) 291-3765 Fax, gagnes@sfu.ca
Dr. D. Allen, Department of Earth Sciences, P9313 Shrum Science Centre, (604) 291-3967 Tel, (604) 291-4198 Fax, dallen@sfu.ca
Dr. E. Elle, Department of Biological Sciences, B8230 Shrum Science Centre, (604) 291-4592 Tel, (604) 291-3496 Fax, elle@sfu.ca

Dr. K. Kavanagh, Department of Physics, P8443 Shrum Science Centre, (604) 291-4244 Tel, (604) 291-3592 Fax, kavanagh@sfu.ca
Ms. R. Hotell, Faculty of Science, P9451 Shrum Science Centre, (604) 291-3772 Tel, (604) 291-3424 Fax, hotell@sfu.ca
Dr. L.F.W. Lesack, Department of Geography, 7225 Robert C. Brown Hall, (604) 291-3256 Tel, (604) 291-5841 Fax, lance_lesack@sfu.ca

This program provides a broad education with specialization in one of six areas of emphasis: biology, chemistry, environmetrics, physical geography, pollutant transport, and quantitative techniques for resource management. Extensive lower division requirements necessitate careful planning of course sequencing to ensure timely completion of the program. Seek advice from the advisors listed above.

Major Program
This program requires 120 credit hours including at least 44 in courses numbered 300 and above, and a minimum of 12 credit hours from outside the Faculty of Science. The minimum CGPA for continuation and graduation is 2.50. General University and Faculty of Science regulations also apply. The following requirements, organized by year, suggest a sequence for timely program completion.

Biology
Year One
BISC 101-4 General Biology
BISC 102-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-4 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
REM 100-3 Global Change

Year Two
BISC 204-3 Introduction to Ecology
CHEM 215-4 Introduction to Analytical Chemistry

Biology
Year Three
PHYS 102-3 General Physics II

Biology
Year Four
BISC 203-3 Animal Ecology

Biology

Environmental Science Program
www.sfu.ca/envsci
Program Director
Dr. R. Routledge, Department of Statistics and Actuarial Science, 10537 Shrum Science Centre, (604) 291-4478 Tel, (604) 291-4947, richard_routledge@sfu.ca
Advisors
Dr. G. Agnes, Department of Chemistry, 7102 South Science Building, (604) 291-4587 Tel, (604) 291-3765 Fax, gagnes@sfu.ca
Dr. D. Allen, Department of Earth Sciences, P9313 Shrum Science Centre, (604) 291-3967 Tel, (604) 291-4198 Fax, dallen@sfu.ca
Dr. E. Elle, Department of Biological Sciences, B8230 Shrum Science Centre, (604) 291-4592 Tel, (604) 291-3496 Fax, elle@sfu.ca

Dr. K. Kavanagh, Department of Physics, P8443 Shrum Science Centre, (604) 291-4244 Tel, (604) 291-3592 Fax, kavanagh@sfu.ca
Ms. R. Hotell, Faculty of Science, P9451 Shrum Science Centre, (604) 291-3772 Tel, (604) 291-3424 Fax, hotell@sfu.ca
Dr. L.F.W. Lesack, Department of Geography, 7225 Robert C. Brown Hall, (604) 291-3256 Tel, (604) 291-5841 Fax, lance_lesack@sfu.ca

This program provides a broad education with specialization in one of six areas of emphasis: biology, chemistry, environmetrics, physical geography, pollutant transport, and quantitative techniques for resource management. Extensive lower division requirements necessitate careful planning of course sequencing to ensure timely completion of the program. Seek advice from the advisors listed above.

Major Program
This program requires 120 credit hours including at least 44 in courses numbered 300 and above, and a minimum of 12 credit hours from outside the Faculty of Science. The minimum CGPA for continuation and graduation is 2.50. General University and Faculty of Science regulations also apply. The following requirements, organized by year, suggest a sequence for timely program completion.

Biology
Year One
BISC 101-4 General Biology
BISC 102-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-4 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
REM 100-3 Global Change

Year Two
BISC 204-3 Introduction to Ecology
CHEM 215-4 Introduction to Analytical Chemistry

Biology
Year Three
PHYS 102-3 General Physics II

Biology
Year Four
BISC 203-3 Animal Ecology

Biology
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BISC 414-3</td>
<td>Limnology</td>
</tr>
<tr>
<td>EVSC 401-1</td>
<td>Current Topics in Environmental Science</td>
</tr>
<tr>
<td>GEOG 311-4</td>
<td>Ecosystem Biogeochemistry</td>
</tr>
<tr>
<td>STAT 430-3</td>
<td>Linear Models in Applied Statistics II</td>
</tr>
<tr>
<td>STAT 350-3</td>
<td>Linear Models in Applied Statistics I</td>
</tr>
<tr>
<td>MATH 251-3</td>
<td>Calculus III</td>
</tr>
<tr>
<td>MATH 232-3</td>
<td>Elementary Linear Algebra</td>
</tr>
<tr>
<td>EVSC 200-3</td>
<td>Environmental Dynamics</td>
</tr>
<tr>
<td>EVSC 250-1</td>
<td>Cartography I</td>
</tr>
<tr>
<td>GEOG 111-3</td>
<td>Physical Geography</td>
</tr>
<tr>
<td>CHEM 126-2</td>
<td>General Chemistry Laboratory</td>
</tr>
<tr>
<td>CHEM 282-2</td>
<td>Organic Chemistry Laboratory</td>
</tr>
<tr>
<td>CHEM 332-3</td>
<td>Chemistry of the Transition Metals</td>
</tr>
<tr>
<td>CHEM 372-3</td>
<td>Chemistry of the Atmospheric Environment</td>
</tr>
<tr>
<td>GEOG 214-3</td>
<td>Climatology I</td>
</tr>
<tr>
<td>ECON 105-3</td>
<td>Principles of Macroeconomics</td>
</tr>
<tr>
<td>PHYS 101-3</td>
<td>General Physics I</td>
</tr>
<tr>
<td>PHYS 120-3</td>
<td>Modern Physics and Mechanics</td>
</tr>
<tr>
<td>STAT 201-3</td>
<td>Statistics for the Life Sciences</td>
</tr>
<tr>
<td>STAT 270-3</td>
<td>Introduction to Probability and Statistics</td>
</tr>
<tr>
<td>STAT 302-3</td>
<td>Analysis of Experimental and Observational Data</td>
</tr>
</tbody>
</table>

### Year Three

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BISC 414-3</td>
<td>Limnology</td>
</tr>
<tr>
<td>CHEM 371-3</td>
<td>Chemistry of the Atmospheric Environment</td>
</tr>
<tr>
<td>GEOG 311-4</td>
<td>Hydrology I</td>
</tr>
<tr>
<td>GEOG 316-4</td>
<td>Ecosystem Biogeochemistry</td>
</tr>
<tr>
<td>EVSC 401-1</td>
<td>Current Topics in Environmental Science</td>
</tr>
<tr>
<td>PHYS 346-3</td>
<td>Energy and the Environment</td>
</tr>
<tr>
<td>STAT 403-3</td>
<td>Intermediate Sampling and Experimental Design</td>
</tr>
<tr>
<td>STAT 406-3</td>
<td>Experimental Design</td>
</tr>
<tr>
<td>STAT 410-3</td>
<td>Statistical Analysis of Sample Surveys</td>
</tr>
<tr>
<td>STAT 430-3</td>
<td>Linear Models in Applied Statistics II</td>
</tr>
<tr>
<td>MATH 251-3</td>
<td>Calculus III</td>
</tr>
<tr>
<td>MATH 232-3</td>
<td>Elementary Linear Algebra</td>
</tr>
<tr>
<td>EVSC 200-3</td>
<td>Environmental Dynamics</td>
</tr>
<tr>
<td>EVSC 250-1</td>
<td>Cartography I</td>
</tr>
<tr>
<td>GEOG 111-3</td>
<td>Physical Geography</td>
</tr>
<tr>
<td>CHEM 126-2</td>
<td>General Chemistry Laboratory</td>
</tr>
<tr>
<td>CHEM 282-2</td>
<td>Organic Chemistry Laboratory</td>
</tr>
<tr>
<td>CHEM 332-3</td>
<td>Chemistry of the Transition Metals</td>
</tr>
<tr>
<td>CHEM 372-3</td>
<td>Chemistry of the Atmospheric Environment</td>
</tr>
<tr>
<td>GEOG 214-3</td>
<td>Climatology I</td>
</tr>
<tr>
<td>ECON 105-3</td>
<td>Principles of Macroeconomics</td>
</tr>
<tr>
<td>PHYS 101-3</td>
<td>General Physics I</td>
</tr>
<tr>
<td>PHYS 120-3</td>
<td>Modern Physics and Mechanics</td>
</tr>
</tbody>
</table>

### Year Four

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BISC 312-3</td>
<td>Environmental Toxicology I</td>
</tr>
<tr>
<td>CHEM 371-3</td>
<td>Analytical Instrumental Analysis</td>
</tr>
<tr>
<td>CHEM 372-3</td>
<td>Chemistry of the Atmospheric Environment</td>
</tr>
<tr>
<td>GEOG 214-3</td>
<td>Forest Ecosystem Management</td>
</tr>
<tr>
<td>GEOG 311-4</td>
<td>Hydrology I</td>
</tr>
<tr>
<td>CHEM 372-3</td>
<td>Chemistry of the Atmospheric Environment</td>
</tr>
<tr>
<td>GEOG 214-3</td>
<td>Climatology I</td>
</tr>
<tr>
<td>GEOG 311-4</td>
<td>Hydrology I</td>
</tr>
<tr>
<td>CHEM 372-3</td>
<td>Chemistry of the Atmospheric Environment</td>
</tr>
<tr>
<td>GEOG 214-3</td>
<td>Climatology I</td>
</tr>
</tbody>
</table>

### Electives

- Additional electives are required to meet the total 120 credit hour graduation requirement including at least 44 at the upper division.
- Additional electives may be required to meet the 120 credit hour graduation requirement, including at least 44 at the upper division.

### Suggested Groupings of Courses

- **Biology Focus**
  - BISC 304-3 Animal Ecology
- **Aquatic Chemistry Focus**
  - BISC 312-3 Environmental Toxicology I
- **Soil Science Focus**
  - BISC 414-3 Limnology
- **Hydrology I**
  - GEOG 311-4 Hydrology I
- **Ecosystem Biogeochemistry**
  - GEOG 316-4 Ecosystem Biogeochemistry
- **Management of Hazardous Substances**
  - REM 311-3 Applied Ecology and Sustainable Environments
  - REM 445-3 Environmental Risk Assessment
  - REM 412-3 Environmental Modelling
  - GEOG 313-4 Geomorphology II
  - GEOG 314-4 Climatology I

---

*Faculty of Science – Environmental Science Program 199*
Pollutant Transport
Year One
BISC 101-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
EASC 101-3 Physical Geology
EASC 102-3 Historical Geology
REM 100-3 Global Change
and one of
MATH 151-3 Calculus I
MATH 154-3 Calculus I for the Biological Sciences
MATH 157-3 Calculus for the Social Sciences I
and one of
MATH 152-3 Calculus II
MATH 155-3 Calculus II for the Biological Sciences
MATH 158-3 Calculus for the Social Sciences II
and one of
PHYS 101-3 General Physics I
PHYS 120-3 Modern Physics and Mechanics
and one of
PHYS 102-3 General Physics II
PHYS 121-3 Optics, Electricity and Magnetism
Year Two
CHEM 281-4 Organic Chemistry I
EASC 206-1 Field Geology I
EASC 201-3 Stratigraphy and Sedimentation
EVSC 200-3 Introduction to Environmental Science
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus III
STAT 270-3 Introduction to Probability and Statistics
and one of
CMPT 101-4 Introduction to Computer Programming
CMPT 102-3 Introduction to Scientific Computer Programming
Years Three and Four
BISC 102-4 General Biology
EASC 202-3 Mineralogy
MATH 252-3 Vector Calculus
and one of
GEOG 214-3 Climatology I
GEOG 213-3 Geomorphology I
and one of
BISC 204-3 Introduction to Ecology
GEOG 215-3 Biogeochemistry
*these courses are recommended
Years Three and Four
EASC 304-3 Hydrogeology
EASC 410-3 Groundwater Geochemistry and Contaminant Transport
EVSC 401-1 Environmental Science Seminar
GEOG 311-4 Hydrology I
MATH 310-3 Introduction to Ordinary Differential Equations
MATH 314-3 Boundary Value Problems
STAT 330-3 Linear Models in Applied Statistics I
and at least 24 upper division credit hours (four courses) of electives selected from the following. Note that some courses may require lower division prerequisites.
BISC 312-3 Environmental Toxicology I
BISC 414-3 Limnology
CHEM 316-4 Introductory Instrumental Analysis
CHEM 317-3 Analytical Environmental Chemistry
CHEM 360-3 Chemical Kinetics and Thermodynamics
CHEM 371-3 Chemistry of the Aqueous Environment
CHEM 372-3 Chemistry of the Atmospheric Environment
EASC 303-3 Environmental Geoscience
EASC 307-3 Applied Geophysics
EASC 403-3 Quaternary Geology
EASC 404-3 Subsurface Methods for Environmental Science
and three of
BISC 310-3 Plants and Animals of British Columbia
BISC 366-3 Plant Physiology
BISC 367-3 Plant Physiology Laboratory
BISC 404-3 Plant Ecology
BISC 414-3 Limnology
BISC 416-3 Fish Biology
BISC 434-3 Paleocology and Palynology
CHEM 371-3 Chemistry of the Aqueous Environment
CHEM 372-3 Chemistry of the Atmospheric Environment
EASC 410-3 Groundwater Geochemistry and Contaminant Transport
EASC 404-3 Subsurface Methods for Environmental Science
and three of
GEOG 311-4 Hydrology I
GEOG 313-4 Geomorphology II
GEOG 314-4 Climatology II
GEOG 315-4 Regional Ecosystems
GEOG 316-4 Ecosystem Biogeochemistry
GEOG 317-3 Chemistry of the Atmospheric Environment
GEOG 354-4 Introduction to Geographic Information Systems
GEOG 414-3 Climatology III
GEOG 415-4 Advanced Biogeochemistry
MATH 322-3 Complex Variables
MATH 415-3 Ordinary Differential Equations
MATH 418-3 Partial Differential Equations
MATH 416-3 Numerical Analysis II
MATH 462-3 Fluid Dynamics
MACM 316-3 Numerical Analysis I
NUSC 341-3 Introduction to Radiochemistry
PHYS 346-3 Energy and the Environment
REM 311-3 Applied Ecology and Sustainable Environments
REM 356-3 Management Institutions
REM 412-3 Environmental Modelling
REM 445-3 Environmental Risk Assessment and Management of Hazardous Substances
STAT 403-3 Intermediate Sampling and Experimental Design
and at least 12 credit hours selected from outside the Faculty of Science.

Suggested Groupings of Courses
The following groupings of courses for different focuses are suggested.

Aquatic Biology Focus
BISC 312-3 Environmental Toxicology I
BISC 414-3 Limnology
CHEM 360-3 Chemical Kinetics and Thermodynamics
GEOG 315-4 Regional Ecosystems
GEOG 316-4 Ecosystem Biogeochemistry
GEOG 415-4 Advanced Biogeochemistry
REM 311-3 Applied Ecology and Sustainable Environments
REM 412-3 Environmental Modelling

Aquatic Chemistry Focus
BISC 414-3 Limnology
CHEM 316-4 Introductory Instrumental Analysis
CHEM 317-2 Analytical Environmental Geography
CHEM 360-3 Chemical Kinetics and Thermodynamics
GEOG 371-3 Chemistry of the Aquatic Environment
NUSC 341-3 Introduction to Radiochemistry
REM 412-3 Environmental Modelling
REM 445-3 Environmental Risk Assessment and Management of Hazardous Substances

Earth Properties Focus
EASC 303-3 Environmental Geoscience
EASC 307-3 Applied Geophysics
EASC 403-3 Quaternary Geology
EASC 404-3 Subsurface Methods for Environmental Geoscience
GEOG 313-4 Geomorphology II
GEOG 314-4 Climatology II
GEOG 315-4 Regional Ecosystems
GEOG 316-4 Ecosystem Biogeochemistry
GEOG 317-3 Chemistry of the Atmospheric Environment
GEOG 354-4 Introduction to Geographic Information Systems
GEOG 414-3 Climatology III
GEOG 415-4 Advanced Biogeochemistry
MATH 322-3 Complex Variables
MATH 415-3 Ordinary Differential Equations
MATH 418-3 Partial Differential Equations
MATH 416-3 Numerical Analysis II
MATH 462-3 Fluid Dynamics
MACM 316-3 Numerical Analysis I
NUSC 341-3 Introduction to Radiochemistry
PHYS 346-3 Energy and the Environment
REM 311-3 Applied Ecology and Sustainable Environments
REM 356-3 Management Institutions
REM 412-3 Environmental Modelling
REM 445-3 Environmental Risk Assessment and Management of Hazardous Substances
STAT 403-3 Intermediate Sampling and Experimental Design

Atmospheric Focus
BISC 312-3 Environmental Toxicology I
CHEM 360-3 Chemical Kinetics and Thermodynamics
CHEM 372-3 Chemistry of the Atmospheric Environment
GEOG 314-4 Climatology II
GEOG 414-4 Climatology III
GEOG 415-4 Advanced Biogeochemistry
MATH 322-3 Complex Variables
MATH 415-3 Ordinary Differential Equations
MATH 418-3 Partial Differential Equations
MATH 416-3 Numerical Analysis II
MATH 462-3 Fluid Dynamics
MACM 316-3 Numerical Analysis I
NUSC 341-3 Introduction to Radiochemistry
PHYS 346-3 Energy and the Environment
REM 412-3 Environmental Modelling

Suggested Groupings of Courses

Aquatic Environments
BISC 414-3 Limnology
BISC 416-3 Fish Biology
CHEM 371-3 Chemistry of the Aqueous Environment
EASC 409-3 Rivers: Environments and Engineering
GEOG 411-4 Hydrology II
GEOG 413-4 Geomorphology III

Plants and Environment
BISC 310-3 Plants and Animals of British Columbia
BISC 366-3 Plant Physiology
BISC 367-3 Plant Physiology Laboratory
BISC 404-3 Plant Ecology
BISC 434-3 Paleocology and Palynology
GEOG 314-4 Climatology II
GEOG 315-4 Regional Ecosystems
GEOG 415-4 Advanced Biogeochemistry
GEOG 417-4 Soil Science II
REM 471-4 Forest Ecosystem Management

Biogeochemistry
BISC 414-4 Limnology
CHEM 371-3 Chemistry of the Aqueous 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

EASC 410-3 Groundwater Geochemistry and Contaminant Transport
GEOG 411-4 Hydrology II
GEOG 414-4 Advanced Biogeochemistry
GEOG 415-4 Advanced Biogeography

Students in their choice of electives.

Faculty of Science – Environmental Science Program
Transport Modelling Focus
GEOG 354-4 Introduction to Geographic Information Systems
MATH 322-3 Complex Variable
MATH 415-3 Ordinary Differential Equations
MATH 418-3 Partial Differential Equations
MATH 416-3 Numerical Analysis II
MATH 462-3 Fluid Dynamics
MACM 316-3 Numerical Analysis I
REM 412-3 Environmental Modelling
STAT 403-3 Intermediate Sampling and Experimental Design
Quantitative Techniques for Resource Management
Year One
BISC 101-4 General Biology
BISC 102-4 General Biology
CHEM 120-3 General Chemistry I
CHEM 122-2 General Chemistry II
ECON 103-3 Principles of Microeconomics
REM 100-3 Global Change
and one of
MATH 151-3 Calculus I
MATH 154-3 Calculus I for the Biological Sciences
MATH 157-3 Calculus for the Social Sciences I
and one of
MATH 152-3 Calculus II
MATH 155-3 Calculus II for the Biological Sciences
MATH 158-3 Calculus for the Social Sciences II
and one of
PHYS 101-3 General Physics I
PHYS 120-3 Modern Physics and Mechanics
Year Two
BISC 204-3 Introduction to Ecology
ECON 105-3 Principles of Macroeconomics
ECON 260-3 Environmental Economics
EVSC 200-3 Introduction to Environmental Science
GEOG 111-3 Physical Geography
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus III
STAT 270-3 Introduction to Probability and Statistics
and one of
CMPT 101-4 Introduction to Computer Programming
CMPT 102-3 Introduction to Scientific Computer Programming
and one of
PHYS 102-3 General Physics II
PHYS 121-3 Optics, Electricity and Magnetism
Year Three
BISC 304-3 Animal Ecology
MACM 316-3 Numerical Analysis I
MATH 308-3 Linear Programming
MATH 310-3 Introduction to Ordinary Differential Equations
PHYS 346-3 Energy and the Environment
STAT 330-3 Linear Models in Applied Statistics I
STAT 350-3 Linear Models in Applied Statistics II
Year Four
BISC 407-3 Population Dynamics
EVSC 401-1 Current Topics in Environmental Science
MATH 309-3 Continuous Optimization
STAT 402-3 Generalized Linear and Nonlinear Modelling
STAT 410-3 Statistical Analysis of Sample Surveys
STAT 430-3 Statistical Design and Analysis of Experiments
and at least four courses from the following to be completed in years three or four
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 412-3 Environmental Modelling
REM 445-3 Environmental Risk Assessment and Management of Hazardous Substances
REM 471-3 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 412-3 Environmental Modelling
Economic Focus
ECON 261-3 Resources and the Economy of British Columbia
GEOG 354-4 Introduction to Geographic Information Systems
REM 311-3 Applied Ecology and Sustainable Environments
REM 356-3 Management Institutions
REM 445-3 Environmental Risk Assessment and Management of Hazardous Substances
Forestry Focus
ECON 261-3 Resources and the Economy of British Columbia
GEOG 354-4 Introduction to Geographic Information Systems
REM 311-3 Applied Ecology and Sustainable Environments
REM 356-3 Management Institutions
REM 471-3 Forest Ecosystem Management
Honors Program
This program requires a minimum of 132 credit hours. At least 60 must be upper division and 12 must be outside the Faculty of Science. Of these 60, at least 48 must be in one subject area and are normally from the 300-400 level required or optional courses in an area of emphasis. Exceptions must be approved by a faculty advisor. Further requirements are listed in each area of emphasis. Minimum CGPA for continuation and graduation is 3.00. General University and Faculty of Science regulations also apply.
Biology
Students must complete all requirements in the major program for this area of emphasis, plus all requirements for the honors program. The required 48 upper division credit hours in a specific subject requires all of
BISC 490-5 Research Design
BISC 491-5 Research Technique
BISC 492-5 Research Reporting
Other courses may be substituted subject to the approval of a faculty advisor.
Chemistry
Students must complete all requirements for this area of emphasis in the major program, plus all requirements for the honors program, and also
CHEM 481-5 Undergraduate Research
To fulfil the required 48 upper division credit hours in a specific subject area, students choose further major program courses as options in years three and four. Other courses may be substituted subject to the approval of a faculty advisor.
Environmetrics
Students must complete all requirements for this area of emphasis in the major program, plus all requirements for the honors program, and also
STAT 450-3 Statistical Theory
To fulfil the required 48 upper division credit hours in a specific subject area, students normally will choose further courses listed in the major program as options in years three and four. Other courses may be substituted subject to the approval of a faculty advisor.
Physical Geography
Students must complete all requirements for this area of emphasis in the major program, plus all requirements for the honors program. To fulfil the required 48 upper division credit hours in a specific subject area, students must complete
GEOG 491-4 Honors Essay
and choose further major program courses as options in years three and four. Other courses may be substituted subject to the approval of a faculty advisor.
Pollutant Transport
Students must complete all requirements for this area of emphasis in the major program, plus all requirements for the honors program. To fulfil the required 48 upper division credit hours in a specific subject area, the student normally will choose further courses listed in the major program as options in years three and four. Other courses may be substituted with approval of a faculty advisor.
Quantitative Techniques for Resource Management
Students must complete all requirements for this area of emphasis in the major program, plus all requirements for the honors program. To fulfil the required 48 upper division credit hours in a specific subject area, students normally will choose further courses listed in the major program as options in years three and four. Other courses may be substituted subject to the approval of a faculty advisor.
Co-operative Education Program
This program combines relevant work experience with academic studies. Students alternate semesters on campus with study related employment. The program includes pre-employment orientation and four full-time paid work semesters. A major and honors program leading to an environmental science BSc degree and co-op education are available to qualified students.
To enrol, students should attend co-op information meetings held in the first two weeks of the semester prior to the semester in which they wish to work. Students should also seek advice from Faculty of Science Co-op Education as early as possible in their university career to facilitate optimal scheduling. For more information, contact the co-op co-ordinator, Paul Degrace, Science and Environment Co-op Program, Department of Geography, 7130 Robert C. Brown Hall, telephone (604) 291-3115.
Qualifications for Registered Professional Biologist of BC
Registered professional biologist (RPBio) status is an important, common qualification for practising BC biologists. Environmental science students can meet
the academic qualifications by taking three more 200 level or higher biology courses beyond the biology stream requirements. 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. Contact the biology stream advisor or the Association of Professional Biologists of BC at apbbc@telnet.net.

General Science Program

P9451 Shrum Science Centre, (604) 291-3772 Tel, (604) 291-3424 Fax

Advisor
Ms. R. Hotell, Faculty Assistant

This degree program provides broad education in several fields with some specialization in at least two. It requires two minors chosen from below, one of which must be in the Faculty of Science. Restrictions for the combination of minors is listed below. Students must have their selection of minors for the BSc general science degree approved by the program advisor as early in their program as possible.

Only one minor may be selected from each of the following six subject areas.

- biological sciences, environmental toxicology, kinesiology
- biochemistry, chemistry, environmental chemistry
- mathematics, statistics, computing science
- physics, nuclear science
- earth science, physical geography, quaternary studies
- archaeology, psychology

Because of the proximity of subject matter, the following combinations of minors are not acceptable:

- biological sciences, molecular biology and biochemistry
- biochemistry, environmental toxicology
- chemistry, nuclear science
- kinesiology, molecular biology and biochemistry
- environmental chemistry, environmental toxicology

Lower Division Requirements

Students must complete all of

- BISC 104-4 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 I and II

and all of

- PHYS 101-3 General Physics I
- PHYS 102-3 General Physics II

PHYS 130-2 General Physics Laboratory or all of

- PHYS 120-3 Modern Physics and Mechanics
- PHYS 121-3 Optics, Electricity and Magnetism
- PHYS 131-2 General Physics Laboratory I and both of

- MATH 154-3 Calculus I for the Biological Sciences
- MATH 155-3 Calculus II for the Biological Sciences

or both of

- MATH 151-3 Calculus I
- MATH 152-3 Calculus II

Other Requirements

The student must also satisfy the following general requirements.

- one statistics course at the upper or lower division

- additional upper division courses (excluding EDUC 401-407) to accumulate a minimum total of 44 credit hours of upper division credit
- a minimum of 12 hours in subjects outside the Faculty of Science, including a minimum of six credit hours from the Faculty of Arts
- a GPA of 2.0 in upper division courses required for each of two subject area minors, with a minimum C-grade in courses used for the subject area minors

Consult departmental advisors about selection of upper division courses in subject minors. Students should include science-related courses such as PHIL 244, 341 and HIST 360, 361 in their programs.

Mathematical Physics Program

Department of Physics, P8429 Shrum Science Centre, (604) 291-4465 Tel, (604) 291-3592 Fax

Department of Mathematics, 10512 Shrum Science Centre, (604) 291-3331 Tel, (604) 291-4947 Fax

Advisors
Dr. B.J. Friskin BSc (Qu), MSc (Northwestern), PhD (Br Col), PB456 Shrum Science Centre, (604) 291-5767
Mrs. M. Fankboner BA (Occidental), MSc (S Fraser), K10511 Shrum Science Centre, (604) 291-4849
Dr. R. Choksi BSc (Tor), MS, PhD (Brown), (604) 291-3379

This honors program is offered jointly by the Departments of Mathematics, and Physics. Graduates may do graduate work in mathematics or physics depending on interest. Some additional work in either mathematics or physics may be required. Students must contact Dr. Friskin as soon as possible to schedule their programs.

Honors Program

Lower Division Requirements

Students must complete one of

- CMPT 101-4 Introduction to Computer Programming
- CMPT 102-3 Introduction to Scientific Computer Programming

and all of

- MATH 151-3 Calculus I
- MATH 152-3 Calculus II
- MATH 232-3 Elementary Linear Algebra
- MATH 242-3 Introduction to Analysis
- MATH 251-3 Calculus III
- MATH 252-3 Vector Calculus
- PHYS 120-3 Modern Physics and Mechanics
- PHYS 121-3 Optics, Electricity and Magnetism
- PHYS 131-2 General Physics Laboratory I

and one of

- PHYS 131-2 General Physics Laboratory II
- PHYS 211-3 Intermediate Mechanics
- PHYS 221-3 Intermediate Electricity and Magnetism
- PHYS 233-2 Physics Laboratory II
- PHYS 234-3 Computers in Physics Laboratory
- PHYS 285-3 Introduction to Relativity and Quantum Mechanics
- STAT 270-3 Introduction to Probability and Statistics

Upper Division Requirements

Students must complete all of

- MACM 316-3 Numerical Analysis I
- MATH 310-3 Introduction to Ordinary Differential Equations
- MATH 313-3 Differential Geometry
- MATH 320-3 Advanced Calculus of One Variable
- MATH 322-3 Complex Variables
- MATH 418-3 Partial Differential Equations
- MATH 332-3 Introduction to Applied Algebraic Systems

MATH 415-3 Ordinary Differential Equations
MATH 419-3 Linear Analysis
MATH 424-3 Applications of Complex Analysis
MATH 425-3 Introduction to Metric Spaces
MATH 438-3 Linear Algebra
MATH 439-3 Introduction to Algebraic Systems
MATH 470-3 Variational Calculus
and one of

- MATH 361-3 Mechanics of Deformable Media
- MATH 462-3 Fluid Dynamics
- MATH 486-3 Tensor Analysis

and one of

- MATH 309-3 Continuous Optimization
- MATH 416-3 Numerical Analysis II
- PHYS 395-3 Computational Physics
- plus one additional course to be selected from the three groupings above.

Other Requirements

Nine hours of electives outside the Faculty of Science (excluding EDUC 401 to 407) including six hours from the Faculty of Arts are required. Further electives in any division is required to total 132 credit hours. CHEM 102 and 103 should be taken in the electives.

Further requirements for the BSc (honors) degree are in the Faculty of Science section (page 191).

Department of Mathematics


Chair
A.H. Lachlan BA, MA, PhD (Camb), FRSC

Professors Emeriti
B.R. Alspach BA (Wash), MA, PhD (Calif)
G. Bojadziev PhD (Sofia Mech Eng Inst)
A. Das BSc, MSc (Calc), PhD (NUl), DSc (Calc)
R. Harrop BA, MA, PhD (Camb)
R.W. Lardner BA, PhD, ScD (Camb)
M. Singh AB, MA (Pun]), MSc, PhD (Brown)
S.K. Thomason BS (Oregon), PhD (C'nell)
D.S. Thomson BSc (Tor), MA, PhD (Wat)

Professors
J.L. Berggren BS, MS, PhD (Wash)
J.M. Borwein BSc (WOnt), MSc, PhD (Oxf), FRSC
P.B. Borwein BSc (WOnt), MSc, PhD (Br Col)
T.C. Brown BA (Reed), AM, PhD (Wash U)
G.A.C. Graham BA (Dub), MS (Brown), PhD (Glas)
Co-operative Education program in mathematics and applied studies. For further details, students should seek advice early in their academic careers about program planning from departmental advisors.

Students are also invited to apply to enter the Co-operative Education program in mathematics and statistics, which integrates work experience with academic study. For further details, students should contact the co-op co-ordinator, Mr. E. Simons, in K10513, telephone (604) 291-4123, esimons@sfu.ca.

The major and minor programs listed below lead to a Bachelor of Science degree in the Faculty of Science. Students interested in a Bachelor of Arts degree in mathematics should consult the Mathematics Program in the Faculty of Arts section.

Students interested in mathematics may also wish to consider related programs detailed under the sections called statistics, applied mathematics, mathematics and computing, and systems science, and actuarial science.

General Regulations

Students are not permitted to enroll in any course for which a D grade or lower was obtained in any prerequisite course.

Major or honors students must satisfy Faculty of Science requirements, and general University CGPA and credit hour requirements. Please see "Mathematics MATH" on page 277 for entry level course requirements and department workshops.

Prerequisite Grade Requirement

Without at least a C- or higher in each prerequisite course, or a special waiver from the department, a student may not register in any department course.

Applied Mathematics Major Program

Applied mathematics consists of mathematics areas which are closely related to such traditional fields as physical sciences and engineering, but nowadays sophisticated mathematical tools are used over many disciplines. With the rapid development of computers, applied mathematics is increasingly computationally oriented. Applied mathematicians are in demand and the good student is virtually assured of an interesting career in industrial research, a government laboratory or a university.

The Department of Mathematics offers sufficient undergraduate courses to specialize in applied mathematics. Details for applied mathematics of physics and engineering are given below. Also, there are joint honors in mathematics and computer science, and in mathematical physics. Both include a substantial number of applied mathematics courses. An applied mathematics concentration will provide an excellent basis for an engineering career, and Simon Fraser's engineering science program makes considerable use of these courses.

Required courses are as follows.

Lower Division Requirements (36-37 credit hours plus electives)

one of

CMPT 101-4 Introduction to Computer Programming
CMPT 102-3 Introduction to Scientific Computer Programming
all of

MACM 202-4 Mathematical Modeling and Computation
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 232-3 Elementary Linear Algebra
MATH 242-3 Introduction to Analysis
MATH 251-3 Calculus III
MATH 252-3 Vector Calculus
PHYS 120-3 Modern Physics and Mechanics
PHYS 121-3 Optics, Electricity and Magnetism
PHYS 211-3 Intermediate Mechanics
STAT 270-3 Introduction to Probability and Statistics

"to be completed by end of year 2

Upper Division Requirements

(30 credit hours plus electives)

MACM 316-3 Numerical Analysis I
MATH 310-3 Introduction to Ordinary Differential Equations
MATH 313-3 Differential Geometry
MATH 314-3 Boundary Value Problems
MATH 320-3 Advanced Calculus of One Variable
MATH 322-3 Complex Variables

at least two of

MATH 308-3 Linear Programming
MATH 309-3 Continuous Optimization
MATH 408-3 Discrete Optimization
MATH 415-3 Ordinary Differential Equations
MATH 416-3 Numerical Analysis II
MATH 418-3 Partial Differential Equations
MATH 419-3 Linear Analysis
MATH 424-3 Applications of Complex Analysis
MATH 439-3 Linear Algebra
STAT 380-3 Introduction to Stochastic Processes

at least two of

MATH 361-3 Mechanics of Deformable Media
MATH 462-3 Fluid Dynamics
MATH 467-3 Vibrations
MATH 470-3 Variational Calculus
PHYS 413-3 Advanced Mechanics

Choices from the above must include at least three courses at the 400 level and the credit hours must total at least 120, of which at least 12 must be taken outside the Faculty of Science, including a minimum of six hours in the Faculty of Arts. At least 44 hours must be at the upper division.

Applied Mathematics Honors Program

Lower Division Requirements (36-37 credit hours plus electives)

one of

CMPT 101-4 Introduction to Computer Programming
CMPT 102-3 Introduction to Scientific Computer Programming
all of

MACM 202-4 Mathematical Modeling and Computation
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 232-3 Elementary Linear Algebra
MATH 242-3 Introduction to Analysis
MATH 251-3 Calculus III
MATH 252-3 Vector Calculus
PHYS 120-3 Modern Physics and Mechanics
PHYS 121-3 Optics, Electricity and Magnetism
PHYS 211-3 Intermediate Mechanics
STAT 270-3 Introduction to Probability and Statistics

Upper Division Requirements

(48 credit hours plus electives)

MATH 310-3 Introduction to Ordinary Differential Equations
MATH 313-3 Differential Geometry
MATH 314-3 Boundary Value Problems
MATH 320-3 Advanced Calculus of One Variable
MATH 322-3 Complex Variables
MATH 361-3 Mechanics of Deformable Media
MACM 316-3 Numerical Analysis I
at least one of

MATH 308-3 Linear Programming
MATH 416-3 Numerical Analysis II
STAT 380-3 Introduction to Stochastic Processes
at least four of

MATH 309-3 Continuous Optimization
MATH 408-3 Discrete Optimization
MATH 415-3 Ordinary Differential Equations

Associate Professors

L. Goddyn BSc (S Fraser), MMath, PhD (Wat)
A.K. Kropinski BSc (Qu), MMath, PhD (Wat)
V. Jungic BSc (Phil, Canada), PhD (Indiana)
M.R. Trummer Dipl Math ETH, PhD (Zurich)

Assistant Professors

I. Chen BSc (Qu), DPhil (Oxf)
D. Bradean BSc (Babes-Bolyai), PhD (Leeds)
K.-S. Choi BSc, MPhil (HK), PhD (Texas)
P. Lisonok MSc (Palacky, Czechoslovakia), PhD (Kepler, Austria)
S. Routh BMath (Wat), MSc, PhD (Br Col)

Adjunct Professors

H.H. Bauschke Dipl-Math (Goethe), PhD (S Fraser)
R. Braden BSc (Babes-Bolyai), PhD (Leeds)
R. Brewster BSc, MSc (Vic, BC), PhD (S Fraser)
L. Jorgenson BSc (Qu), MSc, PhD (McG)
V. Jungic BSc (Sarajevo), MSc (Croatia), PhD (S Fraser)
J. Lister BSc (Nfld), MSc, PhD (Wat)
M. Rosenfeld MSc, PhD (Hebrew University)
N. Tariq BSc, MSc (KCNS), PhD (New Br)
C. Vanderwerff MSc, PhD (Alta)
J. Verner, BSc, MSc (Qu), PhD (Edin)
M.L. Yu BSc (Fudan, Shanghai), MSc, PhD (S Fraser)
Q. Yu BSc, MSc (Shandong), PhD (S Fraser)
R. Zahar BA, MA (Br Col), MS (Purdue), MA (Camb), PhD (Purdue)

Associated Faculty

A. J. Dawson, Education
T.J. O’Shea, Education
R. Zazkis, Education

Lecturers

V. Jungic BSc (Sarajevo), MSc (Zagreb), PhD (S Fraser)

Senior Lecturers

J.C. Arya BSc (Agra), MA (Punjab), MSc, PhD (S Fraser)
M.M. Dubiel MA, PhD (Warsaw)

*joint appointment with computing science

Advisors

Ms. J. Fabricus, K10512 Shrum Science Centre, (604) 291-3332 (for registration difficulties)
Dr. M.M. Dubiel MA, PhD (Warsaw), K10515 Shrum Science Centre, (604) 291-3800 (for program advice)
Dr. V. Jungic BSc (Sarajevo), MSc (Zagreb), PhD (S Fraser), K10500 Shrum Science Centre, (604) 291-3340 (for program advice)
Mrs. M. Fankboner BA (Occidental), MSc (S Fraser), K10511 Shrum Science Centre, (604) 291-4849 (for program advice)

Advisors' office hours are available in the Department of Mathematics general office. Students wishing to major in any of the programs sponsored by the Department of Mathematics should seek advice early in their academic careers about program planning from departmental advisors.

Students are also invited to apply to enter the Co-operative Education program in mathematics and statistics, which integrates work experience with academic study. For further details, students should consult with the mathematical sciences
MATH 155 or MATH 158 for MATH 152. Where these substitutions are permitted: CMPT 104 for science, and at least 60 must be at the upper division of which at least six must be in the Faculty of Arts. At least five of the courses used to satisfy this 30 hour requirement must be from mathematics/computing science (MACM) courses. At least three of the courses the mathematics major, at least 15 must be MATH mathematics/computing science (MACM), or PHYS courses. At least five of the courses used to satisfy the 48 credit hour requirement must be 400 division, of which at least three must be 400 division MATH or MACM courses. Students may not use a directed studies, job practicum, or honors essay course to fulfil the 400 division requirement.

**Honors Program Specific Requirements**

In addition to major program requirements, all honors students must obtain at least 18 additional credit hours in upper division mathematics (MATH), statistics (STAT*), actuarial mathematics (ACMA), or mathematics/computing science (MACM) courses, or PHYS 413. Of this minimum 48 upper division credit hours, at least 24 must be MATH and MACM courses. At least five of the courses used to satisfy the 48 credit hour requirement must be 400 division, of which at least three must be 400 division MATH or MACM courses. Students may not use a directed studies, job practicum, or honors essay course to fulfil the 400 division requirement.

*None of STAT 301, 302 and 403 may count toward the 30 credit hours requirement for a major, or towards the 48 credit hours requirement for an honors program, although they may be counted as upper division elective credits.

**Note:** Major or honors mathematics students are advised to take an upper division statistics course and an upper division MACM or CMPT course.

**Management and Systems Science Program**

Please see "Management and Systems Science Program" on page 211.

**Mathematics Major and Honors Programs**

The requirements of the department are as follows.

**Lower Division Requirements**

CMPT 101-4 Introduction to Computer Programming
CMPT 201-4 Data and Program Abstraction
MACM 101-3 Discrete Mathematics I
MACM 201-3 Discrete Mathematics II
MACM 202-4 Mathematical Modeling and Computation
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
MACM 316-3 Numerical Analysis I
CMPT 101-4 Introduction to Computer Programming
CMPT 201-4 Data and Program Abstraction
CMPT 250-3 Introduction to Computer Architecture
CMPT 275-4 Software Engineering
MACM 101-3 Discrete Mathematics I
MACM 201-3 Discrete Mathematics II
MACM 202-4 Mathematical Modeling and Computation
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 232-3 Elementary Linear Algebra
MATH 242-3 Introduction to Analysis
MATH 251-3 Calculus III
PHIL 001-3 Critical Thinking*
STAT 270-3 Introduction to Probability and Statistics

*100 division English course may be substituted

**Note 1:** A student who, in satisfaction of upper division requirements (see below), wishes to use group e) as one of the two upper division required groups taken from the list a), b), c), d), e) must also obtain credit for the lower division course MATH 252.

**Note 2:** A student wishing to use courses from group a) to satisfy requirements is advised that STAT 280 is a prerequisite for STAT 380.

**Upper Division Requirements**

Students must complete all of MACM 316-3 Numerical Analysis I
CMPT 307-3 Data Structures and Algorithms
CMPT 354-3 Database Systems I
CMPT 405-3 Design and Analysis of Computing Algorithms
plus one of
MATH 308-3 Linear Programming
MATH 343-3 Applied Discrete Mathematics

- the required courses in two of the groups a), b), c), d), e) below and in two of the groups f), g), h), i), j) below.
- additional courses as required taken from any of the lists a) - k) below to bring the total upper division credits in MATH or STAT to at least 25 and the total credits in upper division CMPT to at least 25 where, for this purpose, credit obtained in MACM courses is divided evenly between MATH and CMPT.
- the Social Aspects of Computing requirement of the computing science major and honors program
- additional courses as required to bring the total number of upper division credits to at least 60.

**a) Statistics**

Required courses
STAT 330-3 Introduction to Statistical Inference
STAT 350-3 Linear Models in Applied Statistics
STAT 380-3 Introduction to Stochastic Processes

**b) Discrete Mathematics**

Required courses
MATH 308-3 Linear Programming
MATH 343-3 Applied Discrete Mathematics

and one of
MATH 408-3 Discrete Optimization
MATH 443-3 Combinatorial Theory
MATH 445-3 Graph Theory
c) Algebra
   Required courses
   MATH 322-3 Introduction to Applied Algebraic Systems
   and one of
   MATH 407-3 Introduction to Linear Algebra
   MATH 403-3 Algebraic Systems
   MATH 405-3 Galois Theory
   MATH 451-3 Coding Theory

d) Numerical Analysis
   Required courses
   MATH 310-3 Introduction to Ordinary Differential Equations
   MATH 416-3 Numerical Analysis II

e) Applied Mathematics
   Required course
   MATH 310-3 Introduction to Ordinary Differential Equations
   and two of
   MATH 314-3 Boundary Value Problems
   MATH 415-3 Ordinary Differential Equations
   MATH 418-3 Partial Differential Equations
   MATH 462-3 Fluid Mechanics
   MATH 470-3 Variational Calculus

f) Computer Graphics and Multimedia
   Required course
   one of
   CMPT 361-3 Introduction to Computer Graphics
   CMPT 363-3 User Interface Design
   CMPT 365-3 Multimedia Systems

   Other courses
   CMPT 461-3 Advanced Computer Graphics
   CMPT 468-3 Animation
   CMPT 468-3 Scientific Visualization
   CMPT 469-3 Special Topics in Computer Graphics

f) Computer Graphics and Multimedia
   Required course
   one of
   CMPT 300-3 Operating Systems I
   CMPT 371-3 Data Communications and Networking

   Other courses
   CMPT 400-3 High Performance Computer Architecture
   CMPT 401-3 Operating Systems II
   CMPT 402-3 Operating Systems Software Laboratory
   CMPT 471-3 Networking II
   CMPT 479-3 Special Topics in Computing Systems
   CMPT 499-3 Special Topics in Computer Hardware

h) Programming Languages and Software
   Required course
   one of
   CMPT 379-3 Principles of Compiler Design
   CMPT 383-3 Comparative Programming Languages
   CMPT 384-3 Symbolic Computing

   Other courses
   CMPT 475-3 Software Engineering II
   CMPT 480-3 Foundations of Programming Languages
   CMPT 481-3 Functional Programming
   CMPT 487-3 Software Engineering Tools and Environments
   CMPT 489-3 Special Topics in Programming Languages

i) Information Systems
   Required course
   one of
   CMPT 301-3 Information Systems Management
   CMPT 370-3 Information System Design
   CMPT 454-3 Database Systems II
   CMPT 459-3 Special Topics in Database Systems

   Other courses
   CMPT 302-3 System Development Projects
   CMPT 470-3 Advanced Application Development Tools

j) Artificial Intelligence
   Required course
   one of
   CMPT 310-3 Artificial Intelligence Survey
   CMPT 412-3 Computational Vision
   CMPT 413-3 Computational Linguistics
   CMPT 417-3 Intelligent Systems

   Other courses
   CMPT 411-3 Knowledge Representation
   CMPT 414-3 Model Based Computer Vision
   CMPT 419-3 Special Topics in Artificial Intelligence

k) Theoretical Computing Science
   CMPT 308-3 Computability and Complexity
   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 300-3 Introduction to Formal Language and Automata with Applications

General Requirements

The program is subject to Faculty of Science and University general regulations. Admission to courses and prerequisites are subject to departmental requirements. Admission to and continuation in the program requires an overall GPA of at least 3.00.

Mathematical Physics Honors Program

This program, offered jointly with the Department of Physics, consists of theoretical and laboratory physics and applied and pure mathematics courses. See "Mathematical Physics Program" on page 202.

Co-operative Education

Students are encouraged to enter co-operative education which integrates work experience with academic study. For further details, see "Co-operative Education" on page 216.

Students should contact the mathematical sciences co-op co-ordinator at (604) 291-4123, K10507, for admission requirements and information.

Department of Molecular Biology and Biochemistry

8166 South Science Building, (604) 291-5630 Tel, (604) 291-5583 Fax, www.sfu.ca/mbb

Chair
M.J. Smith BSc (St. Mary’s, Calif), PhD (Br Col)

Emeritus Professor
R.J. Cushey BSc, MSc, PhD (Alta)

Professors
D.L. Baille BSc, MSc (Br Col), PhD (Conn)
B.P. Brandhorst AD (Harv), PhD (Calif)*
R.B. Cornell BS (Houghton), PhD (Penn)**
W.S. Davidson BSc (Edin), PhD (Qu)
B.M. Honda BSc (McM), PhD (Br Col)
W.R. Richards AB, PhD (Calif)**
D. Sen BA (Camb), MPhil, PhD (Yale)**
M.J. Smith BSc (St. Mary’s, Calif), PhD (Br Col)

Associate Professors
T.J. Borgford BSc, PhD (Manit)**
J.K. Scott AB (Occident), PhD (Missouri), MD (St Louis)
J.L. Thewalt BSc, PhD (S Fraser)***

Assistant Professors
C.T. Beh BSc, MSc (Calg), PhD (Prin)

F.S.L. Brinkman BSc (Wat), PhD (Ott)
N. Harden BSc (Br Col), PhD (Camb)
N.C. Hawkins BSc, MSc (Calg), PhD (Princ)
M.R. Leroux BSc (McG), PhD (Br Col)
M.W. Paetzold BSc (Syracuse), BSc (Minn), PhD (Ohio State)
F.F. Pio BSc, MSc (C Ferrand, France), PhD (Lille, France)
P.J. Unrau BSc (McM), PhD (MIT)
E.M. Verheyen BA (C’nell), MPhil, PhD (Yale)

Adjunct Professors
S. Jones BSc (Brist), MSc (S Fraser), PhD (Sanger)
E. Käfer Dr Phil II (Zürich)
M. Marra BSc, PhD (S Fraser)
E. Stringham BSc, MSc (Manit), PhD (Br Col)

Associated Faculty
A.A. Accili, Kinesiology
A.T. Beckenbach, Biological Sciences
A.J. Bennet, Chemistry
F. Breden, Biological Sciences
N.H. Haunerland, Biological Sciences
C. Krieger, Kinesiology
P.C.H. Li, Chemistry
M.M. Moore, Biological Sciences
B.M. Pinto, Chemistry
L.M. Quarmary, Biological Sciences
G.F. Tibbits, Kinesiology

Senior Lecturer
A. Yim BSc (Oregon), MSc (S Fraser)

*joint appointment with biological sciences
**joint appointment with chemistry
***joint appointment with physics

Advisor
Dr. I.C. Northwood BA (Vermont), PhD (Mass), 7151 South Science Building, (604) 291-3536

Major, minor and honors in molecular biology and biochemistry are offered by the Faculty of Science. Entry into these programs requires the permission of the molecular biology and biochemistry advisor.

Students who have declared majors or honors may follow the requirements in effect when they were accepted into the program, or the requirements as set out below.

Major Program

(120 credit hours)

All students must complete lower and upper division requirements plus additional courses as specified in either the molecular biology stream or biochemistry stream as indicated below. Students are expected to declare their intended stream when declaring their molecular biology and biochemistry major.

Lower Division Core Requirements

(52-53 credit hours)

Students must complete all of
BISC 101-4 Introduction to Biology
BISC 102-4 Introduction to Biology
BISC 202-3 Genetics
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
CHEM 215-4 Introduction to Analytical Chemistry
CHEM 281-4 Organic Chemistry I
CHEM 282-2 Organic Chemistry II
CHEM 286-2 Organic Chemistry Laboratory II
MBB 221-3 Cell Biology and Biochemistry
MBB 222-3 Molecular Biology and Biochemistry

and one of
CMPT 101-4 Introduction to Computer Programming
CMPT 102-3 Introduction to Scientific Computer Programming
CMPT 110-3 Event-Driven Programming in Visual Basic
and one of
MATH 151-3 Calculus I
MATH 154-3 Calculus II for the Biological Sciences*
and one of
MATH 152-3 Calculus II
MATH 155-3 Calculus II for the Biological Sciences*
and one of
PHYS 101-3 General Physics I
PHYS 120-3 Modern Physics and Mechanics
and one of
PHYS 102-3 General Physics II
PHYS 121-3 Optics, Electricity and Magnetism

**Recommended Course**
MATH 251-3 Calculus III

*Note: Asterisk-marked alternatives are possible only for those who transferred to molecular biology and biochemistry from another program. Students who declared (or intend to declare) an MBB major or honors should not register for these alternate courses.

**Upper Division Core Requirements**
(24 credit hours)
Students must complete all of
BISC 331-3 Molecular Biology
CHEM 360-3 Chemical Kinetics and Thermodynamics
MBB 308-2 Molecular Biology and Biochemistry Laboratory I
MBB 309-2 Molecular Biology and Biochemistry Laboratory II
MBB 321-3 Intermediary Metabolism
MBB 322-3 Molecular Physiology
and one of
BISC 432-4 Advanced Molecular Biology Techniques
BISC 457-3 Plant Molecular Biology and Biotechnology
and one of
MATH 310-3 Introduction to Ordinary Differential Equations
STAT 302-3 Analysis of Experimental and Observational Data

**Upper Division Streams**
In addition to the lower and upper division cores, students must complete all of the requirements in one of the two streams listed below.

**Molecular Biology Stream**
(15-18 credit hours)
Students must complete two of
MBB 403-3 Physical Biochemistry
MBB 412-4 Enzymology
MBB 421-3 Nucleic Acids
MBB 422-3 Biomembranes
MBB 423-3 Protein Structure and Function
MBB 426-3 Immunology
plus one of
BISC 302-3 Genetic Analysis
BISC 303-3 Microbiology
BISC 405-3 Cell Physiology
plus one of
BISC 333-3 Developmental Biology
BISC 402-3 Molecular Genetics
MBB 435-3 Genomic Analysis
plus one of
BISC 305-3 Animal Physiology
BISC 400-3 Evolution
BISC 439-3 Industrial Microbiology
BISC 453-3 Advanced Developmental Biology
MBB 491-5 Undergraduate Research
or with permission of the undergraduate advisor, one of the following
BISC 471-3 Special Topics in Biology
BISC 472-3 Special Topics in Biology
BISC 473-3 Special Topics in Biology
MBB 4xx-3 another 400 level molecular biology and biochemistry course

**Biochemistry Stream**
(15-17 credit hours)
Students must complete all of
MBB 403-3 Physical Biochemistry
MBB 412-4 Enzymology
MBB 413-2 Physical Biochemistry Laboratory
plus two of
CHEM 333-3 Inorganic Chemistry of Biological Processes
MBB 420-3 Selected Topics in Contemporary Biochemistry
MBB 421-3 Nucleic Acids
MBB 422-3 Biomembranes
MBB 423-3 Protein Structure and Function
MBB 426-3 Immunology
MBB 491-5 Undergraduate Research

In addition to the above, students must complete enough electives to bring their total number of credits to 120. Of these 120 credits:
• 44 must be upper division
• 12 must be from outside the Faculty of Science, fulfilled as follows: six credit hours from the Faculty of Arts (excluding EDUC 401-406); at least three CMPT credit hours (lower division core requirements fulfill this requirement by stipulating that students take one of CMPT 101, 102 or 110); three credit hours of electives (note that Faculty of Applied Sciences courses, including kinesiology courses, may be used).

In addition, students should consult the Bachelor of Science regulations in Faculty of Science. See “Requirements for Major” on page 191.

Although many variations are possible, those with BC high school chemistry 12, mathematics 12 and physics 12 (or equivalents) might take the following typical program.

**Levels 1 and 2**
BISC 101-4 and 102-4
CHEM 121-4, 122-2 and 281-4
MATH 151-3 and 152-3
PHYS 120-3 and 121-3

Total 30 credit hours

**Levels 3 and 4**
BISC 202-3
CHEM 126-2, 282-2, 286-2 and 215-4
CMPT 101-4, 102-3 or 110-3
MBB 221-3 and 222-3
6 hours of electives

Total 28-29 credit hours

**Levels 5 and 6**

BISC 331-3
CHEM 360-3
MATH 310-3 or STAT 302-3
MBB 308-3, 309-3, 321-3 and 322-3
MBB 432-2 or BISC 457-3
9 hours of electives

Total 33 credit hours

**Levels 7 and 8**
Requirements of one stream (15-18 credit hours)
11-16 credit hours of electives

Total 29-31 credit hours

**Joint Major in Molecular Biology and Biochemistry and Business Administration**
This program offers in-depth combined training that is pertinent to development and administration in emergent biotechnology enterprises. Molecular biology and biochemistry form the scientific and technological underpinnings of today’s burgeoning biotechnology field while business administration enables the student in the fundamentals of economics, management, marketing, investment and business law.

Students will take most of the required course work in both the Department of Molecular Biology and Biochemistry (MBB) and the Faculty of Business Administration (FBA). Upon program completion, students will graduate with a Bachelor of Science degree from the Faculty of Science.

The program requires 70 credit hours in MBB related courses and 50 credit hours in BUS related ones. Hence, there is little flexibility in curriculum scheduling.

Students are strongly encouraged to participate in the Co-operative Education Program in which practical rotations in MBB and FBA will be available.

**Lower Division Molecular Biology and Biochemistry Requirements**

Students must complete all of
BISC 101-4 General Biology
BISC 102-4 General Biology
BISC 202-3 Genetics
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-4 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
MBB 221-3 Cellular Biology and Biochemistry
MBB 222-3 Molecular Biology and Biochemistry
and one of
MATH 151-3 Calculus I
MATH 154-3 Calculus II 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

**Lower Division Business Administration Requirements**

Students must complete all of
BUSC 232-3 Elementary Economic and Business Statistics I
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 106-3 Principles of Macroeconomics
and one three-credit ENGL or PHIL course.

**Upper Division Molecular Biology and Biochemistry Requirements**

Students must complete all of
BISC 303-3 Microbiology
BISC 331-3 Molecular Biology
MBB 300-1 Special Topics in Biotechnology and Business
MBB 308-3 Molecular Biology and Biochemistry Laboratory I
MBB 309-3 Molecular Biology and Biochemistry Laboratory II
MBB 321-3 Intermediary Metabolism
MBB 322-3 Molecular Physiology
and one of
BISC 457-3 Plant Molecular Biology and Biotechnology
MBB 432-3 Advanced Molecular Biology Techniques
and one of
MBB 423-3 Protein Structure and Function
MATH 152-3 Calculus II
and one of
MATH 154-3 Calculus I for the Biological Sciences
MATH 151-3 Calculus I
and one of
MBB 221-3 Cell Biology and Biochemistry
CHEM 282-2 Organic Chemistry II
CHEM 281-4 Organic Chemistry I
CHEM 126-2 General Chemistry Laboratory II
CHEM 121-4 General Chemistry and Laboratory I
Students must complete all of
Lower Division Requirements
(56-60 credit hours minimum)

Honors Program
(132 credit hours)
Admission to the honors program requires a minimum CGPA of 3.0 and permission of the molecular biology and biochemistry undergraduate advisor. In addition to the major program requirements, MBB honors students must complete one of the following individual study semester options.

MBB 493-15 Individual Study Semester (Option B)
or both of
MBB 491-5 Undergraduate Research
MBB 492-10 Individual Study Semester (Option A) **
**This may be accomplished by breaking the individual study semester project into two consecutive semesters. If MBB 491 has already been taken to satisfy the major program requirements, then students must complete one other course selected from the appropriate list in either the molecular biology stream or the biochemistry stream, in addition to MBB 492, to satisfy honors requirements.

Students must take 12 credit hours outside the Faculty of Science (including six hours in the Faculty of Arts, but excluding EDUC 401 to 406) and at least 60 upper division credit hours. See “Requirements for Major” on page 191.

Minor Program
(56-60 credit hours minimum)
Lower Division Requirements
(42 credit hours minimum)
Students must complete all of
BISC 101-4 General Biology
BISC 102-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
CHEM 281-4 Organic Chemistry I
CHEM 282-2 Organic Chemistry II
CHEM 286-2 Organic Chemistry Laboratory II
MBB 221-3 Cell Biology and Biochemistry
MBB 222-3 Molecular Biology and Biochemistry
and one of
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

Upper Division Business Administration Requirements
BUEC 333-3 Elementary Economic and Business Statistics II
BUS 303-3 Business, Society and Ethics
BUS 312-4 Introduction to Finance
BUS 343-3 Introduction to Marketing
BUS 389-3 Business Communication
BUS 393-3 Commercial Law
BUS 477-4 New Venture Planning

and one of
BUS 347-3 Consumer Behavior
another marketing course
and one of
BUS 374-3 Organization Theory
BUS 381-3 Introduction to Human Resource Management

Upper Division Requirements
(14-18 credit hours)

Students must complete five upper division MBB courses (plus any lower division prerequisites) excluding MBB 492 and 493. BISC 331 can also be included as an upper division MBB course.

Co-operative Education Program
Molecular biology and biochemistry majors and honors may apply to the science co-operative education program which includes up to five work semesters during the normal academic program. See “Co-operative Education” on page 216.

Physical Geography Program
7123 Robert C. Brown Hall, (604) 291-3321 Tel,
(604) 291-5841 Fax, www.sfu.ca/geography
Adviser
Ms. H. Jones, 7124 Robert C. Brown Hall,
(604) 291-4128

The Department of Geography offers a program within the Faculty of Science leading to a bachelor of science degree with a major or honors in physical geography. Students interested in a bachelor of arts in geography should see “Department of Geography” on page 154 in the Faculty of Arts section.

Requirements for the bachelor of science in physical geography are set out below.

Students should contact the advising committee to plan the course work for recommended options: biogeography, climatology or geomorphology.

Major Program
Lower Division Requirements
(total required hours 52)

Required Geography Courses
GEOG 100-3 Human Geography
GEOG 111-3 Physical Geography

Required Faculty of Science Courses
BISC 101-4 General Biology
BISC 102-4 General Biology
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 126-2 General Chemistry Laboratory II
CHEM 281-4 Organic Chemistry I
CHEM 282-2 Organic Chemistry II
CHEM 286-2 Organic Chemistry Laboratory II
and one of
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

Required Geography Courses — 300 Level
three of
GEOG 311-4 Hydrology I
GEOG 313-4 Geomorphology II
GEOG 314-4 Climatology II
GEOG 315-4 Regional Ecosystems
GEOG 316-4 Ecosystem Biogeochemistry
GEOG 317-4 Soil Science I
one of
GEOG 322-4 World Resources
GEOG 323-4 The Dynamics of Industrial Location and Regional Development
GEOG 324-4 Geography of Transportation
GEOG 325-4 Geography of Service Activities
GEOG 327-4 Geography of Tourism and Outdoor Recreation
GEOG 362-4 Geography of Urban Development
GEOG 369-4 Human Microgeography
GEOG 375-4 Historical Geography I
GEOG 381-4 Political Geography
GEOG 382-4 Population Geography
GEOG 383-4 Regional Development and Planning I
GEOG 385-4 Food Production and the Environment
GEOG 386-4 Geography, Health and Health Care
GEOG 387-4 Geography and Gender
GEOG 389-4 Human Ecology: Human Relations to Nature
one of
GEOG 301-4 Geographic Ideas and Methodology
GEOG 351-4 Cartography II
GEOG 352-4 Methods in Spatial Analysis II
GEOG 353-4 Remote Sensing
GEOG 354-4 Introduction to Geographic Information Systems
GEOG 355-4 Technical Issues in Geographic Information Systems
GEOG 356-4 Cognitive Cartography 20 credit hours

Required Geography Courses — 400 Level
two of
GEOG 411-4 Hydrology II
GEOG 412-4 Glacial Processes and Environments
GEOG 413-4 Geomorphology III
GEOG 414-4 Climatology III
GEOG 415-4 Advanced Biogeography
GEOG 416-4 Pleistocene Geography
GEOG 417-4 Soil Science II
plus eight additional hours of upper division courses from any 300 or 400 level courses in geography 16 credit hours

Faculty of Science Courses
Students must complete a minimum of nine semester hours from 300-400 division BISC, CHEM, EASC, MASC, MATH, MBB, NUSC, PHYS and STAT courses. 9 credit hours

A student must take 44 upper division credit hours (excluding EDUC 401, 402, 405 and 406), and additional credit in any courses (excluding EDUC 401, 402, 405 and 406) to bring the total to 120 credit hours. See “Requirements for Major” on page 191.

Honors Program
This program is the same as the major except that it must include a minimum of 60 credit hours of 300-400 division courses, of which 48 must be in geography or other closely related Faculty of Science subjects
Department of Physics


Chair
M. Plischke BSc (Montr), MPhil (Yale), PhD (Yeshiva)

Professors Emeriti
A.S. Arrott BS (Carnegie Tech), MS (Penn), PhD (Carnegie Tech)
J.F. Cochran BSc, MSc (Br Col), Phd (Ill)
K. Colbow BSc, MSc (McM), PhD (Br Col)
A.E. Curzon BSc (Lond), MSc (Leeds), PhD (Lond), ARCS, DIC
S. Gygax Dipl Phys, PhD (Zür)
D.J. Huntley BASc, MASC (Br Col), DPhil (Ox)
J.C. Irwin BASc, PhD (Br Col)
S.R. Morrison BA, MA (Br Col), PhD (Penn)
L.H. Palmer AA (Sacramento), AB, PhD (Calif)
K.E. Rieckhoff BSc, MSc, PhD (Br Col)
K.S. Viswanathan BSc (Madr), MA, PhD (Calif)
M. Worts AB, AM, PhD (Harv)

Professors
L.E. Ballentine BSc, MSc (Alta), PhD (Camb)
J.L. Bechhoefar AB (Harv), MSc, PhD (Chic)
D.H. Boal BSc, MSc, PhD (Tor)
C.R. Bolognesi BEng (McG), MEng (Car!l), PhD (Calif)*
B.P. Clayman BSc (Rensselaer), PhD (C'nell), Vice-President Research
E.D. Crozier BSc (Tor), PhD (Qa)
R.H. Enns BSc, PhD (Alta)
R.F. Fritndt BSc (Alta), PhD (Camb), PEng
B. Heinrich BSc, MSc (Charles), PhD (Czech
Acad Sc)
K.L. Kavanagh BSc (Qu), PhD (C'nell)
G. Kirzenow BSc (WAust), DPhil (Ox)
M. Plischke BSc (Montr), MPhil (Yale), PhD (Yeshiva)
M.R. Scheinfein BS (MIT), MSc, PhD (C'nell)
M.L.W. Thewalt BSc (McM), MSc, PhD (Br Col)
H.D. Trotter BSc, MSc, PhD (McG)
M. Vetterli BSc (McG), PhD (McM)
S. Watkins BSc (Qu), MSc, PhD (S Fraser)

Associate Professors
B.J. Frisken BSc (Qu), MSc (Northwestern), PhD (Br Col)
J.L. Thewalt BS, PhD (S Fraser)*

Assistant Professors
J.S. Dodge AB (Harv), MA, PhD (Stanford)
M. Hayden BEng (Sask), MASC, PhD (Br Col)
I. Herbut BSc (Belgrade), MSc, PhD (J. Hopkins)
J.E. Sonier BSc (WOm), MSc, PhD (Br Col)

Adjunct Professors
St. J. Dixon-Warren BSc (S Fraser), PhD (Tor)
B.K. Jennings BSc (Mt Allison), MSc, PhD (McM)
J. Vrbas MSc (Charles-Prague), PhD (Alta)
R.M. Wosolowsky BSc (Man), PhD (SUNY)

Associate Members
J.M. D'Auria, Chemistry
K. Delaney, Biological Sciences
D. E. Nelson, Archaeology
E.M. Voigt, Chemistry***

Senior Lecturers
N. Alberding BSc (WOm), PhD (ill)
M. Chen BSc (China), MA, PhD (CUNY)

Advisor
Dr. B. Frisken, P8456 Shrum Science Centre, (604) 291-5767

*joint appointment with biochemistry
**joint appointment with engineering science
***professor emeritus

Computer Skills
Computing skills such as those obtained in CMPT 101 or 102 will be expected of students entering the second year Physics courses. The department recognizes that some students become proficient in a high-level programming language such as those taught in CMPT 101 and 102 through self-study. Such individuals should “Course Challenge” on page 41.

Applied Physics Major Program
This program, leading to a BSc degree, offers a solid background in physics combined with the applied aspects of physics necessary for students planning careers in high technology industries. Students should enrol in the co-op program to acquire valuable industrial experience.

Lower Division Requirements
Students must complete all of the following.
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 128-2 General Chemistry Laboratory II
CMPT 150-3 Introduction to Computer Design
CMPT 250-3 Introduction to Computer Architecture
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus III
MATH 252-3 Vector Calculus
PHYS 120-3 Modern Physics and Mechanics
PHYS 121-3 Optics, Electricity and Magnetism
PHYS 131-2 Physics Laboratory I
PHYS 211-3 Intermediate Mechanics
PHYS 221-3 Intermediate Electricity and Magnetism
PHYS 233-2 Physics Laboratory II
PHYS 234-3 Computers in Physics Laboratory
PHYS 285-3 Introduction to Relativity and Quantum Mechanics

Physics Major Program
This program offers a solid physics background with the opportunity to branch out into other disciplines.

Physics Major Program
This program leads to a BSc degree, offers a solid background in physics combined with the applied aspects of physics necessary for students planning careers in high technology industries. Students should enrol in the co-op program to acquire valuable industrial experience.

Lower Division Requirements
Students must complete all of the following.
CHEM 121-4 General Chemistry and Laboratory I
CHEM 122-2 General Chemistry II
CHEM 128-2 General Chemistry Laboratory II
CMPT 150-3 Introduction to Computer Design
CMPT 250-3 Introduction to Computer Architecture
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 232-3 Elementary Linear Algebra
MATH 251-3 Calculus III
MATH 252-3 Vector Calculus
PHYS 120-3 Modern Physics and Mechanics
PHYS 121-3 Optics, Electricity and Magnetism
PHYS 131-2 Physics Laboratory I
PHYS 211-3 Intermediate Mechanics
PHYS 221-3 Intermediate Electricity and Magnetism
PHYS 233-2 Physics Laboratory II
PHYS 234-3 Computers in Physics Laboratory
PHYS 285-3 Introduction to Relativity and Quantum Mechanics

Upper Division Requirements
Core
MACM 316-3 Numerical Analysis I
MATH 310-3 Introduction to Ordinary Differential Equations
PHYS 324-3 Electromagnetics
PHYS 326-3 Electronics and Instrumentation
PHYS 331-3 Electronics Laboratory
PHYS 332-3 Optics Laboratory
PHYS 344-3 Thermal Physics
PHYS 355-3 Optics
PHYS 385-3 Quantum Physics
PHYS 430-5 Digital Electronics and Interfacing

either all of
NUSC 341-3 Introduction to Radiochemistry
NUSC 342-3 Introduction to Nuclear Science
NUSC 346-2 Radiochemistry Laboratory
or three of
PHYS 365-3 Semiconductor Device Physics
PHYS 431-4 Advanced Physics Laboratory I
PHYS 455-3 Applied Optics
PHYS 465-3 Solid State Physics

Non-Science Electives
Students must complete a minimum of six credit hours of electives from the Faculty of Arts.

In addition, students must take sufficient unspecified courses to complete 44 credit hours of upper division credit in the program of study. Students must take sufficient unspecified courses in any division to complete a minimum of 120 credit hours total credit.

APPLIED PHYSICS MAJOR PROGRAM

Physics Major Program
This program offers a solid physics background with the opportunity to branch out into other disciplines.

Physics Major Program
This program offers a solid physics background with the opportunity to branch out into other disciplines.

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 Modern Physics and Mechanics
- PHYS 121-3 Optics, Electricity and Magnetism
- PHYS 131-2 Physics Laboratory I
- PHYS 211-3 Intermediate Mechanics
- PHYS 221-3 Intermediate Electricity and Magnetism
- PHYS 233-2 Physics Laboratory II
- PHYS 234-3 Computers in Physics Laboratory
- PHYS 285-3 Introduction to Relativity and Quantum Mechanics
- PHYS 326-3 Electronics and Instrumentation
- PHYS 331-3 Electronics Laboratory
- PHYS 332-3 Optics Laboratory
- PHYS 344-3 Thermal Physics
- PHYS 355-3 Optics
- PHYS 384-3 Methods of Theoretical Physics I
- PHYS 385-3 Quantum Physics
- PHYS 395-3 Digital Electronics and Interfacing
- PHYS 431-4 Advanced Physics Laboratory I
- PHYS 465-3 Solid State Physics
- and 12 additional credit hours chosen from
  - ENSC 426-4 High Frequency Electronics
  - ENSC 495-3 Introduction to Microelectronic Fabrication
  - MACM 316-3 Numerical Analysis I
  - PHYS 455-3 Applied Optics
  - and one of
    - CHEM 340-3 Materials Chemistry
    - ENSC 330-3 Engineering Materials
  - and one of
    - MACM 316-3 Numerical Analysis I
    - PHYS 395-3 Computational Physics

**Non-science Electives**

Students must complete a minimum of six credit hours outside the Faculty of Science (excluding EDUC 401 to 407), including six hours from the Faculty of Arts.

In addition to specified courses above, students select sufficient unspecified courses in any division to complete a total of 132 credit hours, of which 60 must be in upper division courses in the field of study. Note: The normal prerequisite for this course (ENSC 222) can be replaced by PHYS 326 and 331.

**Physics Honors Program**

This program gives students into an in-depth understanding of basic physics so they will be prepared to significantly contribute to high technology industries where well developed experimental skills, contemporary computing skills and state-of-the-art instrumentation experience is required. An honors physics degree is generally required for post-graduate physics study and closely related disciplines. A grade average of B or higher is required to graduate.

**Lower Division Requirements**

Requirements are the same as for physics major program.

**Upper Division Requirements**

- MATH 310-3 Introduction to Ordinary Differential Equations
- MATH 322-3 Complex Variables
- plus one more MATH course numbered 316 or greater (including MACM 316) all of
  - PHYS 326-3 Electrons and Instrumentation
  - PHYS 331-3 Electronics Laboratory
  - PHYS 332-3 Optics Laboratory
  - PHYS 344-3 Thermal Physics
  - PHYS 355-3 Optics
  - PHYS 384-3 Methods of Theoretical Physics I
  - PHYS 385-3 Quantum Physics
  - PHYS 413-3 Advanced Mechanics
  - PHYS 415-3 Quantum Mechanics
  - PHYS 425-3 Electromagnetic Theory
  - PHYS 431-4 Advanced Physics Laboratory I
  - PHYS 445-3 Statistical Physics
  - At least 11 credit hours to be chosen from
    - NUSC 485-3 Particle Physics
    - PHYS 395-3 Computational Physics
    - PHYS 430-5 Digital Electronics and Interfacing
    - PHYS 432-5 Undergraduate Honors Thesis

**Recommended Program for First Four Semesters**

**Semester I**

- CHEM 121-4 General Chemistry and Laboratory I
- MATH 251-3 Calculus I
- PHYS 121-3 Modern Physics and Mechanics
- PHYS 211-3 Intermediate Mechanics
- PHYS 221-3 Intermediate Electricity and Magnetism
- PHYS 233-2 Physics Laboratory II
- PHYS 234-3 Computers in Physics Laboratory
- PHYS 285-3 Introduction to Relativity and Quantum Mechanics
- PHYS 326-3 Electrons and Instrumentation
- PHYS 331-3 Electronics Laboratory
- PHYS 332-3 Optics Laboratory
- PHYS 344-3 Thermal Physics
- PHYS 355-3 Optics
- PHYS 384-3 Methods of Theoretical Physics I
- PHYS 385-3 Quantum Physics
- PHYS 395-3 Digital Electronics and Interfacing
- PHYS 431-4 Advanced Physics Laboratory I
- PHYS 465-3 Solid State Physics
- and 12 additional credit hours chosen from
  - ENSC 426-4 High Frequency Electronics
  - ENSC 495-3 Introduction to Microelectronic Fabrication
  - MACM 316-3 Numerical Analysis I
  - PHYS 455-3 Applied Optics
  - and one of
    - CHEM 340-3 Materials Chemistry
    - ENSC 330-3 Engineering Materials
  - and one of
    - MACM 316-3 Numerical Analysis I
    - PHYS 395-3 Computational Physics

**Non-science Electives**

Students must complete a minimum of nine credit hours outside the Faculty of Science (excluding EDUC 401 to 407), including six hours from the Faculty of Arts.

In addition to specified courses above, students select sufficient unspecified courses in any division to complete a total of 132 credit hours, of which 60 must be in upper division courses in the field of study. Note: The normal prerequisite for this course (ENSC 222) can be replaced by PHYS 326 and 331.

**Physics Honors Program**

This program gives students into an in-depth understanding of basic physics so they will be prepared to significantly contribute to high technology industries where well developed experimental skills, contemporary computing skills and state-of-the-art instrumentation experience is required. An honors physics degree is generally required for post-graduate physics study and closely related disciplines. A grade average of B or higher is required to graduate.

**Lower Division Requirements**

Requirements are the same as for physics major program.

**Upper Division Requirements**

- MATH 310-3 Introduction to Ordinary Differential Equations
- MATH 322-3 Complex Variables
- plus one more MATH course numbered 316 or greater (including MACM 316) all of
  - PHYS 326-3 Electrons and Instrumentation
  - PHYS 331-3 Electronics Laboratory
  - PHYS 332-3 Optics Laboratory
  - PHYS 344-3 Thermal Physics
  - PHYS 355-3 Optics
  - PHYS 384-3 Methods of Theoretical Physics I
  - PHYS 385-3 Quantum Physics
  - PHYS 413-3 Advanced Mechanics
  - PHYS 415-3 Quantum Mechanics
  - PHYS 425-3 Electromagnetic Theory
  - PHYS 431-4 Advanced Physics Laboratory I
  - PHYS 445-3 Statistical Physics
  - At least 11 credit hours to be chosen from
    - NUSC 485-3 Particle Physics
    - PHYS 395-3 Computational Physics
    - PHYS 430-5 Digital Electronics and Interfacing
    - PHYS 432-5 Undergraduate Honors Thesis

**Physics and Physiology Honors Program**

This challenging program, for those who enjoy physics but intend to pursue a career in life sciences, is offered jointly by the Department of Physics and the School of Kinesiology. It provides a strong physics background with enough physiology and biomechanics emphasis for biotechnology industry work, to pursue physiology, kinesiology, or biophysics graduate studies, or to attend professional programs such as medicine. Students pursuing physics graduate work must take fourth year PHYS courses beyond those specified. Medical school applicants should check entrance requirements for the school to which they apply. Participants in the program may participate in the co-operative education program.

**Lower Division Requirements**

- Students must complete all of
  - BISC 101-4 General Biology
  - CHEM 121-4 General Chemistry and Laboratory I
  - CHEM 122-2 General Chemistry Laboratory II
  - CHEM 122-2 General Chemistry Laboratory II
  - CHEM 112-2 General Chemistry II
  - KIN 105-3 Introduction to Human Physiology
Upper Division Requirements
(total 56-61 credit hours)

Core
CHEM 360-3 Chemical Kinetics and Thermodynamics

and three of
KIN 301-3 Biomechanics Laboratory
KIN 305-3 Human Physiology I
KIN 306-3 Human Physiology II
KIN 407-3 Human Physiology Laboratory
MATH 310-3 Introduction to Ordinary Differential Equations
PHYS 324-3 Electromagnetics
PHYS 326-3 Electronics and Instrumentation
PHYS 331-3 Electronics Laboratory
PHYS 384-3 Methods of Theoretical Physics I
PHYS 432-5 Undergraduate Honors Thesis*

and one of
PHYS 131-2 Physics Laboratory I
PHYS 121-3 Optics, Electricity and Magnetism

and one of
PHYS 102-3 General Physics II
PHYS 120-3 Modern Physics and Mechanics

and one of
MATH 152-3 Calculus II
MATH 151-3 Calculus I
CMPT 102-3 Introduction to Scientific Computer Programming

and one of
PHYS 384-3 Methods of Theoretical Physics I
PHYS 324-3 Electromagnetics

Notes:
(1) The prerequisite of PHYS 233 may be waived by the Department of Physics.
(2) The prerequisite of CHEM 281 may be waived by the Department of Chemistry.
(3) The prerequisite of MATH 286 may be waived by the Department of Mathematics.
(4) The prerequisite of PHYS 211 has already been taken.
(5) The prerequisite of PHYS 211 may be waived by the School of Kinesiology.

Minor Program
Students must complete a minimum of 14 credit hours from upper division physics courses numbered 300 and above, together with all the prerequisites for those courses.

Nuclear Science Courses
NUSC 442 and 485 may be counted as upper division physics courses in physics major, honors and minor programs.

Engineering Transfer Program
The Department of Physics participates in an engineering transfer program. Satisfactory program completion gains standing in the Faculty of Applied Science (Engineering) at the University of British Columbia.

Other Programs and General Notes

Chemical Physics Programs
An honors and a major program in chemical physics are offered jointly with the Department of Chemistry.

Mathematical Physics Program
This program is offered jointly with the Department of Mathematics. Entry requires permission of both departments.

Nuclear Science Minor Program
This minor program is offered jointly with the Department of Chemistry.

Co-operative Education Program
Dr. K. Kavanagh, physics co-op co-ordinator,
(604) 291-4244
Ms. M. Verity, Faculty of Science co-op co-ordinator,
(604) 291-4694

Co-operative education combines academic studies with related work experience. The student spends a four semesters off campus in study-related jobs. Arrangements for work experiences are made through the co-op co-ordinators.

Quaternary Studies Program
7226 Robert C. Brown Hall, (604) 291-3321/3232 Tel,
(604) 291-5841 Fax

Associated Faculty
T.A. Brennand, Geography
D.V. Burley, Archaeology
J.C. Clegg, Earth Sciences
J.M. D’Auria, Chemistry
J. C. Day, Resource and Environmental Management
J.C. Driver, Archaeology
K.R. Fladmark, Archaeology
B.D. Hayden, Archaeology
E.J. Hickin, Geography
D.J. Huntley, Physics
J. 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. Shuttler, Jr., Archaeology
B.C. Ward, Earth Sciences

Advisor
Dr. I. Hutchinson, 7226 Robert C. Brown Hall,
(604) 291-3232

The study of the quaternary (the last two million years of the earth's history) involves a broad group of disciplines including biology, climatology, archaeology and surficial geology. This minor program provides a quaternary studies background through course work in various disciplines offered through departments in the Faculties of Arts and Science. Students considering entry should obtain standing in the prerequisites for the courses required in this minor.

Upper Division Requirements
(13-16 credit hours)

All students must take
ARCH 311-5 Archaeological Dating and
and one of
ARCH 340-5 Zooarchaeology
ARCH 365-3 Ecological Archaeology
BISC 434-3 Paleoeology and Palynology

and one of
ARCH 438-5 Geoarchaeology
EASC 403-3 Quaternary Geology
GEOG 412-4 Glacial Processes and Environments
GEOG 416-4 Pleistocene Geography

and both of
QUAT 400-1 Seminar in Quaternary Studies
QUAT 401-1 Field School

The field school (QUAT 401) is normally held in the week following the spring final examination period.

Students who wish to count one upper division requirement for credit toward the major may substitute QUAT 403 as one of the requirements for the minor.

Department of Statistics and Actuarial Science

K10545 Shrum Science Centre, (604) 291-3803 Tel,
(604) 291-4368 Fax, www.stat.sfu.ca

Chair
C.J. Schwarz BSc, MMath (Wat), MSc, PhD (Manit)

Professor Emeritus
M.A. Stephens BSc (Brist), AM (Harv), PhD (Tor)

Professors
R.A. Lockhart BSc (Br Col), MA, PhD (Calif)
D.R. MacLean MD (Dal), LMCC, MA HealthSci (Tor)*
R.D. Routledge BSc (Qu), MSc (Alta), PhD (Dal)

Associate Professors
C.B. Dean BSc (Sask), MMath, PhD (Wat)
K.L. Weldon BSc, MSc (Tor), PhD (Stan)

Assistant Professors
R. Balshaw BSc, MSc (Manitoba), PhD (S Fraser)
J. Spinelli BSc, MSc, PhD (S Fraser)
ACMA 315-3 Credibility Theory and Loss Distributions

at least four of

STAT 280-3 Applied Probability Models

STAT 270-3 Introduction to Probability and Statistics

ACMA 310-3 Mathematics of Compound Interest

all of

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 320-3 Actuarial Mathematics I

MACM 224-3 Elementary Linear Algebra

STAT 270-3 Introduction to Probability and Statistics

ACMA 315-3 Credibility Theory and Loss Distributions

or any of the courses listed in the honors option (see “Actuarial Science Honors Program” on page 211).

To satisfy Faculty of Science requirements, students must complete additional upper division credit to bring the upper division total to 44 credit hours. Job practicum courses, STAT 301 or STAT 302 may not be used to fulfill this requirement. Under University regulations, students must complete at least 120 credit hours to receive the major degree.

**Actuarial Science Honors Program**

Under University regulations, an honors requires completion of 60 upper division credit hours in courses number 300 and above, including at least 50 upper division credit hours in the honors program, and completion of at least 132 credit hours. Honors students must achieve a 3.0 graduation GPA.

Unless otherwise stipulated, students must have a grade of C or better in prerequisites for courses labelled ACMA.

For honors, students must complete the following upper division requirements in addition to the lower and upper division requirements for the major program as specified above.

**Lower Division Requirements**

ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 251-3 Calculus III
MATH 232-3 Elementary Linear Algebra
STAT 270-3 Introduction to Probability and Statistics

ACMA 320-3 Actuarial Mathematics I

ACMA 310-3 Mathematics of Compound Interest

ACMA 355-3 Graduation of Life Tables
ACMA 425-3 Actuarial Mathematics II
ACMA 445-3 Survival Models
ACMA 455-3 Mathematics of Demography

at least one of

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 ACMA, MATH, MACM, or STAT courses toward both the certificate in actuarial mathematics and for the mathematics program, subject to any restrictions in the mathematics program. Students in a statistics honors, major or minor program may count these ACMA or STAT courses toward both the certificate in actuarial mathematics and for the statistics program.

Degree holders may receive waivers and/or transfer credits. In all cases, students must take a minimum of nine courses while in the certificate program. At least six courses must be taken at SFU, of which a minimum of four must be ACMA courses.

**Actuarial Science Major Program**

Unless otherwise stipulated, students must have a grade of C or better in prerequisites for courses labelled ACMA.

Students will be required to obtain credit for the following courses.

**Lower Division Requirements**

ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 251-3 Calculus III
MATH 232-3 Elementary Linear Algebra
STAT 270-3 Introduction to Probability and Statistics

ACMA 320-3 Actuarial Mathematics I

ACMA 310-3 Mathematics of Compound Interest

ACMA 355-3 Graduation of Life Tables
ACMA 425-3 Actuarial Mathematics II
ACMA 445-3 Survival Models
ACMA 455-3 Mathematics of Demography

at least four of

ACMA 315-3 Credibility Theory and Loss Distributions

or any of the courses listed in the honors option (see “Actuarial Science Honors Program” on page 211).

To satisfy Faculty of Science requirements, students must complete additional upper division credit to bring the upper division total to 44 credit hours. Job practicum courses, STAT 301 or STAT 302 may not be used to fulfill this requirement. Under University regulations, students must complete at least 120 credit hours to receive the major degree.

**Actuarial Science Honors Program**

Under University regulations, an honors requires completion of 60 upper division credit hours in courses number 300 and above, including at least 50 upper division credit hours in the honors program, and completion of at least 132 credit hours. Honors students must achieve a 3.0 graduation GPA.

Unless otherwise stipulated, students must have a grade of C or better in prerequisites for courses labelled ACMA.

For honors, students must complete the following upper division requirements in addition to the lower and upper division requirements for the major program as specified above.

**Lower Division Requirements**

ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 251-3 Calculus III
MATH 232-3 Elementary Linear Algebra
STAT 270-3 Introduction to Probability and Statistics

ACMA 320-3 Actuarial Mathematics I

ACMA 310-3 Mathematics of Compound Interest

ACMA 355-3 Graduation of Life Tables
ACMA 425-3 Actuarial Mathematics II
ACMA 445-3 Survival Models
ACMA 455-3 Mathematics of Demography

at least four of

ACMA 315-3 Credibility Theory and Loss Distributions

or any of the courses listed in the honors option (see “Actuarial Science Honors Program” on page 211).

To satisfy Faculty of Science requirements, students must complete additional upper division credit to bring the upper division total to 44 credit hours. Job practicum courses, STAT 301 or STAT 302 may not be used to fulfill this requirement. Under University regulations, students must complete at least 120 credit hours to receive the major degree.

**Actuarial Science Honors Program**

Under University regulations, an honors requires completion of 60 upper division credit hours in courses number 300 and above, including at least 50 upper division credit hours in the honors program, and completion of at least 132 credit hours. Honors students must achieve a 3.0 graduation GPA.

Unless otherwise stipulated, students must have a grade of C or better in prerequisites for courses labelled ACMA.

For honors, students must complete the following upper division requirements in addition to the lower and upper division requirements for the major program as specified above.

**Lower Division Requirements**

ECON 103-3 Principles of Microeconomics
ECON 105-3 Principles of Macroeconomics
MATH 151-3 Calculus I
MATH 152-3 Calculus II
MATH 251-3 Calculus III
MATH 232-3 Elementary Linear Algebra
STAT 270-3 Introduction to Probability and Statistics

ACMA 320-3 Actuarial Mathematics I

ACMA 310-3 Mathematics of Compound Interest

ACMA 355-3 Graduation of Life Tables
ACMA 425-3 Actuarial Mathematics II
ACMA 445-3 Survival Models
ACMA 455-3 Mathematics of Demography

at least four of

ACMA 315-3 Credibility Theory and Loss Distributions

or any of the courses listed in the honors option (see “Actuarial Science Honors Program” on page 211).

To satisfy Faculty of Science requirements, students must complete additional upper division credit to bring the upper division total to 44 credit hours. Job practicum courses, STAT 301 or STAT 302 may not be used to fulfill this requirement. Under University regulations, students must complete at least 120 credit hours to receive the major degree.
Management and Systems Science Major Program

- Under program and University regulations a general degree requires a minimum of 44 upper division credits in courses numbered 300 and above, completion of at least 120 credit hours, and completion of the major program.
- Six elective credit hours must be completed in courses taken from outside the Faculty of Business Administration, School of Computing Science, Departments of Economics, Mathematics, and the Department of Statistics and Actuarial Science.
- Completion of all lower and upper division courses shown below is required. However, students should be aware of the requirements for entrance into business administration, computing science and economics courses. Contact those departments for further information.

Lower Division Requirements

Business Administration
- one of
  - BUS 207-3 Managerial Economics
  - ECON 301-5 Intermediate Microeconomic Theory
  - plus all of
  - BUS 251-3 Financial Accounting I Computing Science
  - BUS 272-3 Behavior in Organizations

Computing Science
- CMPT 100-3 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
- MACM 101-3 Discrete Mathematics I
- MACM 201-3 Discrete Mathematics II

Mathematics and Statistics
- MATH 151-3 Calculus I
- MATH 152-3 Calculus II
- MATH 232-3 Elementary Linear Algebra
- MATH 251-3 Calculus III
- STAT 270-3 Introduction to Probability and Statistics

Upper Division Requirements

For the BSc degree in management and systems science, all of the upper division courses listed below are required.

Students must take a minimum of 34 upper division credit hours, such that at least nine are taken from each of the groups under business administration (excluding ECON 301), computing science, and mathematics and statistics. Those credit hours taken beyond 34 can be applied to other major or minor programs. Only one of ECON 301 and BUS 207 is required for the Management and Systems Science major program.

Business Administration
- BUS 343-3 Introduction to Marketing
- BUS 364-3 Information Systems in Organization and Society
- BUS 473-4 Operations Management

Computing Science
- CMPT 305-3 Computer Simulation and Modelling
- CMPT 307-3 Data Structures and Algorithms
- CMPT 354-3 Database Systems I
- CMPT 370-3 Information System Design

Economics
- one of
  - BUS 207-3 Managerial Economics
  - ECON 301-5 Intermediate Microeconomic Theory

Mathematics and Statistics
- MATH 308-3 Linear Programming
- MATH 343-3 Applied Discrete Mathematics
- MATH 408-3 Discrete Optimization
- STAT 330-3 Introduction to Statistical Inference

Management and Systems Science
- MATH 480-3 Undergraduate Seminar in Management and Systems Science

Students should note the prerequisites for these courses.

Note: BUEC 232, BUEC 333 and ECON 331 will not be accepted towards the 120 or 132 hours required for the MSSC major or honors degree.

Management and Systems Science Honors Program

- Under University regulations, an honors degree requires completion of a minimum of 60 upper division credit hours in courses numbered 300 and above, including at least 50 upper division credit hours in the honors program, and completion of at least 132 credit hours. Honors students require a graduation 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.
  - both of CMPT 405-3 Design and Analysis of Computing Algorithms
  - STAT 350-3 Linear Models in Applied Statistics

For major or honors, the following upper division courses are recommended.

- BUS 312-4 Business Finance
- BUS 488-3 Human Relations in Business
- BUEC 396-3 The Structure of Industry

In addition to the requirements a), b) and c) for a major, candidates for an honors degree in statistics will be required to complete:

Statistics Honors Program

A bachelor of science with honors in statistics requires 132 credit hours. Please “Requirements for Major” on page 191 for further breadth, upper division credit, and other requirements.

In addition to the requirements a), b) and c) for a major, candidates for an honors degree in statistics will be required to complete:

Statistics Minor Program

Candidates for a minor in statistics are subject to the general regulations of the faculty in which they are registered. In addition, students will be required to obtain credit for the following courses.
Mathematics Requirements
Students must complete one of
MATH 151-3 Calculus I
MATH 154-3 Calculus I for the Biological Sciences
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
STAT 350-3 Linear Models in Applied Statistics*
STAT 380-3 Introduction to Stochastic Processes
STAT 402-3 Generalized Linear and Nonlinear Modelling

Co-operative Education
Students are strongly advised to participate in the Co-operative Education program. Please see "Co-operative Education" on page 216.
Continuing Studies

1300 Lohn Building, West Mall Complex, (604) 291-5100 Tel, (604) 291-3851 Fax, www.sfu.ca/continuing-studies

Simon Fraser University at Harbour Centre, 515 West Hastings Street, Vancouver V6B 5K3, (604) 291-5100 Tel, (604) 291-5098 Fax, www.sfu.ca/continuing-studies

Centre for Distance Education, 1300 Lohn Building, West Mall Complex, (604) 291-3524 Tel, 1-800-663-1411 (toll free within BC), (604) 291-4984 Fax, www.sfu.ca/cde

Dean
J.C. Yerbury BEd, MA, PhD (S Fraser)
Associate Dean
A. Cowan BA (Tor), MA (Car)
A. Aberbach BA (Rutgers), MA (Miami), PhD (Florida), Program Director, Opera Studies and Seniors Program
V. Adams, Program Director, Program for the Non-profit and Voluntary Sector
J. Bearg BA (Tor), Program Director, Writing and Publishing Program
D. Bell BEd (Alta), MEd (Br Col), Program Director, Community Education Program
S. Burgess BBA (S Fraser), MBA (Br Col), Program Director, Business Programs
J. Collinge BA, MA, PhD (S Fraser), Director, Centre for Distance Education
A. Cowan BA (Tor), MA (Car), North Growth Management Director of Programs, Wosk Centre for Dialogue, Associate Director, Canadian Centre for Studies in Publishing
J. Cowan BA, PhD (Br Col), Program Director, Distance Education
C. Dunlop BA (Middlebury), MSc, PhD (Br Col), Program Director, Project Evaluation
P. Gallaugher BSc, DipEd (Br Col), PhD (S Fraser), Program Director, Science Programs
L. Goodall BA (Calg), Manager, Administration
J. Hsu MA (Kansas), Associate Program Director, Interpreter and Translation Programs
A.D. Hungerford BA, MA (S Fraser), Laboratory Instructor
C. Joyner BEd, MA (McGill), PhD (SAIDI, Philippines), Program Director, International Programs
C. Knight, Program Director, Information
W. Liu BA (Nankai), BA (Tenn), Program Director, Interpreter and Translation Programs
K. McCaughan BA (Guelph), BSc (McM), MEd (Brock)
R. McTavish BA, Program Director, Distance Education
T. Nesbit BA (Open), MA (San Francisco State), PhD (Br Col), Director, Centre for Integrated and Credit Studies
J. Oberlander BA (Smith College), MS (Col), Program Director, City Program
N. Petersen BA (S Fraser), Director, Centre for Community and Professional Programs; Program Director, Professional Programs
R. Price BGS, MA (S Fraser), Program Director, Integrated Studies Program
P. Southby, Program Director, Conference Services
Y. Tabin BGS, MA (S Fraser), Associate Director/Program Director, Distance Education
D. Tiefensee BA, MA (Br Col), PhD (S Fraser), Program Director, English Language and Culture Program
J. Whately BA (Chapman Colli), MA, PhD (S Fraser), Program Director, Distance Education
Y. Wosik BA (Br Col), MA (Yeshiva, NY), PhD (W Lyon), PhD (Boston), Program Director, Interdisciplinary Studies

Credit Study
Students seeking degree credit on a part time basis by either day or evening study are governed by the same regulations and privileges and follow the same admission and registration procedures as full time students. Relevant sections of this Calendar should be consulted for 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.

Certificate Programs
Program Admission Requirements
• Prospective students must apply to Simon Fraser University for admission and meet the normal admission requirements prior to undertaking a certificate program.

Program Requirements
• Students must maintain a minimum grade point average of 2.0 calculated on all courses applied to the certificate that are taken at Simon Fraser University. Duplicate courses are counted only once.

Note
• Credits applied to one certificate may be applied also to major or minor programs of a bachelor's degree under the normal regulations governing those programs but may not be applied to another Simon Fraser University certificate or diploma.

• Some of the courses have prerequisites not included in the certificate requirements. Students are responsible for satisfying the prerequisites of all courses in their programs. Prerequisite information can be found in the University calendar in the course descriptions section.

• There are program advisors in each department or faculty for the certificate programs. Students intending to pursue a certificate should consult with the program advisor.

Certificates Available
Faculty of Applied Sciences
Applied Human Nutrition (School of Kinesiology)
Computing Studies (School of Computing Science)
Health and Fitness Studies (School of Kinesiology)

Faculty of Arts
Chinese Studies (Certificate in Chinese Studies)
Criminology, General and Advanced (School of Criminology)
Family Studies (Certificate in Family Studies)
First Nations Language Proficiency (Department of Linguistics)
French Canadian Studies (Centre for Canadian Studies)
French Language Proficiency (Department of French)
Liberal Arts (Faculty of Arts)
Native Studies Research (First Nations Study Program)

Public History (Department of History)
Senior Citizens (Certificate for Senior Citizens)
Spanish Language Proficiency (Spanish Program)
Spatial Information Systems (Department of Geography)
Teaching ESL Linguistics (Department of Linguistics)
Urban Studies (Department of Geography)
Women's Studies (Department of Women's Studies)

Faculty of Education
Literacy Instruction

Faculty of Science
Actuarial Mathematics (Department of Mathematics and Statistics)

Integrated Studies
Two interdisciplinary, part time degree completion programs (BGS) for mid-career adults are offered through the Continuing Studies’ Centre for Integrated and Credit Studies by the Faculties of Arts and Business Administration. Courses in these Integrated Studies programs provide both the broad perspective of a liberal arts education and substantial skills in business administration. For more information, telephone (604) 291-5128, fax (604) 291-5159, e-mail cs_hc@sfu.ca, web www.sfu.ca/integrated-studies.

Post Baccalaureate Diploma Programs
Program Admission Requirements
• Completion of a recognized bachelor's degree (in any field of study) with a minimum graduation grade point average of 2.0 from a university in British Columbia or with a minimum graduation grade point average of 2.4 from a university outside of British Columbia, or equivalent.

• Students applying to the University for admission are required to meet undergraduate admission deadlines. Application forms should be accompanied by official documents and a statement of objectives in undertaking a diploma program.

Program Requirements
• Successful completion of an approved program comprised of 30 credit hours of third and fourth year courses, and some graduate courses if appropriate.

• At least 15 credit hours must be in a discipline or subject area which most closely fits the learning goals of the student.

• Minimum grade point average of 2.5 on courses applied toward the diploma.

• Completion of lower division prerequisites, if required.

• Completion of the diploma within five years of admission to the program.

Notes
• Students may complete more than one post baccalaureate diploma program.

• Students should consult with academic advisors at the Academic Resource Office (Burnaby campus) or Information and Registration Services (Harbour Centre) or with the diploma program advisor regarding availability of courses at the Burnaby campus, Harbour Centre campus, or by distance education.

• Some of the program courses have prerequisites not included in the diploma requirements. Students are responsible for satisfying the prerequisites of all courses in their programs.

• Program applicants will need to refer to the current university calendar for detailed information concerning application and registration procedures, fees, program requirements, and course descriptions.
There are program advisors in each department for that department's diploma programs.

**Transfer Credit**
- Transfer credit for work done at other institutions, before or after admission to the program, may be approved toward fulfillment of the program provided that at least 18 of the 30 required upper division credit hours, including at least nine credit hours in the student's area of concentration, be taken at Simon Fraser University.
- Transfer credit is normally only valid for approved courses taken within ten years of the diploma student's completion semester.
- Transfer credit for use toward the diploma is granted only on approval of the registrar, the appropriate faculty post baccalaureate diploma committee, and the dean of the appropriate faculty.
- Credit for work done at Simon Fraser University or transfer credit for work done elsewhere prior to admission to the program may be approved provided that at least 15 of the 30 required upper division credit hours, including at least eight credit hours in the student's area of concentration, normally be taken after admission to the program.
- Credits applied to one diploma may not be applied to another Simon Fraser University certificate or diploma or degree, and vice versa.

**Faculty of Applied Sciences**
- Communication (School of Communication)
- Computing Science (School of Computing Science)
- Kinesiology (School of Kinesiology)

**Faculty of Arts**
- Community Economic Development (Community Economic Development Program)
- Criminology (School of Criminology)
- Ethnic and Intercultural Relations (Department of Sociology and Anthropology)
- Gerontology (Gerontology Program)
- Humanities (Humanities Program)
- Public History (Department of History)

**Social Policy Issues (Department of Sociology and Anthropology)**
- Teaching English as a Second Language (Department of Linguistics)
- Urban Studies (Department of Geography)

**Faculty of Education**
- Education
- 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**
Courses leading toward a certificate, diploma or degree program are available by distance education. Students may complete programs in part and, in some cases, entirely by distance education. The following programs are available completely or in part: certificate programs in applied human nutrition, community and economic development, criminology, computing studies, ethnic and intercultural relations, health and fitness studies, liberal arts; post baccalaureate diplomas in community economic development, early childhood education, education, criminology, gerontology, social policy issues, major and/or minor degree programs in Canadian studies, criminology, education, English, gerontology, kinesiology, psychology, sociology and anthropology. In addition, courses in archaeology, biological sciences, first nations, French, geography, German, history, humanities, Japanese, linguistics, mathematics, philosophy, political science, statistics, and women's studies are currently available.

Students registering in distance education courses are governed by the same regulations and follow the same admission and registration procedures as students taking other University credit courses. Simon Fraser University students can register in day, evening or distance education courses, or a combination thereof. In most cases, students are able to transfer some course credit from other post-secondary institutions to an SFU program listed in this Calendar, subject to specific program transfer credit regulations. A booklet of courses and programs that are available by distance education, including admission and program requirements, is published each year. For more information or to receive a copy of this booklet telephone (604) 291-3524; 1-800-663-1411 (toll free in BC); e-mail cde@sfu.ca; or visit www.sfu.ca/cde.

**Off Campus Programs**
University credit courses in education applicable to the bachelor of education degree and to the post baccalaureate diploma program are available at various Interior centres. The Faculty of Education also offers the professional development program (teacher training) throughout the province. Interested students should contact the director of undergraduate programs, Faculty of Education, Simon Fraser University.

**Professional Programs for Teachers**
Credit courses in education are offered during the late afternoon and evening during fall, spring and summer semesters and in the evening from May to June (intersession) and during the day and evening from July to August (summer session). More information about this program is available from the education advisor, telephone (604) 291-3488.

**Graduate Degree Programs**
The University offers graduate degree programs through evening study in arts (graduate liberal studies program), business administration, economics, education, English, and resource and environmental management. For program information consult appropriate sections in this Calendar.

**Continuing Professional and Liberal Studies**
- Applied Sciences programs (by the Faculty of Applied Sciences)
- Business and professional programs
- Business writing programs (including technical communication, and corporate strategic communications)
- Community education programs
- Conference Services
- English language and culture programs
- Executive and management development programs
- Fellows' and professional certification programs and courses for more than fifteen associations and institutes
- Language programs
- Liberal arts and interdisciplinary programs
- Mandarin Chinese and Japanese interpreter programs/translation workshop
- Non-profit sector management programs
- Professional (creative) writing programs
- Programs for seniors
- Programs for the Wosk Centre for Dialogue Publishing programs
- Science programs
- Urban studies programs

For more information, telephone (604) 291-5100, fax (604) 291-5098, e-mail cs_hc@sfu.ca, web www.sfu.ca/cstudies/placp.htm
Co-operative Education

In-Course Application
See www.sfu.ca/coop for information. Students should attend program specific information meetings held the first and/or second week of classes, and should contact appropriate co-ordinators as early 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-operative Education office as soon as possible and must complete at least one study period before engaging in a work term. Students transferring from an approved co-op program elsewhere, and who have successfully completed work terms, can receive transfer credit for those work terms up to the point that they still must complete 50% of their degree program, including work terms, here at SFU.
Students are urged to apply to co-op as early as possible. Students may participate in recommended learning-based and employability skills workshops that improve their chances of successful employment.

Acceptance into the Program
Acceptance into the co-op employment process is based on academic performance and entry interviews where motivation, interpersonal, and communication skills are evaluated. Students must normally have 45-60 credit hours and a CGPA of at least 2.5 before participating in the co-op employment process. Some departments have additional requirements and students should check with their program of interest.

Participation in the Program
The Employment Process
Once a student is accepted into the pre-employment process portion of the program and completes the required curriculum, the student can actively engage in the employment competition. Job opportunities are identified and posted through co-op, and students may select 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. 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
• all students that are accepted are responsible for following the policies and procedures outlined in the Co-op Student Handbook that is posted on the web at www.sfu.ca/coop/handbook.html.

Operation of the Program
The co-op co-ordinators facilitate all pre-employment student preparation, negotiate work terms, meet employers to establish employer needs, and meet with students to monitor progress. They oversee job competition and visit students on the job, counsel and advise students, and deal with special problems that may arise.

Specialty Options
Students may also find or create their own opportunities, locally or abroad. Assistance is provided for those seeking their own employment and wishing to count it as a co-op term. Self-initiated jobs must be approved by the co-op program in advance of the work term, and students are required to register and pay for the appropriate co-op practicum.
International co-op opportunities continue to grow with the assistance of specialty programs such as Co-op Japan which is focussed on specific regions and the development of greater opportunities world wide. Students are encouraged to contact the international co-op liaison, Muriel Klemetski at (604) 291-4993, or their co-ordinator for more information.

Work Sequence
The work study charts on the next page show two possible work term and study semester patterns. An alternating sequence, beginning before year three, provides the best learning structure. Other combinations can be arranged to meet student and employer needs, as long as employer requirements for students in the fall and spring terms are met. Students may not end their chosen sequence on a work term. (See samples on the next page.)

Co-op Fees
Co-op is a value-added educational experience, and as such, has course registration fees. Currently, a co-op fee is charged for each four month work practicum in which the student enrolls. These fees are tax deductible. For further information, see “Undergraduate Fees” on page 47.

Graduation Requirements
Four work terms (five for the CA program) must be successfully completed for 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.)

Certificate Option
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 requirements for the co-op certificate. Certificate students do not receive recognition on their diploma, nor are they eligible for further work terms in their current program.
### Sample Work/Study Sequence

<table>
<thead>
<tr>
<th>Year</th>
<th>Semester I</th>
<th>Semester II</th>
<th>Semester III</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>September to</td>
<td>January to April</td>
<td>May to August</td>
</tr>
<tr>
<td>Year 1</td>
<td>study semester #1</td>
<td>study semester #2</td>
<td>study semester #3</td>
</tr>
<tr>
<td></td>
<td>15 credit hours</td>
<td>15 credit hours</td>
<td>15 credit hours</td>
</tr>
<tr>
<td></td>
<td>15 cumulative</td>
<td>30 cumulative</td>
<td>45 cumulative</td>
</tr>
<tr>
<td></td>
<td>credit hours</td>
<td>credit hours</td>
<td>credit hours</td>
</tr>
<tr>
<td>Year 2</td>
<td>study semester #4</td>
<td>Work term #1</td>
<td>Work term #2</td>
</tr>
<tr>
<td></td>
<td>15 credit hours</td>
<td>15 credit hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>60 cumulative</td>
<td>60 cumulative</td>
<td></td>
</tr>
<tr>
<td></td>
<td>credit hours</td>
<td>credit hours</td>
<td></td>
</tr>
<tr>
<td>Year 3</td>
<td>study semester #5</td>
<td>Work term #3</td>
<td>Work term #2</td>
</tr>
<tr>
<td></td>
<td>15 credit hours</td>
<td>15 credit hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>75 cumulative</td>
<td>90 cumulative</td>
<td></td>
</tr>
<tr>
<td></td>
<td>credit hours</td>
<td>credit hours</td>
<td></td>
</tr>
<tr>
<td>Year 4</td>
<td>study semester #7</td>
<td>Work term #3</td>
<td>Work term #4</td>
</tr>
<tr>
<td></td>
<td>15 credit hours</td>
<td>15 credit hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>105 cumulative</td>
<td>120 cumulative</td>
<td></td>
</tr>
<tr>
<td></td>
<td>credit hours</td>
<td>credit hours</td>
<td></td>
</tr>
</tbody>
</table>

### Sample Work/Study Sequence

<table>
<thead>
<tr>
<th>Year</th>
<th>Semester I</th>
<th>Semester II</th>
<th>Semester III</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>September to</td>
<td>January to April</td>
<td>May to August</td>
</tr>
<tr>
<td>Year 1</td>
<td>study semester #1</td>
<td>study semester #2</td>
<td>study semester #3</td>
</tr>
<tr>
<td></td>
<td>15 credit hours</td>
<td>15 credit hours</td>
<td>15 credit hours</td>
</tr>
<tr>
<td></td>
<td>15 cumulative</td>
<td>30 cumulative</td>
<td>45 cumulative</td>
</tr>
<tr>
<td></td>
<td>credit hours</td>
<td>credit hours</td>
<td>credit hours</td>
</tr>
<tr>
<td>Year 2</td>
<td>study semester #4</td>
<td>Work term #1</td>
<td>Work term #2</td>
</tr>
<tr>
<td></td>
<td>15 credit hours</td>
<td>15 credit hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>60 cumulative</td>
<td>60 cumulative</td>
<td></td>
</tr>
<tr>
<td></td>
<td>credit hours</td>
<td>credit hours</td>
<td></td>
</tr>
<tr>
<td>Year 3</td>
<td>study semester #5</td>
<td>Work term #3</td>
<td>Work term #2</td>
</tr>
<tr>
<td></td>
<td>15 credit hours</td>
<td>15 credit hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>75 cumulative</td>
<td>90 cumulative</td>
<td></td>
</tr>
<tr>
<td></td>
<td>credit hours</td>
<td>credit hours</td>
<td></td>
</tr>
<tr>
<td>Year 4</td>
<td>study semester #7</td>
<td>Work term #3</td>
<td>Work term #4</td>
</tr>
<tr>
<td></td>
<td>15 credit hours</td>
<td>15 credit hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>105 cumulative</td>
<td>120 cumulative</td>
<td></td>
</tr>
<tr>
<td></td>
<td>credit hours</td>
<td>credit hours</td>
<td></td>
</tr>
</tbody>
</table>
Undergraduate Semester in Dialogue

Simon Fraser University at Harbour Centre, room 5500, 515 West Hastings Street, Vancouver, BC V6B 5K3, (604) 268-7893 Tel, (604) 268-7892 Fax, www.sfu.ca/dialogue/undergrad

Director
M.L. Winston BA, MA (Boston), PhD (Kansas)

The Undergraduate Semester in Dialogue provides a unique opportunity to affirm the role of a university to educate students into productive, creative, well-balanced, thoughtful, and reflective members of society.

The full time, one semester, 15 credit Undergraduate Semester in Dialogue will provide intensive mentoring, strong emphasis on communication skills, an ability to think critically and evaluate effectively, a perspective that encourages discipline bridging, and an opportunity to learn from, and network with, stimulating and accomplished individuals from off-campus.

Each semester's program will consist of a core course (DIAL 390) that will be similar for each offering, and individual topics varying with each offering that are focussed on a subject that encourages broad interdisciplinary approaches (DIAL 391 and 392).

Admission to the program will be by application. Students should consult with their department prior to their Dialogue semester to determine the application of DIAL credit hours to fulfill major, minor or elective course requirements.

All three courses must be taken simultaneously. Prospective students should apply eight months prior to the Dialogue program in which they wish to participate. Admission decisions will be made no later than four months prior to program start. A course outline for each offering of DIAL 390, 391 and 392 will be available prior to the application deadline.

Program Admission Requirements

Students must have completed 45 credit hours prior to beginning the Dialogue program. Individual courses may have other prerequisites. Application forms, information about course content, and other information are available from the program office. These courses also are eligible to fulfill electives in post baccalaureate diploma programs.
Undergraduate Courses

**Actuarial Mathematics ACMA 219**
- Faculty of Science
- No student may take, for further credit, any course offered by the Department of Statistics and Actuarial Science which is a prerequisite for a course the student has already completed with a grade of C- or higher, without permission of the department.

**ACMA 310-3 Mathematics of Compound Interest**
- Amortization schedules and sinking funds. Bonds and other securities. Applications: real estate mortgages depreciation methods, interest rate disclosure and regulation in Canada. This course covers the interest theory portion of Course 2 of the Society of Actuaries. (3-1-0) Pre/corequisite: MATH 152 must precede or be taken concurrently.

**ACMA 315-3 Credibility Theory and Loss Distributions**
- Applications: inflation. This course covers part of the syllabus for Course 3 of the Society of Actuaries. (3-1-0) Pre/corequisite: MATH 152 must precede or be taken concurrently.

**ACMA 320-3 Actuarial Mathematics I**
- Survival distributions: age at death, life tables, fractional ages, mortality laws, select and ultimate life tables. Life insurance: actuarial present value function (apv), moments of apv, basic life insurance contracts, portfolio. Life annuities: actuarial accumulation function, moments of apv, basic life annuities. Net annual premiums: actuarial equivalence principle, loss function, accumulation type benefits. Actuarial reserves: prospective loss function, basic contracts, recursive equations, fractional durations. This course covers part of the syllabus for Course 3 of the Society of Actuaries. (3-1-0) Pre/corequisite: ACMA 310 (with a grade of C+ or higher), 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 coefficient, discrete time model, surplus below the initial level, maximal aggregate loss. Applications: claim amount distribution, stop-loss reinsurance. This course covers part of the syllabus for Course 3 and background material for Course 4 of the Society of Actuaries. Corequisite: STAT 280 must precede or be taken concurrently. (3-1-0) Corequisite: STAT 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 for Course 3 and background material for Course 4 of the Society of Actuaries. (3-1-0) Prerequisite: ACMA 320.

**ACMA 445-3 Survival Models**

**ACMA 465-3 Mathematics of Demography**

**ACMA 490-3 Selected Topics in Actuarial Science**
- The topics included in this course will vary from semester to semester depending on faculty availability and student interest. (3-0-0) Prerequisite: ACMA 310. Corequisite: ACMA 320 or permission of the Department of Statistics and Actuarial Science.

**ACMA 495-3 Directed Studies in Actuarial Science**
- Independent study and/or research in topics chosen in consultation with the supervising instructor. Prerequisite: written permission from the Department of Statistics and Actuarial Science undergraduate curriculum committee.

**Archaeology ARCH**
- Faculty of Arts
- **ARCH 100-3 Ancient Peoples and Places**
  - A broad survey of human cultural development from the late Palaeolithic/Palaeoindian 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**
ARCH 200-3 Special Topics in World Prehistory
Non-specialized introductory summaries of selected regional topics in world prehistory. Students who receive credit once for this course may not take it again for further credit. (lecture)

ARCH 201-3 Introduction to Archaeology
A survey of methods used by archaeologists to discover and interpret the past. Examples will be drawn from selected sites and cultures around the world. Students who have taken ARCH 101 may not register in ARCH 201. (lecture/tutorial)

ARCH 223-3 The Prehistory of Canada
A summary review of the pre-contact native cultures of Canada, from their beginnings to the arrival of Europeans, as revealed by archaeology. Lectures focus on how and when the first humans appeared in the land now known as Canada, and how their cultures changed over time, organized in terms of eight 'archaeological regions,' beginning with the Atlantic coast and then moving west in north. (lecture)

ARCH 226-3 The Prehistory of Religion:
Shamans, Sorcerers and Saints
Charts the emergence and changes in the expression of human religious behavior. It covers the earliest rituals of the Paleolithic, the importance of fertility cults, ancestor cults, alliance rituals, shamans, witchcraft, and monotheism. (lecture) Prerequisite: any lower division archaeology or anthropology course.

ARCH 272-3 Archaeology of the Old World
A survey of the major centres of Old World cultural development from the Paleolithic to the Bronze Age. Basic concepts used in reconstructing prehistoric cultures, and the artifactual and contextual evidence for the development of culture. (lecture/tutorial) Prerequisite: ARCH 100 or 201.

ARCH 273-3 Archaeology of the New World
A survey of prehistoric cultures of North and South America. The peopling of the New World, the rise of the pre-Columbian civilizations of Mexico and Peru, and the cultural adaptations by prehistoric populations to other parts of the New World. (lecture/tutorial) Prerequisite: ARCH 100 or 201.

ARCH 301-3 Prehistoric and Indigenous Art
Art styles and traditions of prehistoric and preliterate peoples in one or more world cultural areas. (lecture)

ARCH 311-5 Archaeological Dating
A study of various scientific methods of dating archaeological samples, including Carbon 14, thermoluminescence, obsidian-hydration, fission track, potassium-argon, magnetic, and other dating techniques. (lecture/seminar) Prerequisite: PHYS 181 or permission of department.

ARCH 321-3 Archaeology of Britain
A survey of the archaeological evidence for human occupation of the British Isles from Paleolithic to Medieval periods. This course will emphasize the interpretation of archaeological data, and for later periods, the integration of archaeological study with documentary research. (lecture) Prerequisite: ARCH 201 and 272, or permission of instructor. Students with credit for Archaeology of Britain when taken as a Special Topics course, may not take ARCH 321 for further credit.

ARCH 330-3 Prehistory of Latin America
Intensive study of the prehistoric cultures of Latin America. Emphasis will be on the development of the civilizations of prehistoric Mexico and Peru. (lecture) Prerequisite: ARCH 273.

ARCH 332-3 Special Topics in Archaeology I
This course will be offered from time to time to meet special needs of students and to make use of specializations of visiting faculty members. (lecture/seminar) Prerequisite: to be announced in the Course Timetable and Exam Schedule.

ARCH 333-3 Special Topics in Archaeology II
This course will be offered from time to time to meet special needs of students and to make use of specializations of visiting faculty members. (lecture/seminar) Prerequisite: to be announced in the Course Timetable and Exam Schedule.

ARCH 334-3 Primate Behavior
The evolution of the primate order and the ecology and behavior characterizing the different grades of primates: prosimians, monkeys, and apes. Current trends in interpreting primate behavior are emphasized. (lecture) Prerequisite: ARCH 131 or any lower division biology course.

ARCH 349-5 Management of Archaeological Collections
The philosophy, policies and practices of the care of archaeological collections. This lecture and laboratory course treats the practical problems of designing museum programs within a framework of legal responsibilities for collections. Contemporary issues such as repatriation will be discussed. (lecture/laboratory) Prerequisite: three 200 division archaeology courses.

ARCH 350-0 Practicum I
First semester of work experience in the Archaeology Co-operative Education Program. Prerequisite: normally 45 semester hours with a CGPA of 3.0 and the following courses are recommended: both ARCH 131 and 201; either ARCH 272 or 273; and three of ARCH 373, 374, 375, 376, 386, 442.

ARCH 351-0 Practicum II
Second semester of work experience in the Archaeology Co-operative Education Program. Prerequisite: normally 45 semester hours with a CGPA of 3.0 and ARCH 350.

ARCH 360-5 Native Cultures of North America
A descriptive study of the cultures of North American natives north of Mexico, as they were at initial European contact, organized on a culture area basis. Native groups in each area will be discussed in terms of languages, population estimates, early post-contact history and its impact on traditional ways of life, dominant ethnographic economic/adaptive emphases, socio-political organization, religion, ceremony and warfare. (lecture/seminar) Prerequisite: ARCH 201 and 273.

ARCH 365-3 Ecological Archaeology
Deals with the techniques for reconstruction of past environments, as well as the effect of environment on past settlements and people. Environment as considered in the course will encompass the presence of other settlements, and deal with relationships among settlements. (lecture) Prerequisite: ARCH 201.

ARCH 370-3 Western Pacific Prehistory
The exploration of prehistoric developments in the Western Pacific region, beginning with the first traces of humans, dealing with problems in the rise of civilization, and finally, tracing the voyages of the early Pacific navigators. (seminar) Prerequisite: ARCH 272.

ARCH 372-5 Material Culture Analysis
Analysis and interpretation of archaeological material culture. This lecture and laboratory course combines the practical problems of recognition and interpretation of archaeological specimens, typology, seriation, and statistical procedures with the basic principles of archaeological theory. (lecture/laboratory) Prerequisite: ARCH 201.

ARCH 373-5 Human Osteology
A detailed study of the human skeleton with emphasis on lab and field techniques. (lecture/laboratory) Prerequisite: ARCH 131.

ARCH 374-3 Prehistory of South and East Asia
Survey of prehistoric development and cultural origin(s) of Japan, China, Mainland Southeast Asia, and India. (lecture) Prerequisite: ARCH 272.

ARCH 376-5 Quantitative Methods in Archaeology
Theory, method, and operation of the application of statistical techniques to the description, classification, analysis, and interpretation of archaeological data. (lecture/seminar) Prerequisite: ARCH 201, and either STAT 203 (formerly 103) or PSYC 210.

ARCH 377-5 Historical Archaeology
An introduction to theory and method in North American historical archaeology. Laboratory instruction is provided in historic artifact analysis and interpretation. (lecture/seminar/laboratory) Prerequisite: ARCH 201 and one lower division ARCH course.

ARCH 378-3 Pacific Northwest North America
The prehistory and cultural traditions of the region. The content, antecedents, relationships, and changes in these cultures through time. Technological, 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 Archeobotany
An introduction to the recovery and analysis of macroscopic archaeological plant remains. The major methodological and interpretive issues in archeobotany will be covered, with an emphasis on plant domestication in selected regions of the world. (lecture/laboratory) Prerequisite: ARCH 201 and either 272 or 273.

ARCH 432-5 Advanced Physical Anthropology
An intensive investigation of the theory and problem areas in physical anthropology.
ARCH 433-6 Background to Field Work
Lectures cover the archaeological background and rationale for specific field research questions, the critical relationship in any field project between the research questions asked and the methods and techniques employed, and the craft of field work, including use of equipment, specific excavating, recording and cataloguing techniques, field safety and camp life. Prerequisite: normally taken concurrently with ARCH 434 and 435; ARCH 131 and 201; at least one group I course; permission of the department.

ARCH 434-3 Exercises in Mapping and Recording
A series of exercises in which the student must demonstrate the ability to apply the various recording and mapping skills covered in the course. The graded exercises are done individually and in teams, both on-campus and in the field. Prerequisite: normally taken concurrently with ARCH 433 and 435; ARCH 131 and 201; at least one group I course; permission of the department.

ARCH 435-6 Field Work Practicum
A practical application of the background knowledge and specific techniques of ARCH 433 and 434. It takes place in a research-oriented field excavation. Evaluation of student performance is based upon assessments of efficiency and accuracy of excavation techniques/recording procedures, and upon the student's overall contribution to the smooth functioning of the team. Prerequisite: normally taken concurrently with ARCH 433 and 434; ARCH 131 and 201; at least one group I course; permission of the department.

ARCH 438-5 Geoarchaeology
This course introduces the concept of archaeological sites as active constituents in natural Quaternary land-forming and land-altering systems. Lectures will focus on all processes which may have contributed to the present geomorphological contexts of archaeological sites and their sedimentary and pedological contents. (lecture) Prerequisite: ARCH 201 and either 272 or 273.

ARCH 452-5 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 361.

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 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 ASC Faculty of Arts Department of Humanities

ASC 101-3 Introduction to Asia-Canada Studies I
An introductory course on Asia-Canada interactions. It will survey various issues, both historical and contemporary, including those involving Asian-Canadians. (lecture/tutorial)

ASC 102-3 Introduction to Asia-Canada Studies II
An introductory course on Asian civilizations in three areas: East Asia, Southeast Asia and South Asia. A survey course, it is designed to cover multiple dimensions of people's lives and history in Asia. (lecture/tutorial)

ASC 200-3 Introduction to Chinese Culture
An introduction to historical and cultural perspectives on China. Topics covered will include different aspects of traditional Chinese culture with a view to understanding contemporary Chinese society. (lecture/tutorial) Prerequisite: 15 semester hours. Students who have taken GS 201 or GS 251 may not take this course for further credit.

ASC 201-3 Introduction to Japanese Culture and History
An introductory course on Japanese culture and history. It is designed for students with no Japanese background and with no Japanese speaking ability. The course will cover the basic aspects of Japan: geography, history, culture, politics, economy, etc. (lecture/tutorial) Prerequisite: 15 semester hours. Students who have taken this course as JAPN 250 may not take this course for further credit.

ASC 202-3 Studies in Chinese Culture
An introduction to Chinese art, literature or philosophy. The emphasis will be on the cultural importance of the subject covered and on its relationship to contemporary Chinese society. (lecture/tutorial) Prerequisite: 15 semester hours. Students who have taken GS 201 or GS 251 may not take this course for further credit.

ASC 205-3 Special Topics: Field Studies in Chinese Culture
This course is part of the core courses offered in the China Field School covering topics on various aspects of Chinese culture and society, from Chinese medicine, martial arts, painting and calligraphy, etc. to contemporary life and local history in the area. (tutorial) Prerequisite: 15 semester hours. Students who have taken GS 201 or 251 may not take this course for further credit.

ASC 300-3 Asians and North Americans in Public Discourse
A cross-cultural examination of the ways we perceive and represent each other in public discourse, including literature, news media, cinema, and other education and entertainment media. (seminar) Prerequisite: 45 credit hours and ASC 101 or 102 or permission of the instructor.

ASC 301-3 Asia-Canada Identities: Experiences and Perspectives
This course will explore the experience of Asian immigrants and their children, focusing in particular on social and cultural aspects. (seminar) Prerequisite: 45 credit hours and ASC 101 or 102 or permission of the instructor.

ASC 302-3 Selected Topics in Chinese Studies
Content will vary according to interests of faculty and students but will involve China-related study within one or more of the social science or humanities disciplines. (seminar) Prerequisite: 30 credit hours. Recommended: ASC 200.

ASC 303-3 Selected Topics in Japanese Studies
Content will vary according to interests of faculty and students but will involve Chinese-related study within one or more of the social science or humanities disciplines. (seminar) Prerequisite: 30 credit hours. Recommended: ASC 201.

ASC 400-3 Senior Seminar on Asia-Canada Relations
This seminar course addresses the issues raised in ASC 101 and 102 in an in-depth manner. It scrutinizes and analyses issues, dimensions, history and discourse of Asia-Canada interactions. (seminar) Prerequisite: ASC 101 or 102 and one other ASC course or permission of the instructor.

ASC 401-3 Directed Studies
Individual study. Prerequisite: ASC 101 or 102, and one ASC 300 level course and permission of the program director.

Biological Sciences BISC Faculty of Science

See also courses listed under Marine Science (MASC).

Note: Entry into courses numbered 300 and above normally requires completion of the lower division core in Biological Sciences (see Lower Division Core in the Biological Sciences section of the Calendar). Prerequisites for any course may be waived with the approval of the department.

Minimum Grade Requirement
A grade of C- or better is required on all prerequisite BISC and MBB courses.

BISC 004-3 Apiculture: An Introduction to Bees and Beekeeping
The course will stress the biology of bees as well as management for honey production, and will provide the necessary information required to begin beekeeping. Lecture topics will include basic honeybee biology, beekeeping equipment, seasonal management, and disease prevention. (3-0-1) Prerequisite: open to all students.

BISC 100-4 Introduction to Biology
An introduction to the basic concepts of biology, emphasizing evolution as a unifying theme. Topics include cell structure, mitosis and meiosis, DNA structure and function, evolution and population and ecosystem ecology. (3-1-3) Students with credit for BISC 101 or a succeeding biology course may not take BISC 100 for further credit. Students with credit for biology 12 normally will not be permitted to take this course for credit.
BISC 101-4 General Biology
This course offers an introduction to the biochemical and physiological mechanisms of living organisms. Topics covered include cell structure and function, DNA and RNA replication, and the flow of genetic information, enzyme function, metabolism and physiology of microorganisms, plants and animals. (2-1-4) Prerequisite: high school biology 12 (or equivalent) or BISC 100. BISC 101 and 102 may be taken in any order.

BISC 102-4 General Biology
The course begins by surveying the diversity of life, and its evolutionary history on earth. The student is introduced to the study of genetics, development and evolution, giving an overview of how these processes interact to produce form and function. The principles of behavior and ecological relationships of organisms to each other and their environment are also studied. (2-1-4) Prerequisite: high school biology 12 (or equivalent) or BISC 100. BISC 101 and 102 may be taken in any order.

BISC 202-3 Genetics
Principles and concepts of the transmission of genetic information treated comparatively in man, animal, plant and microbe. (3-1-0) Prerequisite: BISC 101 and 102.

BISC 204-3 Introduction to Ecology
An introduction to biotic-environmental relationships and dynamics; ecological concepts; population dynamics, variation, adaptation and evolution. (3-1-0) Prerequisite: BISC 101 and 102. Credit will not be granted for both BISC 204 and GEOG 215.

BISC 272-3 Special Topics in Biology
Selected topics in areas not currently offered within the undergraduate course offerings in the Department of Biological Sciences. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

BISC 302-3 Genetic Analysis
Discussion and manipulations of some of the organisms and techniques applicable to genetic analysis. (2-0-4) Prerequisite: BISC 202.

BISC 303-3 Microbiology
The biology of microorganisms and their significance in the understanding of cellular processes. (2-0-4) Prerequisite: MBB 221.

BISC 304-3 Animal Ecology
A study of the interrelationships of animals and their physical and biotic environment. (3-1-0) Prerequisite: BISC 204.

BISC 305-3 Animal Physiology
A comparative study of basic physiological mechanisms in invertebrates and vertebrates. (3-1-0) Prerequisite: MBB 221 and PHYS 102 with a grade of C- or better.

BISC 306-3 Invertebrate Biology
An introduction to selected invertebrate phyla with an emphasis on functional morphology, diversity and ecology. (3-0-3) Prerequisite: BISC 204.

BISC 307-3 Animal Physiology Laboratory
A laboratory course using contemporary techniques of animal physiological research. (1-1-4) Prerequisite: BISC 305 and 329.

BISC 310-3 The Natural History of British Columbia
An introduction to the natural history of British Columbia, studying the ecology, distribution, and general characteristics of organisms representative of various biotic regions of the province — terrestrial, marine or freshwater. The particular taxa and regions studies may vary between offerings. Field trips of one to four days are normally a required part of the course. (3-0-4) Prerequisite: 75 semester hours of credit including BISC 101 and 102.

BISC 316-3 Vertebrate Biology
A review of the evolution and the taxonomy of the vertebrate classes. A comparative study of their organ systems and functions with particular reference to reproduction. A comparison of the functional morphology of some species by laboratory dissections. (3-0-4) Prerequisite: BISC 101 and 102.

BISC 317-3 Insect Biology
Life histories, biometrics, comparative morphology, and classification of insects and related organisms. A collection may be required, depending on instructor. (2-0-4) Prerequisite: BISC 101 and 102.

BISC 326-3 Biology of Non-Vascular Plants
A survey of form, function and phenetics. (2-0-4) Prerequisite: BISC 101 and 102.

BISC 329-4 Introduction to Experimental Techniques
This course is designed to introduce students to basic measurement methods and instrumentation as used in modern biology. (2-0-5) Prerequisite: MBB 221 and PHYS 102 and CHEM 121 (or 115).

BISC 331-3 Molecular Biology
The study of gene structure and evolution, DNA replication, and the regulation of gene expression in bacteria and higher organisms. (3-1-0) Prerequisite: MBB 222, BISC 202. Students with credit for BISC 321 may not take this course for credit.

BISC 333-3 Developmental Biology
Classical and modern experimental approaches will be described for understanding development of embryos of several species having common and distinctive features. These approaches are at the organismal, cellular, molecular and genetic levels. (3-1-0) Prerequisite: BISC 202 and MBB 222. Students with credit for BISC 333 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.

BISC 341-0 Practicum I
First semester of work experience in the Biological Sciences Co-operative Education Program. Prerequisite: acceptance in the biological sciences co-operative education program.

BISC 342-0 Practicum II
Second semester of work experience in the Biological Sciences Co-operative Education Program. Prerequisite: BISC 341 and readmission to the science co-operative education program.

BISC 356-3 Plant Development
This course explores the mechanisms underlying plant development from the molecular genetic to the whole plant level. The role played by hormones and the environment in the regulation of development will be emphasized. (3-0-0) Prerequisite: MBB 222, BISC 337.

BISC 366-3 Plant Physiology
The plant's physical environment and the physiological basis (mechanisms and principles) of the interaction between plants and their environment in relation to their survival and ecological distribution. (3-1-0) Prerequisite: MBB 221.

BISC 367-3 Plant Physiology Laboratory
A laboratory course using contemporary techniques of plant physiological research. (1-1-4) Prerequisite: BISC 329 and 366.

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.

BISC 402-3 Molecular Genetics
Advanced problems concerning the nature and function of genetic material. (3-1-0) Prerequisite: BISC 302 and 331.

BISC 403-3 Current Topics in Cell Biology
The lectures will explore two or three major themes in current cell biology, such as cell motility, the cell cycle, and cellular signalling. A critical component of the course is to develop an understanding of the experimental basis of our knowledge about cells. (3-1-0) Prerequisite: MBB 221 and 222.

BISC 404-3 Plant Ecology
The study of the distribution and abundance of plants, including how individuals, populations, and communities are affected by abiotic (climate, soil) and biotic (competition, herbivory) factors. A major focus will be life history evolution (pollination, defence, dispersal). Experimental and observational laboratory exercises are primarily conducted outdoors. (2-0-4) Prerequisite: BISC 204.

BISC 405-3 Cell Physiology
The physiology of cells with emphasis on the 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.

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.

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 or permission of the department.

BISC 414-3 Limnology
An integrated examination of biological, chemical and physical processes in lakes and running water ecosystems. Interactions among biological, chemical and physical controls on the structure, function and dynamics of aquatic ecosystems are emphasized. Environmental problems resulting from human disturbances to aquatic ecosystems are examined. (2-0-4) Prerequisite: 75 semester hours of credit in a
science program, including BISC 204 or GEOG 215, or permission of the instructor.

**BISC 416-3 Fish Biology**
An introduction to the biology of fishes with an emphasis on classification, evolution, anatomy, physiology, and ecology. (3-0-4) Prerequisite: BISC 316 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 environmental, pharmacological, and chemical factors and processes that determine their occurrence and intensity. (3-0-0) Prerequisite: BISC 317, or 75 semester hours of credit.

**BISC 439-3 Industrial Microbiology**
This course introduces students to the use of microorganisms in biotechnology, e.g. in the environment and industries. The lectures will cover the unique physiology/biochemistry of industrial microorganisms and their use in processes such as fermentation, bioremediation, chemical synthesis and protein production. The laboratory component is designed as a series of exercises that form a complete research project. (2-0-6) Prerequisite: BISC 303 or equivalent.

**BISC 443-0 Practicum III**
Third semester of work experience in the Biological Sciences Co-operative Education Program. Prerequisite: BISC 342 and readmission to the science co-operative education program.

**BISC 444-0 Practicum IV**
Fourth semester of work experience in the Biological Sciences Co-operative Education Program. Prerequisite: BISC 443 and readmission to the science co-operative education program.

**BISC 445-3 Environmental Physiology of Animals**
A discussion of the physiological mechanisms and adaptations which permit animals to live in diverse environments. The course will adopt a comparative approach to physiology. (3-1-0) Prerequisite: BISC 305.

**BISC 446-0 Practicum V**
Fifth semester of work experience in the Biological Sciences Co-operative Education Program. Prerequisite: BISC 444-0 and readmission to the science co-operative education program.

**BISC 449-3 Industrial Microbiology**
This course introduces students to the use of microorganisms in biotechnology, e.g. in the environment and industries. The lectures will cover the unique physiology/biochemistry of industrial microorganisms and their use in processes such as fermentation, bioremediation, chemical synthesis and protein production. The laboratory component is designed as a series of exercises that form a complete research project. (2-0-6) Prerequisite: BISC 303 or equivalent.

**BISC 453-3 Advanced Developmental Biology**
Intensive examination of the recent research literature in modern molecular studies of the development and differentiation of animal systems. Emphasis will be on molecular mechanism which underlie basic development phenomena. (3-0-0) Prerequisite: BISC 333 (or 203) and 331.

**BISC 455-3 Endocrinology**
A study of endocrine organs and their role in integrating physiological functions in animals. (3-1-0) Prerequisite: BISC 305 and one of BISC 306 or 316.

**BISC 457-3 Plant Molecular Biology and Biotechnology**
An introduction to plant molecular biology and the techniques and applications of plant genetic engineering. (3-0-4) Prerequisite: BISC 331, or permission of the department.

**BISC 471-475-3 Special Topics in Biology**
Selected topics not currently offered within the undergraduate course offerings in the department of Biological Sciences. Prerequisite: to be announced within the Course Timetable and Exam Schedule.

**BISC 490-5 Research Design**
Prerequisite: completion of all lower division biological sciences courses, plus upper division BISC courses appropriate to the subject of the intended research as determined by the departmental undergraduate curriculum committee; completion of all physics, chemistry and mathematics requirements for the major or honors program; at the time of application, a minimum GPA of 2.76 and a minimum cumulative GPA in biological sciences of 3.00; BISC 490 may be taken in the semester prior to BISC 491/492 by students intending to complete the three course ISS.

**BISC 491-5 Research Technique**
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.

**BISC 492-5 Research Reporting**
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.

**BISC 493-3 Advanced Developmental Biology**
Intensive examination of the recent research literature in modern molecular studies of the development and differentiation of animal systems. Emphasis will be on molecular mechanism which underlie basic development phenomena. (3-0-0) Prerequisite: BISC 333 (or 203) and 331.

**BISC 495-3 Endocrinology**
A study of endocrine organs and their role in integrating physiological functions in animals. (3-1-0) Prerequisite: BISC 305 and one of BISC 306 or 316.

**BISC 497-3 Plant Molecular Biology and Biotechnology**
An introduction to plant molecular biology and the techniques and applications of plant genetic engineering. (3-0-4) Prerequisite: BISC 331, or permission of the department.

**BISC 491-492 Special Topics in Biology**
Selected topics not currently offered within the undergraduate course offerings in the department of Biological Sciences. Prerequisite: to be announced within the Course Timetable and Exam Schedule.

**BISC 490-5 Research Design**
Prerequisite: completion of all lower division biological sciences courses, plus upper division BISC courses appropriate to the subject of the intended research as determined by the departmental undergraduate curriculum committee; completion of all physics, chemistry and mathematics requirements for the major or honors program; at the time of application, a minimum GPA of 2.76 and a minimum cumulative GPA in biological sciences of 3.00; BISC 490 may be taken in the semester prior to BISC 491/492 by students intending to complete the three course ISS.

**BISC 491-5 Research Technique**
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.

**BISC 492-5 Research Reporting**
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.

**BISC 493-3 Advanced Developmental Biology**
Intensive examination of the recent research literature in modern molecular studies of the development and differentiation of animal systems. Emphasis will be on molecular mechanism which underlie basic development phenomena. (3-0-0) Prerequisite: BISC 333 (or 203) and 331.

**BISC 495-3 Endocrinology**
A study of endocrine organs and their role in integrating physiological functions in animals. (3-1-0) Prerequisite: BISC 305 and one of BISC 306 or 316.

**BISC 497-3 Plant Molecular Biology and Biotechnology**
An introduction to plant molecular biology and the techniques and applications of plant genetic engineering. (3-0-4) Prerequisite: BISC 331, or permission of the department.

**BISC 491-492 Special Topics in Biology**
Selected topics not currently offered within the undergraduate course offerings in the department of Biological Sciences. Prerequisite: to be announced within the Course Timetable and Exam Schedule.

**BISC 490-5 Research Design**
Prerequisite: completion of all lower division biological sciences courses, plus upper division BISC courses appropriate to the subject of the intended research as determined by the departmental undergraduate curriculum committee; completion of all physics, chemistry and mathematics requirements for the major or honors program; at the time of application, a minimum GPA of 2.76 and a minimum cumulative GPA in biological sciences of 3.00; BISC 490 may be taken in the semester prior to BISC 491/492 by students intending to complete the three course ISS.

**BISC 491-5 Research Technique**
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.

**BISC 492-5 Research Reporting**
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.

**BISC 493-3 Advanced Developmental Biology**
Intensive examination of the recent research literature in modern molecular studies of the development and differentiation of animal systems. Emphasis will be on molecular mechanism which underlie basic development phenomena. (3-0-0) Prerequisite: BISC 333 (or 203) and 331.

**BISC 495-3 Endocrinology**
A study of endocrine organs and their role in integrating physiological functions in animals. (3-1-0) Prerequisite: BISC 305 and one of BISC 306 or 316.

**BISC 497-3 Plant Molecular Biology and Biotechnology**
An introduction to plant molecular biology and the techniques and applications of plant genetic engineering. (3-0-4) Prerequisite: BISC 331, or permission of the department.

**BISC 491-492 Special Topics in Biology**
Selected topics not currently offered within the undergraduate course offerings in the department of Biological Sciences. Prerequisite: to be announced within the Course Timetable and Exam Schedule.

**BISC 490-5 Research Design**
Prerequisite: completion of all lower division biological sciences courses, plus upper division BISC courses appropriate to the subject of the intended research as determined by the departmental undergraduate curriculum committee; completion of all physics, chemistry and mathematics requirements for the major or honors program; at the time of application, a minimum GPA of 2.76 and a minimum cumulative GPA in biological sciences of 3.00; BISC 490 may be taken in the semester prior to BISC 491/492 by students intending to complete the three course ISS.
the beginning of the semester prior to registration for this course.

BUS 237-3 Introduction to Computers and Information Systems in Business
An introduction to computer based information systems and to their applications in business, including a discussion of issues involved in the use of information systems by management. The course also provides hands on tutorial experience in the use of computers, with particular emphasis on business applications of micro computers. (lecture/tutorial) Prerequisite: 15 credit hours. Students who have obtained credit for, or are currently enrolled in a computing science course at the 200 level or higher may not take BUS 237 for further credit. Students may not receive credit for both BUS 237 and 337.

BUS 242-3 Introduction to Financial Management
This course is designed to introduce students to the concepts and techniques of corporate financial analysis. The goal is to provide them with the skills and understanding necessary to apply financial tools in a work-related context. Three primary financial functions are considered: management of working capital, the investment decision, and fund acquisition. The course also covers issues from financial accounting related to the development of financial statements and financial statement analysis. Prerequisite: MATH 110. Special Instructions; this course is only open for credit to students in the integrated studies program within the bachelor of general studies degree.

BUS 251-3 Financial Accounting I
An introduction to financial accounting, including accounting terminology, understanding financial statements, analysis of a business entity using financial statements. Includes also time value of money and a critical review of the conventional accounting system. (lecture/tutorial) Prerequisite: 15 credit hours.

BUS 254-3 Managerial Accounting I
Theory and methods of cost compilation for managerial planning, control and decision making; the use of budgets and analysis in planning and controlling operations, establishing supervisory and departmental responsibility, and various techniques of measuring results. (lecture/tutorial) Prerequisite: BUS 251; 15 credit hours. Students with credit for BUS 324 or 328 may not take BUS 254 for further credit.

BUS 272-3 Behavior in Organizations
Theories, concepts and issues in the field of organizational behavior with an emphasis on individual and team processes. Core topics include employee motivation and performance, stress management, communication, work perceptions and attitudes, decision-making, team dynamics, employee involvement and conflict management. (lecture/tutorial) Prerequisite: BUS 251; 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 Introduction to Finance
Role and function of financial managers, financial analysis, compound interest valuation and capital budgeting, management of current assets, introduction to financial instruments and institutions. (lecture/tutorial) Prerequisite: BUS 254 (or 324); 60 credit hours. Recommended: BUS 207 or ECON 301.

BUS 315-4 Investments
Investments from an individual and institutional point of view. Topics include: bond valuation and the term structure of interest rates, stock valuation, portfolio theory, asset pricing models, efficient markets and portfolio performance evaluation. (lecture/tutorial) Prerequisite: BUS 312, 336 and 207 or ECON 301; 60 credit hours.

BUS 316-3 Derivative Securities
The role derivative securities, mainly options and futures contracts, in controlling risk and enhancing profit opportunities. The organization of options and futures markets and the mechanics of trading. (lecture) Prerequisite: BUS 312, 336; 60 credit hours. Students with credit for BUS 416 may not take BUS 316 for further credit.

BUS 319-3 Integrative Financial and Managerial Accounting
For students planning further course work in accounting. Its integrative approach includes financial and managerial accounting topics, alternative accounting models, accounting systems and accounting data management, international accounting and accounting ethics. (lecture/tutorial) Prerequisite: BUS 254 (or 324 or 328), 237 and 60 credit hours. Students with credit for BUS 252 may not take BUS 319 for further credit. Corequisite: BUS 254 can be taken concurrently with BUS 319.

BUS 320-3 Financial Accounting: Assets
In-depth coverage of the accounting methods, problems and limitations associated with assets. Alternative valuation bases will be emphasized and illustrated together with the impact on income. Integration of theory and practice in relation to the treatment of assets. (lecture/tutorial) Prerequisite: BUS 319; 60 credit hours.

BUS 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-operative Education Program. It provides an opportunity to integrate theory and practice. This course is open only to co-op students. The co-op program co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

BUS 326-0 Co-op Practicum III
This is the third semester of work experience for students in the Co-operative Education Program. It provides an opportunity to integrate theory and practice. This course is open only to co-op students. The co-op program co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

BUS 327-0 Co-op Practicum IV
This is the fourth semester of work experience for students in the Co-operative Education Program. It provides an opportunity to integrate theory and practice. This course is open only to co-op students. The co-op program co-ordinator must be contacted at the beginning of the semester prior to registration for this course.

BUS 329-3 Income Taxation for Business 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 Data and Decisions II
This course is an extension of BUEC 232. It develops and applies the quantitative models that are most directly relevant to business decisions. Beginning with correlations and multiple regression and forecasting, the course moves on to decision analysis, business simulation, quality control, and an introduction to optimization. (lecture/tutorial) Prerequisite: MATH 157 and BUEC 232, 60 credit hours.

BUS 341-3 Fundamentals of Marketing for Integrated Studies Programs
This course is intended to be a first course in marketing management. Its purpose is to present students with the fundamentals of the marketing management process and of the importance of marketing in general. You will also develop some insight into the complex area of marketing decision-making and what marketing managers need to know to be effective. By applying fundamental marketing concepts, students will be able to solve real life marketing problems. Particular emphasis will be placed on understanding consumer behaviour and segmentation analysis, the management of promotion, product-related decision-making and market distribution. Uncontrollable environmental elements pertinent to marketing planning will also be discussed. (3-0-0) Prerequisite: 60 credit hours. This course is only open for credit to students in the Integrated Studies Program within the bachelor of general studies degree.

BUS 343-3 Introduction to Marketing
The environment of marketing; relation of social sciences to marketing; evaluation of marketing theory and research; assessment of demand, consumer behavior analysis; market institutions; method and mechanics of distribution in domestic, foreign and overseas markets; sales organization; advertising; new product development, publicity and promotion; marketing programs. (lecture/tutorial) Prerequisite: 60 credit hours.

BUS 344-3 Business to Business Marketing
This course deals with the marketing of products and services to industrial and other non-consumer sector buyers. The student will be expected to apply previously acquired marketing skills to purchasing situations which arise between organizations. Due to the nature of manufacturing activity in this province, industrial marketing will be approached from a resource industry based standpoint where discussions permit. (lecture/tutorial) Prerequisite: BUS 343; 60 credit hours.

BUS 346-3 International Business
Study of international environment and its impact on business behavior: cultural, social, economic and institutional factors; major functions of international business; export and import trade, foreign investment, production and marketing operations; theoretical principles, government policies, business practices. (lecture) Prerequisite: BUS 433; 60 credit hours.

BUS 348-3 Consumer Behavior
A study of the manner in which decisions are made in the marketplace, 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 433; 60 credit hours.

BUS 360-3 Business Communication
This course is designed to assist students to improve their written and oral communication skills in business settings. The theory and practice of business communication will be presented. Topics include analysis of communication problems, message
character, message monitoring, message media. Exercises in individual and group messages and presentations will be conducted. (lecture) Prerequisite: 60 credit hours.

BUS 362-4 Information Analysis and Systems Design
The course focuses on the various issues involved in investigating, analyzing and designing systems, and the strategies used to manage the process. In addition, students will make use of computer-aided software engineering (CASE) tools in laboratory, performing their systems analysis and design. (seminar/laboratory) Prerequisite: BUS 237; 60 credit hours.

BUS 364-3 Information Systems in Organizations and Society
This course is directed at the student as a consumer and a manager of systems within organizations, and as a member of society. We will discuss the use of information technology in the functional areas of business as a method of control as well as its implication in improving efficiency and effectiveness within organizations. The student will be encouraged to form his/her own opinions about this very pervasive technology. (lecture) Prerequisite: BUS 237; 60 credit hours.

BUS 374-3 Organization Theory
This course will examine theories of organization which use the organization as a basic unit of analysis. It will show how the structure and internal processes of an organization are linked to and partially determined by forces in the external environment of the organization. Contextual factors such as the technology and corporate strategy of the organization will also be examined. (lecture/tutorial) Prerequisite: BUS 272 (or 372).

BUS 380-3 Comparative Management
This course examines the major similarities and differences in management systems and practices in a variety of countries, including western Europe, East Asia, Middle East, and Latin America. Topics include the following: comparative management frameworks, managing cultural differences, cross-cultural business negotiations, and international human resource management. (seminar) Prerequisite: BUS 272; 60 credit hours. Students with credit for BUS 430 may not take BUS 380 for further credit. Recommended: BUS 346.

BUS 381-3 Introduction to Human Resource Management
Subjects include human resource planning, job analysis and design, recruitment, employment equity, selection and placement, performance appraisal, compensation and benefits, training and development, occupational health and safety, and industrial relations. For each subject an overview of current Canadian issues and practices is presented. (lecture/tutorial) Prerequisite: BUS 272 (or 372); 60 credit hours.

BUS 393-3 Commercial Law
Common law, equity, and statute law; contracts, agency, and negotiable instruments; partnership and corporation law; international commercial law. (lecture/tutorial) Prerequisite: 60 credit hours. BUJC 391 is not to be taken concurrently with BUS 393.

BUS 394-395-3 Selected Topics in Business Administration
The subject matter will vary from semester to semester depending upon the interest of faculty and students. (lecture/tutorial) Prerequisite: permission of the Faculty; 60 credit hours.

BUS 403-3 Seminar in Business and Society
Advanced topics in business and society. Specific emphasis may vary and may include the evolution of the business system in Canada, foreign investment and its impact, consumerism, environmental protection, business ideologies, etc. (seminar) Prerequisite: 90 credit hours.

BUS 410-3 Financial Institutions
An examination of financial institutions and the markets in which they operate. Topics may include: institutional structure, financial contract forms, valuation and pricing relationships, financial intermediation, financial transacting, the regulatory environment, risk measurement and hedging strategies. (seminar) Prerequisite: BUS 315 and 316; 60 credit hours.

BUS 413-4 Corporate Finance
Corporate decisions in the context of financial markets. Topics include: real asset investments, financing alternatives, dividend policy, working capital management, and corporate securities valuation. (seminar) Prerequisite: BUS 315 and 316; 60 credit hours.

BUS 418-3 International Financial Management
An introduction to international financial markets and institutions and to the management of assets and liabilities in an international/multinational setting. Topics to be covered include: exchange rate determination and management of foreign exchange risk, interest rate swaps, international portfolio management; comparative markets; and country risk. (seminar) Prerequisites: BUS 315 and 316; 60 credit hours.

BUS 420-3 Advanced Accounting
In-depth coverage of advanced accounting topics, specifically issues relating to business combinations and foreign currency transactions. Consideration is also given to the interpretation and analysis of financial statements. (seminar) Prerequisites: BUS 321; 60 credit hours.

BUS 421-3 Accounting Theory
Consideration of methods by which accounting theory is developed and examination of specific models including historical costs, replacement costs, resale price and price level adjustment models. (seminar) Prerequisites: BUS 321, and BUS 207 or ECON 301; 60 credit hours.

BUS 424-3 Managerial Accounting II
Process costing; joint and by-product costing; inventory planning and control; cost accounting and statistical methods, relationships to operations research. (seminar) Prerequisites: BUS 319, 336, 75 credit hours.

BUS 425-0 Co-op Practicum V
This is the fifth semester of work experience for students in the accounting Co-operative Education Program. It provides an opportunity to integrate theory and practice. This course is open only to accounting co-op students. The co-op program coordinator must be contacted at the beginning of the semester prior to registration for this course.

BUS 426-3 Auditing Concepts and Methods
A study of the conceptual foundations and the nature and purpose of the external audit function. The course will also discuss some of the more recent developments in auditing and the use of statistical methodology in auditing. (seminar) Prerequisite: BUS 321 and 320; 60 credit hours.

BUS 431-3 Business with East Asian Countries
This course examines the opportunities and challenges of doing business with the Pacific Rim countries such as China, Japan and Korea. Topics include the following: the political and economic systems as they affect foreign investment; social and cultural systems as they affect management practices; the conduct of business negotiations for market entry; and marketing strategies. (seminar) Prerequisite: BUS 346; 60 credit hours.

BUS 432-3 International Human Resources Management
Significance of multinational complexity and diversity (cultural, economic, demographic, etc.) to the human resource function. Interplay among human resource functions (employee procurement, allocation, utilization), types of employees, and countries of operation. (seminar) Prerequisite: BUS 381; 60 credit hours. Recommended: BUS 346.

BUS 435-3 Management of International Firms
Strategic requirements for the management of multinational corporations. Firm-specific and institutional challenges facing global managers in formulating and implementing profitable strategies. (seminar) Prerequisite: BUS 346; 60 credit hours.

BUS 437-3 Decision Analysis in Business
A seminar in the use of Bayesian techniques in business decisions. (seminar) Prerequisite: BUS 336; 60 credit hours.

BUS 440-4 Simulation in Management Decision Making
Development and use of simulation models as an aid in making complex management decisions. Hands on use of business related tools for computer simulation. Issues related to design and validation of simulation models, the assessment of input data, and the interpretation and use of simulation output. (seminar) Prerequisite: BUS 336; 60 credit hours.

BUS 442-4 Introduction to Marketing Research
A course in the management of marketing research. The basics of the design, conduct, and analysis of marketing research studies. (seminar) Prerequisite: BUS 343, 336; 60 credit hours.

BUS 445-3 Analysis of Data for Management
The analysis and interpretation of data, particularly multivariate data. This course is complementary to BUS 442 but may be taken independently. Applications in management science and information systems, organizational behavior and other areas as well as in marketing will be examined. (seminar) Prerequisite: BUS 343, 336; 60 credit hours.

BUS 446-4 Marketing Strategy
Marketing strategy focuses on the analysis of market problems and opportunities and the development of appropriate strategies. Topics include: analytical techniques, strategic planning methods and managerial problems of planning. Case analysis and problem solving will be the major orientation of the course. (seminar) Prerequisite: BUS 312, BUS 347; 60 credit hours.

BUS 447-3 Global Marketing Management
The marketing of goods and services in an international context, with emphasis on Pacific Rim countries. Theoretical concepts, environmental influences. Researching and forecasting international markets. The management of international marketing. (seminar) Prerequisite: BUS 343; 60 credit hours. Recommended: BUS 346.

BUS 448-4 Advertising and Sales Promotion
An integrative approach to the study of promotion including advertising publicity, personal selling and sales promotion; evaluation of the role promotion has in marketing and the economy; formulation and analysis of promotional goals, planning, organizing and controlling; utilization of market research studies; forecasting, budgeting, media selection; promotion institutions. (seminar) Prerequisite: BUS 347; 60 credit hours.

BUS 449-3 Ethical Issues in Marketing
A critical examination of topics such as consumerism, marketing ethics, and social responsibility, efficiency of marketing or ecological marketing. The particular emphasis may vary depending on the interests of the class and instructor. (seminar) Prerequisite: BUS 343; 60 credit hours.
BUS 462-4 Management Support Systems
This course is designed to familiarize the student with theories, tools and techniques for management support systems. The course will cover topics from decision support systems (DSS), executive support systems (ESS) and expert systems (ES). It will cover a variety of DSS, ESS and ES tools ranging from spreadsheets to fourth generation languages accessing corporate databases, to expert system shells and executive support system builders. (lecture/laboratory) Prerequisite: BUS 336 and 362 or 364; 60 credit hours.

BUS 464-3 Building Business Systems
Two trends are shaping the use of information in organizations: the increasing importance of cross-functional business processes and the use of enterprise resource planning (ERP) information systems to support these processes. This course will take a closer look at techniques for analyzing, designing, and implementing information systems and information technology in support of integrated business processes. The material will be drawn from literature in the business process re-engineering and enterprise resource planning subject areas. (3-0-1) Prerequisite: BUS 362 or CMPT 370. Recommended: CMPT 100.

BUS 466-3 Managing Data Communications
The students will be exposed to business issues in the planning, implementation and management of data communications in organizations. They will study the changes taking place in industry as a result of new data communications technology. Also, they will become familiar with the various technical levels of communications systems, and the various standards and configurations that are currently being used. The novel NetWare LAN system will be used as an example of a communications system, to demonstrate issues and operations required of a communications network manager. (seminar) Prerequisite: BUS 362 or 364; 60 credit hours.

BUS 468-3 Management Issues in Information Systems
The focus of this course is on the management, not the technical, issues surrounding Information Technology. Using cases, the course will introduce various theories and models of the management of information technology (IT), the application of IT to management situations, and some of the current issues surrounding IT. (seminar) Prerequisite: BUS 364; 60 credit hours. Corequisite: BUS 462 and/or 466 can be taken concurrently with BUS 468.

BUS 472-3 Seminar in Organizational Behavior
Advanced topics in organizational behavior. Specific emphasis may vary depending on special interest of faculty. However, general content will extend basic theories and problem descriptions covered in BUS 272 and 374 and will include advanced organizational theory and special topics in personnel. (seminar) Prerequisite: BUS 272 (or 372) or 374; 60 credit hours.

BUS 473-4 Operations Management
The management of operating systems including allocation and scheduling of resources; control of costs, inventories, quality, and manpower; design of operating systems including location, layout and manpower; establishment of work methods and standards. (seminar) Prerequisite: BUS 336; 60 credit hours.

BUS 477-4 New Venture Planning
Emphasis will vary but may include in any given semester consideration of small business in the Canadian economy, career comparisons in small and large businesses, evaluation of new ventures, organization, capitalization, planning, marketing and financial management. (seminar) Prerequisite: BUS 312, BUS 343; 90 credit hours.

BUS 478-3 Seminar in Administrative Policy
Integration of the various areas of business for the purpose of analysing and recommending strategies for planning and decision-making within the firm and a defined environment. (seminar) Prerequisite: BUS 207, 312, 343 and either BUS 374 or 381; 90 credit hours.

BUS 480-3 Negotiation/Conflict Resolution for Integrated Studies Programs
Overall, the course will be a combination of theory, discussion, instructor demonstration, skill practice in large and small groups and small group practice of the four-stage negotiation/conflict resolution model/process. The students in this course will learn about and be able to discuss interest-based negotiation and conflict resolution theory, strategy and plan for various negotiations and conflict situations and be able to put into practice a practical, efficient and productive process for negotiating agreements and resolving conflict. (3-0-0) Prerequisite: 60 credit hours. This course is only open for credit to students in the Integrated Studies Program within the bachelor of general studies degree.

BUS 481-3 Human Resource Planning and Staffing
Development of specific manpower objectives from an analysis of organizational goals and strategy. An analysis of procedures and skills which are used to translate objectives into staffing decisions such as employee selection and placement. (seminar) Prerequisite: BUS 272 (or 372), BUEC 232 (or STAT 270), and BUS 381; 60 credit hours.

BUS 482-3 Reward Systems and Employee Development
The design and administration of reward systems and employee development programs. How these systems and programs are affected by internal and external factors such as organizational goals, corporate strategy, technology, labor markets, and government regulations. (seminar) Prerequisite: BUS 272 (or 372) and BUS 381; 60 credit hours.

BUS 484-3 Workplace Industrial Relations
The administration of the day-to-day employment relationships of both unionized and non-unionized settings. Workplace industrial relations as a system of resolving conflicts between employee and employer interests and its implications for the attainment of due process in the workplace and the flexibility and efficiency of work organization. (seminar) Prerequisite: 60 credit hours; one of BUS 381 or BUEC 384.

BUS 487-3 Organizational Development and Change
This course examines the underlying concepts, principles and assumptions of organizational development. Throughout the course, organizations are viewed as systems composed of subsystems in dynamic interaction. (seminar) Prerequisite: 60 credit hours, BUS 374 or 381.

BUS 488-3 Human Relations in Business
The study of individual and group behavior in business organizations; management-employee relations; systems of communication; role and status; compensation, motivation, morale and productivity; organizational conflict, change and balance. (seminar) Prerequisite: 60 credit hours, BUS 374 or 381.

BUS 490-491-3 Selected Topics in Business Administration
The subject matter will vary from semester to semester depending upon the interest of faculty and students. Prerequisite: permission of the faculty; 60 credit hours. This course is only open for credit to students in the Integrated Studies Program within the Bachelor of General Studies degree completion program.

BUS 492-496-5 Selected Topics in Business Administration
The subject matter will vary from semester to semester depending upon the interests of faculty and students. (seminar) Prerequisite: permission of the faculty; 60 credit hours.

BUS 498-3 Directed Studies
Independent reading and research on topics selected in consultation with the supervising instructor. Prerequisite: permission of the faculty; 60 credit hours.

BUS 499-5 Directed Studies
An intensive and independent reading and research course on topics selected in consultation with the supervising instructor, and approved by the dean of the faculty. Prerequisite: permission of the faculty; 60 credit hours.

Business Administration and Economics BUEC

Faculties of Business Administration and Arts
See also course descriptions for Business Administration (BUS) and Economics (ECON).

BUEC courses are offered jointly by the Faculty of Business Administration and the Department of Economics. They may count for credit in either Business Administration or Economics programs, but not for both.

A student may not receive credit for both BUEC courses and (former) ECON/COMM courses which have the same number.

For a course to be accepted as fulfilling a prerequisite, or for a required course to be accepted in a student's economics program, a grade of C- or higher must be obtained.

BUEC 232-4 Data and Decisions I
An introduction to business statistics with a heavy emphasis on applications and the use of EXCEL. Students will be required to use statistical applications to solve business problems. (3-1-0) Prerequisite: MATH 157 and 15 credit hours. MATH 157 may be taken concurrently with BUEC 232. STAT 270, Introduction to Probability and Statistics, will be accepted in lieu of BUEC 232. Students with credit for STAT 270 may not take BUEC 232 for further credit.

BUEC 280-3 Introduction to Labor Economics
Basic analysis of the labor market and the industrial relations system with emphasis on the major issues of public policy in Canada. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205. Students who have taken ECON 301, 305 or 381 may not take BUEC 280 for further credit.

BUEC 333-4 Elementary Economic and Business Statistics II
An introduction to more advanced statistical techniques including an introduction to econometrics and operations research. Students will be required to apply statistical techniques discussed to data they collect in analysing problems of individual interest. (lecture/tutorial/laboratory) Prerequisite: ECON 103 or 200, 105 or 205, BUEC 232 or STAT 270, MATH 157 and 30 credit hours. Students with credit for ECON/COMM 236 may not take BUEC 333 for further credit.

BUEC 384-3 Industrial Relations
This course examines industrial relations systems, focusing on the economic and policy environment and how this shapes the strategic choice of alternate employment systems. Characteristics, conflict resolution processes and outcomes of various
employment systems will be examined. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours. Students with credit for BUEC 386 may not take BUEC 384 for further credit. Recommended: BUS 272.

BUEC 391-3 Law in the Economic Society
An introductory examination of the history, evolution and aspirations of the rule of law in general, and as pursued and developed within civil and common law jurisdictions with emphasis on the working of the Canadian Federal and Provincial legislative, administrative and judicial forces, in particular. Students will be encouraged to identify and analyse various socio-economic legal issues and how legal principles are developed within the concepts of Canadian law and its reaction to evolving socio-economic forces that affect our individual and collective legal rights, duties and privileges and powers. (lecture/tutorial) Prerequisite: 60 credit hours. BUEC 391 may not be taken concurrently with BUS 393. Students with credit for BUEC 293 may not take BUEC 391 for further credit.

BUEC 396-3 The Structure of Industry
Examination of the structure, conduct and performance of specific industries, exploring the degree of concentration, the nature and extent of competitive behavior and the effects 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 433-5 Forecasting in Business and Economics
Modern techniques of statistical, econometric, populational and technological forecasting are presented along with discussions of a wide range of topics including Box-Jenkins methods, leading indicators, survey data, world models and the use of information sets of increasing size. Applied work on the Canadian and BC economies. (lecture/tutorial) Prerequisite: BUEC 333; 60 credit hours.

BUEC 485-3 Collective Bargaining
The collective agreement negotiation process and work stoppage: analytics, experience, legal and market constraints. Contents of the collective agreement. Administration of the collective agreement. Roles of third parties in collective bargaining. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205 and BUEC 384; 60 credit hours. Students with credit for BUEC 385 or 386 may not take BUEC 485 for further credit.

Canadian Studies CNS
Faculty of Arts

CNS 280-3 Canadian Political Economy
An introductory study of Canada’s political economy, stressing the interrelated nature of Canada’s economic and political life. The course focuses on current economic problems and policies, taking into account the geographical, historical and political environments. Topics include the resource and industrial structures, research and development, the public sector, fiscal and monetary policy, the role of the state, trade and foreign ownership, energy, regional disparity, corporate concentration and the political economy of federalism. (lecture/tutorial) Prerequisite: at least 60 credit hours.

CNS 360-4 Interdisciplinary Readings in Canadian Studies
Allows students to pursue in depth a particular Canadian problem from an interdisciplinary perspective. Prerequisite: 60 credit hours. Please refer to course outline before registering.

CNS 390-3 Hockey in Canadian Popular Culture
The game of hockey is perhaps the most central and pervasive form of popular culture in Canada. It has been called the “tie that binds,” the “common passion,” and the “Canadian game.” This course seeks to create a critical understanding of how hockey’s significance extends far beyond the ice rink into the cultural, economic and political spheres of Canadian society. (lecture/tutorial) Prerequisite: at least 60 credit hours. Students who have taken this course as CNS 390 Topics in Canadian Popular Culture cannot take this course for further credit.

CNS 391-3 Special Canadian Topics
An intensive interdisciplinary exploration of particular topics that illustrate aspects of the Canadian reality. (seminar) Prerequisite: 60 credit hours.

CNS 392-3 Cyberspace: The Next Canadian Frontier?
Examines cyberspace and virtual reality as the next Canadian frontier to be explored. The cross-section of material from various disciplines will be used as a starting point to study the advancements in cyberspace and virtual reality research, with an aim to situate a “Canadian cultural consciousness,” and/or a “Canadian sensibility” towards this new and burgeoning “space.” (seminar) Prerequisite: 60 credit hours. Students who have taken CNS 391 Special Canadian Topics - Cyberspace: the Next Frontier? may not take CNS 392 for further credit.

CNS 481-3 Special Regional Topics
The role of the regions of regionalism in Canada is increasingly problematic, as the burden of the unity debate extends outdoors from the Ontario/Quebec divide. This seminar will provide students with a grounding in interdisciplinary readings pertaining to the topic and an opportunity to pursue directed research on a specific topic of their choice. (0-3-0) Prerequisite: 60 credit hours. Students who have taken CNS 481 Special Topics may not take CNS 481 for further credit.

CNS 490-5 The Canadian Intellectual Tradition
An interdisciplinary seminar examining some of the major forces that have shaped and continue to shape Canadian thought, expression and society. Materials and theories will be drawn from historiography, history, philosophy, religion, politics, political economy, policy studies, literature, art and sport. Prerequisite: at least 60 credit hours.

CNS 491-3 Technology and Canadian Society
This course examines and assesses technology and its impact on Canadian society. It concentrates on 20th century technology and uses a case study approach examining some broad themes in the study of technology such as; technological determinism, technological impact assessment, innovation, technology as progress, technological dependency, technological sovereignty, and bias in technology. Prerequisite: at least 60 credit hours.

CNS 495-5 Canadian Studies Honors Essay
An essay required of each honors student in Canadian Studies, based on a substantial interdisciplinary research effort by the student under the supervision of Canadian Studies faculty in the appropriate disciplines. A paper based on the essay must be presented in a Canadian Studies seminar. (independent study) Prerequisite: registration as honors student in Canadian Studies.

Chemistry CHEM
Faculty of Science

See also courses listed under Nuclear Science (NUSC).

Students are not normally permitted to register in chemistry courses for which a grade of D was obtained in any prerequisite.

For courses marked with an asterisk (*), tutorials will be held in the open workshop format, i.e. unstructured periods each week when teaching assistants are available to answer questions and help with problem assignments.

Graduate Courses
Graduate courses are available to senior undergraduate students for upper division chemistry credit. Refer to the Graduate Studies section and consult an advisor for specific course offerings.

CHEM* 110-3 Introductory Chemistry
General fundamental concepts and nomenclature; stoichiometry and chemical calculations; nuclear and atomic structures, chemical bonding; properties of gases, liquids, solids and solutions; chemical kinetics and chemical equilibrium. This course has the same lecture component as CHEM 111 but no laboratory work. Students who intend to take further laboratory courses in chemistry must take CHEM 111. (3-1-0) Prerequisite: BC high school mathematics 12 (or equivalent) or permission of the department. No previous training in chemistry is required for this course. Students with credit for high school chemistry 12 (or equivalent), or any university chemistry course may not take CHEM 110 or 111 for further credit. Students may not count both CHEM 110 and 111 for credit. Corequisite: If BC high school mathematics 12 credit not obtained, then MATH 100 must be taken as a corequisite to CHEM 110.

CHEM* 111-4 Introductory Chemistry and Laboratory
General fundamental concepts and nomenclature; stoichiometry and chemical calculations; nuclear and atomic structures, chemical bonding; properties of gases, liquids, solids and solutions; chemical kinetics and chemical equilibrium. This course includes a laboratory component. (3-1-2) Prerequisite: BC high school mathematics 12 (or equivalent) or permission of the department. No previous training in chemistry is required for this course. Students with credit for high school chemistry 12 (or equivalent), or any university chemistry course may not take CHEM 110 or 111 for further credit. Students may not count both CHEM 110 and 111 for credit. Corequisite: If BC high school Mathematics 12 credit not obtained, then MATH 100 must be taken as a corequisite to CHEM 110.

CHEM* 120-3 General Chemistry I
Atomic and molecular structure; chemical bonding; thermochemistry; elements; periodic table; gases, liquids, solids, and solutions. This course has the same lecture component as CHEM 121 but no laboratory work. Students who intend to take further laboratory courses in chemistry must take CHEM 121. (3-1-0) Prerequisite: BC high school chemistry
CHEM 121-4 General Chemistry and Laboratory I
Atomic and molecular structure; chemical bonding: thermochemistry; elements; periodic table; gases; liquids, solids, and solutions. This course includes a laboratory component. (3-1-2) Prerequisite: BC high school chemistry 12 or CHEM 111 (or 101 and 106). Students may not count both CHEM 120 and 121 for credit. Recommended: MATH 151 (or 154) and PHYS 120 (or 101) as a corequisite.

CHEM 122-2 General Chemistry II
Chemical equilibria; electrochemistry; chemical thermodynamics; kinetics. Students who intend to take further laboratory courses in chemistry should take CHEM 122 concurrently with CHEM 126. (2-0-4) Prerequisite: CHEM 121 or 120 (or 102) Recommended: MATH 152 (or 155) and PHYS 121 (or 102) as a corequisite.

CHEM 126-2 General Chemistry Laboratory II
Experiments in chemical equilibrium, acids and bases, qualitative analysis, electrochemistry and chemical kinetics. (0-0-4) Prerequisite: CHEM 121 (or 102 and 115). Corequisite: CHEM 122.

CHEM 215-4 Introduction to Analytical Chemistry
The principles of analytical chemistry and their practical application to solution samples. Titrimetric and electrochemical methods. (2-0-4) Prerequisite: CHEM 122 (or 123) and 126 (or 118).

CHEM 230-3 Inorganic Chemistry
The chemistry of the elements and their inorganic compounds in terms of fundamental concepts of periodicity of properties, valence, ionization potential, electron affinity, electronegativity, stability of oxidation states, bonding, structure and stereochemistry. Co-ordination complexes and organometallic chemistry. (3-1-0) Prerequisite: CHEM 122 (or 103). Corequisite: students who expect to take further courses in inorganic chemistry should take the laboratory course CHEM 236 concurrently with 230.

CHEM 236-2 Inorganic Chemistry Laboratory
An introduction to the synthetic and spectroscopic techniques used in the preparation and characterization of both main group and transition metal compounds. (0-0-4) Prerequisite: CHEM 212 and 126 (or 103 and 118). Corequisite: CHEM 230.

CHEM 260-4 Atoms, Molecules, Spectroscopy
Elements of physical chemistry from the molecular point of view. Introduction to quantum chemistry, atomic and molecular structure, and spectroscopy. (3-1-2) Prerequisite: CHEM 212 (or 103), MATH 152, PHYS 121. Recommended: MATH 232.

CHEM 281-4 Organic Chemistry I
Structure, bonding, physical and chemical properties of simple organic compounds. Introduction to spectroscopy. Kinetics and mechanisms of organic reactions. This course includes a laboratory component. (3-1-2) Prerequisite: CHEM 121. Corequisite: CHEM 122 (or 103).

CHEM 282-2 Organic Chemistry II
Polyfunctional organic compounds and complex organic reactions. Introduction to natural products. (2-1-0) Prerequisite: CHEM 281.

CHEM 286-2 Organic Chemistry Laboratory II
Laboratory work chosen to complement CHEM 282. (0-0-4) Prerequisite: CHEM 281. Corequisite: CHEM 282.

CHEM 306-0 Practicum I
This is the first semester of work experience in a co-operative program available to students planning to pursue a career in chemistry or related areas. Prerequisite: completion of 28 credit hours in a science program, including first-year calculus, chemistry and physics. Minimum CGPA 2.67 (or permission of co-op co-ordinator).

CHEM 307-0 Practicum II
This is the second semester of work experience in the Chemistry Co-operative Education Program.

CHEM 316-4 Introductory Instrumental Analysis
Principles and applications of basic analytical instrumentation based upon spectroscopy, chromatography and electrochemistry. (2-0-4) Prerequisite: CHEM 215 (or 218). Students may not count both CHEM 316 and 416 for credit.

CHEM 317-2 Analytical Environmental Chemistry
Principles and applications of the methodologies of analytical chemistry employed in the determination of substances in air, water, and soil, with particular emphasis upon sampling and sample preparation. (0-0-4) Prerequisite: CHEM 316 and 371. Corequisite: CHEM 372 should be taken concurrently.

CHEM 332-3 The Chemistry of Transition Metals
The synthesis and characterization of classical and organometallic complexes of the transition metals, and their physical and chemical properties. (3-1-0) Prerequisite: CHEM 230 and 236.

CHEM 333-3 Inorganic Chemistry of Biological Processes
An introduction to the principles governing the formation, properties and investigation of metal-ligand complexes with special reference to the role of metals in biological processes. (3-1-0) Prerequisite: BICH 321 (or 301); or CHEM 282 (or 250) and CHEM 230 (or 232).

CHEM 336-2 Advanced Inorganic Chemistry Laboratory
Experiments in co-ordination, organometallic and solid state chemistry, involving synthesis, characterization and spectroscopy. (0-0-4) Prerequisite: CHEM 236. Corequisite: CHEM 332 must precede or be taken concurrently.

CHEM 340-3 Materials Chemistry
Bonding in solid state materials. Introduction to symmetry and its applications in materials science. Structure and physical properties of solid state materials. (3-1-0) Prerequisite: completion of 60 credit hours in a science or applied science program, including first year chemistry, physics and calculus.

CHEM 360-3 Thermodynamics and Chemical Kinetics
Elements of physical chemistry from the macroscopic point of view. Thermodynamics, and its applications to chemical equilibrium. Chemical kinetics and reaction rate theories. (3-1-0) Prerequisite: CHEM 122 (or 103), MATH 152 (or 155), PHYS 121 (or 102). Recommended: MATH 251.

CHEM 366-2 Physical Chemistry Laboratory I
Experiments in thermodynamics, chemical kinetics, electrochemistry, and atomic and molecular structure. (0-0-4) Prerequisite: CHEM 260. Corequisite: CHEM 360.

CHEM 367-2 Physical Chemistry Laboratory II
Continues CHEM 366. (0-0-4) Prerequisite: CHEM 366.

CHEM 371-3 Chemistry of the Aqueous Environment
An introduction to chemical processes in the aqueous environment. Emphatic treatment of the variables determining the composition of natural systems. Chemistry of aqueous toxic agents, wastewater treatment, and related matters. (3-1-0) Prerequisite: CHEM 281 (or 150) and CHEM 360 (or 261).

CHEM 372-3 Chemistry of the Atmospheric Environment
Quantitative treatment of chemical and physical processes in the atmospheric environment. Chemistry of the troposphere including air pollution and climate change. Chemistry of the stratosphere including ozone depletion. Environmental radioactivity. Current topics. (3-1-0) Prerequisite: CHEM 281 (or 150) and CHEM 360 (or 261).

CHEM 380-4 Chemical and Instrumental Methods of Identification of Organic Compounds
Basic principles of infrared, ultraviolet, nuclear magnetic resonance and mass spectroscopy as applied to the identification of organic compounds. (2-0-4) Prerequisite: CHEM 282 and 286 (or 250 and 255).

CHEM 381-4 Intermediate Organic Chemistry
An intermediate level course in modern organic chemistry, including both theoretical design of synthetic routes and practical training in the laboratory. The central topics include methods to form carbon-carbon bonds, use of organometallic reagents, asymmetric synthesis, pericyclic reactions, the use of enzymes in organic synthesis, and the automation of synthetic organic chemistry. Prerequisite: CHEM 380.

CHEM 406-0 Practicum III
This is the third semester of work experience in the Chemistry Co-operative Education Program. Prerequisite: CHEM 307 and completion of 56 credit hours toward a BSc degree. Minimum CGPA of 2.67 (or permission of co-op co-ordinator).

CHEM 407-0 Practicum IV
This is the last semester of work experience in the Chemistry Co-operative Education Program. Prerequisite: CHEM 406. Minimum CGPA of 2.67 (or permission of co-op co-ordinator).

CHEM 408-0 Practicum V
Optional semester of work experience in the Chemistry Co-operative Education Program. Prerequisite: CHEM 407.

CHEM 419-3 Special Topics in Analytical Chemistry
Principles and applications of emerging techniques in analytical chemistry. (3-1-0) Prerequisite: CHEM 316.

CHEM 432-3 Organometallic Chemistry
The organometallic chemistry of the transition elements; the synthesis, characterization and catalytic behavior of organometallic compounds. (3-1-0) Prerequisite: CHEM 332.

CHEM 439-3 Special Topics in Inorganic Chemistry
An in-depth treatment of a current topic in inorganic chemistry. Contact the department for information regarding the topic to be covered in a given semester. (3-1-0) Prerequisite: CHEM 332.

CHEM 440-3 Solid State Materials Chemistry
The study of the detailed chemistry of solid state organic materials in terms of crystal structures, bonding, preparative methods, analytical and characterization techniques, mixed valence states, solid solutions, defects and non-stoichiometry, molecular mechanisms of the optical, electronic, ionic, magnetic and dielectric properties, and materials applications in advanced technology. (3-1-0) Prerequisite: CHEM 340.

CHEM 442-3 Polymeric Materials Chemistry
The course covers the detailed chemistry of polymers, including polymer structure, studies of polymer solutions, molecular weight determination, and the synthesis of polymers. In addition, topics of
include (but are not limited) chemical kinetics, properties of materials that are useful in the design of electrooptical devices, such as light emitting diodes (LEDs) and liquid crystal displays (LCDs). Topics to be discussed will include liquid crystals, conjugated polymers, and the assembly of thin film materials. A case study approach will be employed in order to provide an overview of these areas of research, with examples taken from the primary literature. (3-1-0) Prerequisite: CHEM 282.

CHEM 450-3 Physical Organic Chemistry
A study of the structure, stereochemistry and conformation of molecules and their effect on the reactivity of organic molecules. The physical basis of organic chemistry. (3-1-0) Prerequisite: CHEM 360 (or 261) and 380.

CHEM 452-3 Bio-organic Chemistry
An advanced treatment of the use of enzymes in organic synthesis, the use of stable and radioisotopes in the study of enzymatic processes and the design of enzyme inhibitors. (3-1-0) Prerequisite: CHEM 381 or permission of the department.

CHEM 455-3 Synthetic Organic Chemistry
This course teaches the principles involved in the planning and execution of the synthesis of organic molecules. Emphasis is on synthesis of naturally occurring compounds of biological importance. (3-1-0) Prerequisite: CHEM 381 or permission of the instructor.

CHEM 459-3 Special Topics in Organic Chemistry
An advanced, in-depth treatment of a specialized area of organic chemistry. (3-1-0) Prerequisite: CHEM 380 or permission of the instructor.

CHEM 460-3 Advanced Physical Chemistry
Statistical thermodynamics, kinetic theory of gases, transport properties, intermolecular forces, electrical properties of molecules, properties of ionic solutions, Debye-Hückel theory, electrochemistry. (3-1-0) Prerequisite: MATH 251; CHEM 260 and 360, or PHYS 385 and 344 (or 244).

CHEM 462-3 Molecular Spectroscopy
Atomic spectra. Electronic, vibrational and rotational spectra of diatomic and polyatomic molecules. The Raman effect. Nuclear and electron spin resonance. Symmetry classification of molecules and their energy levels. (3-1-0) Prerequisite: CHEM 260 or PHYS 385.

CHEM 464-3 Quantum Chemistry
Fundamentals of quantum mechanics and its principal results and techniques as applied to atoms and molecules: atomic structure, molecular bonding, rotations and vibrations of molecules, symmetry of atomic and molecular orbitals. (3-1-0) Prerequisite: CHEM 260, MATH 232, 251; or PHYS 385. Recommended: MATH 310.

CHEM 465-3 Electrochemistry
Modern techniques and concepts in electrochemistry. Topics include equilibrium and dynamic electrochemistry, ion transport and voltammetry. Electrochemical systems of increasing importance including chemically modified electrodes, fuel cells and solar energy conversion applications will also be discussed. (3-1-0) Prerequisite: CHEM 360.

CHEM 468-3 Special Topics in Physical Chemistry
Selected topics of physical chemistry not regularly covered in the chemistry undergraduate course offerings. Topics may vary from year to year and may include (but are not limited to) chemical kinetics, electrochemistry, magnetic resonance, polymer chemistry, surface chemistry. (3-1-0) Prerequisite: CHEM 260 and 360, or permission of the instructor.

CHEM 469-3 Special Topics in Physical Chemistry
Selected topics of physical chemistry not regularly covered in the chemistry undergraduate course offerings. Topics may vary from year to year and may include (but are not limited to): chemical kinetics, electrochemistry, magnetic resonance, polymer chemistry, surface chemistry. (3-1-0) Prerequisite: CHEM 260 and 360 (or 261 and 360) or permission of the instructor.

CHEM 481-5 Undergraduate Research
Experimental and/or theoretical research; preparation of a written report and oral presentation in research seminar format. Admission requires selection of a faculty supervisor and submission of a research proposal. Prospective students must contact the faculty supervisor to register their interest in this course before the last day of classes of the previous semester. The research proposal is due by the end of the examination period preceding the research semester. Prerequisite: permission of the department; knowledge of chemistry at an advanced level. Normally taken after completion of 300 level course requirements.

CHEM 482-3 Directed Study in Advanced Topics of Chemistry
Directed reading in a topic chosen in consultation with a supervisor. Admission requires selection of a faculty supervisor and submission of a study topic to the department at least one month prior to the start of the semester in which the course will be taken. Prerequisite: permission of the department. Normally taken during the fourth year of study.

CHEM 483-5 Honors Research
Experimental and/or theoretical research; preparation of a written report and oral presentation in research seminar format. Admission requires selection of a faculty supervisor and submission of a research proposal. Prospective students must contact the faculty supervisor to register their interest in this course before the last day of classes of the previous semester. The research proposal is due by the end of the examination period preceding the research semester. Prerequisite: CHEM 481 and permission of the department. Credit for this course may only be applied to the honors chemistry program.

Students who have taken high school Mandarin courses up to grade 12 will not be admitted to a 100 or 200 level Chinese language course.

Students with some prior knowledge of Chinese should see the department for a placement interview with a Chinese language instructor to be placed at an appropriate level. The department reserves the right to withdraw or to transfer a student to a higher level course should the language proficiency of the student prove greater than initially supposed.

CHIN 100-3 Mandarin Chinese I
Introduction to the study of Mandarin Chinese and to the development of basic oral and written skills. The course will study phonetics, vocabulary, syntax, grammar and culture. (tutorial) Prerequisite: permission of the instructor.

CHIN 101-3 Mandarin Chinese II
Continues to build on all four language skills acquired in CHIN 100. (tutorial) Prerequisite: CHIN 100 or permission of the department.

CHIN 151-3 Spoken Mandarin for Speakers of Other Chinese Dialects
This course is especially designed for native speakers of Chinese Dialects other than Mandarin who, though able to read and write Chinese fluently, have no knowledge of spoken Mandarin. Speakers of a Chinese dialect who have taken Mandarin courses should not take this course. (tutorial) Prerequisite: ability to read, write and speak a Chinese dialect.

CHIN 185-6 Intensive Mandarin Chinese in the China Field School
This six week intensive language study course will be taken by all students registering in the China Field School. Upon arrival at the university in China, students will be assigned to two course sections at the appropriate level according to their language skills from beginners to upper intermediate in reading, writing, comprehension, conversation and grammar. For students wanting to continue their language studies at SFU after attending the field school, the Chinese language instructor will conduct a placement interview and assign the appropriate course level. (tutorial)

CHIN 200-3 Mandarin Chinese III
Continues to build on all four skills of the language acquired in CHIN 101/102, with special emphasis on improving the students' spoken facility in the language. (tutorial) Prerequisite: SFU CHIN 101, 102 or permission of the department. Students with credit for CHIN 201 (taken prior to spring semester 1999) cannot take CHIN 200 for further credit.

CHIN 201-3 Mandarin Chinese IV
Continues to build on all four skills of the language acquired in CHIN 201, with special emphasis on improving the students' spoken facility in the language. (tutorial) Prerequisite: SFU CHIN 200 or permission of the program advisor.

Chinese CHIN
Faculty of Arts
Department of Linguistics

Language Training Institute
Students with a competence in the language beyond the level of the course in which they are registered will be required to withdraw. Students who are not sure of their language level are responsible for seeing that their level of proficiency is assessed prior to registration in the course. Arrangements for proficiency assessment in each language will be announced before the commencement of each semester. Consult the registration handbook or inquire at the Language Training Institute general office for the procedure to be followed.

Native speakers of Chinese (Mandarin or any other Chinese dialect), or students who received their secondary education within a Chinese speaking (Mandarin or any other dialect) community will not be admitted to a 100 or 200 level Chinese language course.

Students who read and write Chinese but speak a dialect other than Mandarin should take CHIN 151.

Cognitive Science COGS
Faculty of Arts

COGS 100-3 Introduction to Cognitive Science
This course provides a basic integrative overview of how cognitive science aspires to integrate the empirical findings, theories, and methods of psychology, neuroscience, linguistics, computing science and philosophy. (lecture/tutorial) Prerequisite: Open to all students. Students with credit for COGS 200 may not take COGS 100 for further credit.

COGS 300-3 Special Topics in Cognitive Science
An interdisciplinary exploration of recent work on some special topic in cognitive science (such as vision, reasoning, connectionism, etc.) (lecture) Prerequisite: lower division cognitive science course
requirements. Students with credit for COGS 400 may not take COGS 300 for further credit.

**COGS 370-0 Cognitive Science Practicum I**
First semester of work experience in the Cognitive Science Co-operative Education Program. Students should apply to the Faculty of Arts co-operative education co-ordinator by the end of the third week of the semester preceding the employment semester. Prerequisite: normally 30 credit hours, including COGS 100 and four other courses in the Cognitive Science program, with a minimum CGPA of 2.75.

**COGS 371-0 Cognitive Science Practicum II**
Second semester of work experience in the Cognitive Science Co-operative Education Program. Students should apply to the Faculty of Arts co-operative education co-ordinator by the end of the third week of the semester preceding the employment semester. Prerequisite: successful completion of COGS 375 and 45 credit hours with a minimum CGPA of 2.75.

**COGS 470-0 Cognitive Science Practicum III**
Third semester of work experience in the Cognitive Science Co-operative Education Program. Students should apply to the Faculty of Arts co-operative education co-ordinator by the end of the third week of the semester preceding the employment semester. Prerequisite: successful completion of COGS 371 and 60 credit hours with a minimum CGPA of 2.75.

**COGS 471-0 Cognitive Science Practicum IV**
Fourth semester of work experience in the Cognitive Science Co-operative Education Program. Students should apply to the Faculty of Arts co-operative education co-ordinator by the end of the third week of the semester preceding the employment semester. Prerequisite: successful completion of COGS 470 and 75 credit hours with a minimum CGPA of 2.75.

**COGS 490-0 Honors Project I**
An in-depth investigation of a topic in Cognitive Science culminating in a critical literature review and the formulation of a research proposal. (seminar/tutorial) Prerequisite: approval of cognitive science steering committee after student has completed a cognitive science major and at least two courses specified under honors in the program calendar entry.

**COGS 491-0 Honors Project II**
The research proposed in COGS 490 is executed, culminating in the completion of a substantive piece of research. (seminar/tutorial) Prerequisite: approval of Cognitive Science steering committee either when student has completed COGS 490 or when student is taking COGS 490.

**Communication CMNS**
**Faculty of Applied Sciences**

CMNS 110-3 Introduction to Communication Studies
An introduction to selected theories about human communication. This course is required for a major, honors or minor in communication. (lecture/tutorial)

CMNS 130-3 Explorations in Mass Communication
An introduction to the role of mass communication (radio, television, telecommunications and the press) in Canadian society. This course is required for a major, honors or minor in communication. (lecture/tutorial)

CMNS 200-3 Effective Communication
Introduction to techniques and methods of communicating effectively in complex organizations; with the media, government, the public; in the workplace, in local and international business and trade, etc. The challenge of working in meetings, doing research in teams, preparing analytic/technical reports and press statements, managing complex interactive communication processes will be addressed, with special reference to the role of culture, policy, and law, technical change, and potential conflict. (seminar) Prerequisite: 25 credit hours. Recommended: for communication co-op students.

CMNS 205-3 Introduction to Interpersonal/Nonverbal Communication
An examination of the interpersonal dimension of nonverbal communication. Topics include body language, facial expressions, gestures, and acoustics. Consideration will also be given to how nonverbal communication operates through the mass media. (lecture/tutorial) Prerequisite: CMNS 110 or 130.

CMNS 210-3 Media History
An assessment of the social implications of developments in information technology from prehistory to the middle of the 20th century. Topics include: the origins of symbolic representation; the oral tradition; the significance of different systems of writing and numeration; the consequences of print; and the initial changes brought about by electronic media. (lecture/tutorial) Prerequisite: CMNS 110.

CMNS 220-3 Understanding Television
This course examines television, both as a medium of communication and an element of culture. (lecture/tutorial) Prerequisite: CMNS 110 or 130.

CMNS 221-3 Media and Audiences
An introduction to the study of popular culture and mass media, with a focus on the organization and role of audiences. (lecture/tutorial) Prerequisite: CMNS 110 or 130.

CMNS 223-3 Advertising as Social Communication
An interdisciplinary examination of the significance of advertising as a social message system in our consumer society. The course proposes an analytical method for appreciating the changing styles and functions of advertising in the 20th century. (lecture/tutorial) Prerequisite: CMNS 110 or 130.

CMNS 224-3 Social Issues and Communication
This course introduces students to the foundations of interdisciplinary analysis for the study of communication by examining how social issues are represented within the media and popular culture. The course examines images and arguments that characterize debates over social issues such as poverty, sexuality, morality, crime and the economy. Several critical perspectives on how 'common sense' understandings of social issues gain popularity in the media will be analysed in terms of the relationship of power to knowledge and of political economy to systems of representation and communication. (seminar) Prerequisite: CMNS 110.

CMNS 226-3 Introduction to Digital Video Techniques
This course provides entry level learning experience, introducing students to a variety of approaches to non-broadcast applications of video, including educational, promotional, advocacy, training, and community development. The course also introduces students to the whole range of design and management tasks involved in non-broadcast video production, including proposal writing, storyboarding, scripting, shooting, digitizing, editing, packaging, and presenting their work. (lecture/lab) Prerequisite: CMNS 110 and 130. Recommended: CMNS 220.

CMNS 230-3 Introduction to Communication Media
Provides an overview of the development of broadcasting and telecommunication systems in Canada and their relationship to contemporary society. Topics covered include the history of the CBC, cable television, the domestic film production industry, Canadian satellite development, and alternative media in Canada. (lecture/tutorial) Prerequisite: CMNS 130.

CMNS 235-3 Introduction to Journalism in Canada
An overview of journalism as a social, cultural and political institution in Canada. Topics include: themes of news; print and the 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 348 may not take this course for further credit. Recommended: LING 260 and/or SA 101.

CMNS 253-3 Introduction to Information Technology: The New Media
An introduction to new communication/information technologies, seen as new media of communication: the technologies, their uses, and social issues arising from them. (lecture/tutorial) Prerequisite: CMNS 110 or 130.

CMNS 258-3 Introduction to Electroacoustic Communication
An introduction to the medium as a communicational tool and to electroacoustic aspects of communication in general. Specific techniques of field recording, interviewing, editing, tape transformations, sound object manipulation, and basic studio techniques will be presented and students will use the school's studio facilities. Applications of the tape medium to such areas as media analysis, aural history, social documentation, interpersonal communication, and tape music composition will be discussed. (lecture/laboratory)

CMNS 259-3 Acoustic Dimensions of Communication I
A course designed to develop the student's perception and understanding of sound and its behavior in the interpersonal, social, environmental, media and creative fields. The acoustic and psychoacoustic bases of sound will be introduced with special reference to acoustic design, the electroacoustic media, and sonic environments. (lecture/laboratory)

CMNS 260-3 Introduction to Empirical Communication Research Methods
An introduction to empirical research methods in diverse traditions of communication enquiry. Some methods recognize communication as everyday interactions; others analyze communication as a process; still others blend traditional scientific empiricism with analytical and critical methods derived from the arts and humanities. Topics include: paradigms, conceptualizing and operationalizing research, sampling, interviews, surveys, unobtrusive observation, content analysis, and the role of...
CMNS 386 under same title.

digital technologies, media convergence, and
identity formation as well as an important part of
interrelationships that grew up between sport and
19th century, moving on to consider the close
adopts a broadly historical perspective, beginning
between media, sport and popular culture in both a
This course examines the changing relationships
Some cultural dimensions to be studied include
An examination of the way that advertisements use
CMNS 321-4 The Cultural Production of
Popular Music
Communication 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 220 and either CMNS 260 or 363.

CMNS 322-4 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/lab) Prerequisite: 60 credit hours, including
two of CMNS 200, 220, 221, 223 or 226.
Recommended: CMNS 362 or 363.

CMNS 324-4 Media, Sports and Popular
Culture
This course examines the changing relationships between media, sport and popular culture in both a
North American and a global context. The course
adopts a broadly historical perspective, beginning
with an exploration of the role of the mass press in the
popularization and commercialization of sport in the
19th century, moving on to consider the close
interrelationships that grew up between sport and
radio, and sport and television, and finally examining
sport as a key element of national popular cultures and
identity formation as well as an important part of
the broader entertainment industries in the age of
digital technologies, media convergence, and
globalization. (lecture/tutorial) Prerequisite: 60 credit
hours, including two of CMNS 220, 221, 223, 240.
Cannot be taken for further credit if student has taken
CMNS 386 under same title.

CMNS 326-4 Applied Media Workshop: On The
Hill
This course provides an opportunity for students to
build on the knowledge they have acquired in
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 innovative and visually
appealing work. In addition, students will learn to
apply more advanced production techniques and
build teamwork skills as they produce the shows in
small groups. The course seminars will emphasize
communication design, and the critical ethical issues
which arise when working with documentary and
news material for public broadcast.
(seminar/lab) Prerequisite: permission of
instructor and either CMNS 226 or 286.

CMNS 331-4 Political Communication
An examination of the role of the public and the media
in shaping public debate.
(lecture/tutorial) Prerequisite: CMNS 230 or 235.

CMNS 333-4 Broadcasting Policy and
Regulation in the Global Context
Television — in broadcast, cable and
video-on-demand formats — has dominated the
industries of Canada. Traditionally seen as
important to political and cultural self-determination,
broadcasting strategy, business and government
policies are now being adapted in view of
globalization of technologies which are altering the
production, financing, and distribution of new and
existing information and entertainment services.
This course focuses on developing business and
public policy analytic skills. Tools of on-line searches,
presentation software, the rudiments of strategic
analysis of industrial sectors (strengths, weaknesses,
threats, opportunities) and technical policy writing will be
covered. A simulation will be staged around a
convergence theme drawn from technology, business,
or public interest policy issues. (seminar)
Prerequisite: CMNS 230 253, and 261.

CMNS 334-4 Cultural Policy
Examination of the modern foundations and current
policy processes of federal, provincial and municipal
policies for the arts, cultural industries and heritage.
Related social policies, such as bilingualism and
multiculturalism, and the international context of
Canadian cultural policy, will also be addressed.
(seminar) Prerequisite: CMNS 230 and 261.

CMNS 342-4 Science and Public Policy I: Risk
Communication
The course examines communication in the relation
between science (technology) and public policy, and
more particularly, in the evaluation of risk.
(lecture/tutorial) Prerequisite: CMNS 260 or 261.

CMNS 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: 60 credit hours
including CMNS 110 and 130. Recommended: CMNS
247 and 362.

CMNS 353-4 Social Contexts of Information
Technology
Examination of a particular application of
information/communication technology, focussing on
the technology itself and its capabilities; how it is
implemented, and what social impacts it has on the
people who use it. Emphasis is placed on
understanding how the system works in the ongoing
social context in which it is developed, installed and
used. The specific application studied may vary from
semester to semester. (lecture/laboratory)
Prerequisite: CMNS 253; and CMNS 261 or 362.

CMNS 354-4 Communication and Social Issues
in Design
This course will explore social issues and values in
designing technology, through a focus on both
the objects and processes of design. Emphasis will
be placed on communication between participants in the
design process, and identification of social issues and
values that influence design. Students will work in
cross-disciplinary groups during labs. Lab exercises
will emphasize making decisions that occur during the
design process explicit, and making values that enter
into design processes explicit. (lecture/lab)
Prerequisite: 60 credit hours, including any one of
CMNS 253; CMPT 275; KIN 201, 205 or ENSC 100.

CMNS 358-4 Sound Tape Recording: Theory
and Uses
An intermediate level studio workshop to develop the
student's skills in the tape medium and his/her
understanding of the communicational implications of
sound when processed in that medium.
(seminar/laboratory) Prerequisite: CMNS 258 with a
grade of B or higher, and approval of instructor.

CMNS 359-4 Acoustic Dimensions of
Communication II
A special topics course and small class work group at
an intermediate level in acoustic communication
dealing intensively with specific problems in
psychoacoustics, acoustic design, soundscape
studies, noise in the community, acoustic aspects of
social organization, acoustics and interpersonal
communication, electronic sound production, media
analysis, theories of sound cognition, and information
processing.
(seminar/laboratory) Prerequisite: CMNS 259.

CMNS 362-4 Evaluation Methods for Applied
Communication Research
Research design and techniques for the study of the
introduction, uses and consequences of new media and
technologies, new communication policies and
practices in their socio-economic and cultural context,
and communication in innovation and change.
(lecture/tutorial/laboratory) Prerequisite: at least 60
credit hours, including two of CMNS 253, 260 or 261.

CMNS 363-6 Approaches to Media and
Audience Research
A survey and application of research approaches to
media and audience analysis including content
analysis, textual analysis, agenda setting, effects
research, focus group and survey research, message
evaluation and audience studies. (lecture/lab)
Prerequisite: at least 60 credit hours, including one of
CMNS 220, 221 or 223, and CMNS 260.

CMNS 371-4 The Structure of the Book
Publishing Industry in Canada
An analysis of the various facets of the book
publishing industry in Canada including ownership
patterns, legal foundations, criteria for book selection
and marketing. Includes examination of both
commercial and educational publishing. The industry
will be analyzed within the framework of Canadian
cultural and other government policies affecting the
industry. (distance education) Prerequisite: 60 credit
hours.
CMNS 372-4 The Publishing Process
This course offers an overall view of the publishing process which transforms a manuscript into a book. Examined are the stages common to all publishing – editing, production, marketing – and the differences between different kinds of publishers. The contributions of modern computer technology are examined at each stage of the process. (lecture/seminar) Prerequisite: 60 credit hours.

CMNS 375-4 Magazine Publishing
This course addresses the basic concepts and practices used in the magazine publishing industry in the areas of business, writing, editing, design, marketing, advertising, distribution, and production. It emphasizes readership and editorial policy, new technology and changing costs and revenue patterns. (lecture/tutorial) Prerequisite: 60 credit hours.

CMNS 386-4 Special Topics in Communication
Intensive analysis of a particular topic in the general area of communication. (seminar) Prerequisite: depends on topic; published before registration.

CMNS 387-4 Special Topics in Communication
Intensive analysis of a particular topic in the general area of communication. (seminar) Prerequisite: depends on topic, published before registration.

CMNS 395-0 Communication Practicum I
Work experience in the School of Communication’s Co-operative Education Program. Prerequisite: Students must register with the co-op co-ordinator by the end of the third week of the semester preceding the work semester. Normally, students will have completed 28 semester hours and have a minimum GPA of 2.70. Credit is given as pass/withdraw (P/W).

CMNS 396-0 Communication Practicum II
The second semester of work experience in the School of Communication’s Co-operative Education Program. Prerequisite: CMNS 395 and normally the completion of 42 semester hours, and a minimum GPA of 2.70. Credit is given as pass/withdraw (P/W).

CMNS 408-4 Communication Network Project Group
An advanced workshop in network analysis focussed on applied research. (laboratory) Prerequisite: two upper division CMNS courses and permission of the instructor.

CMNS 422-4 Media and Ideology
An advanced seminar in media studies focussing upon theoretical debates about the allegedly ideological character of mass media and mass culture. (seminar) Prerequisite: 75 credit hours, including CMNS 221, 261 and 331. Recommended: SA 327.

CMNS 425-4 Applied Communication for Social Issues
An advanced seminar in applied communication that focuses on the research and strategic design of media messages, campaigns and programs for public awareness, education, and social change. This course involves the application of theories and approaches in critical media analysis to the tasks of media design and media use for public understanding, engagement and participation around social issues. (seminar) Prerequisite: 75 credit hours, including CMNS 260 or 261; and CMNS 321 or 323.

CMNS 426-4 Communication Design for Non-Broadcast Video
The workshop examines the growing role that video is playing in a variety of public relations, industrial, advocacy and educational contexts. The emphasis of this course is on issues of communication design in relation to the goals and values in specific communication forums. (seminar/lab) Prerequisite: 75 credit hours, including CMNS 226, 260 and two of CMNS 320, 323, 363.

CMNS 428-4 Media Analysis Project Group
An advanced workshop in media analysis focussed on applied research. (laboratory) Prerequisite: two upper division CMNS courses and permission of instructor.

CMNS 431-4 News Research and Analysis
An advanced research seminar using techniques of textual and contextual analysis to test media themes and explore patterns of coverage and omission in Canada’s new media. Students also have an opportunity to publicize their work through the NewsWatch Canada Project. (seminar) Prerequisite: instructor’s permission granted on the basis of a CGPA of at least 3.0, and 75 credit hours, including at least one of CMNS 235, 331 or 335, and at least one of CMNS 261 or 363. Students who took CMNS 421, 428 or 486 when these courses were offered as the Project Censored Seminar (since 1994-1) may not take this course for further credit.

CMNS 433-4 Issues in Communication and Cultural Policy
Advanced seminar on current issues in communication policy. Topics will be selected from among current policy issues in local, national and international aspects of broadcasting, the cultural industries, the arts and heritage. (seminar) Prerequisite: 75 credit hours including CMNS 333 or 334.

CMNS 435-4 Information Rights in the Information Age
An advanced seminar to examine key information-policy issues and the actors involved in setting policy (governments, information industry, news media, libraries, citizen groups) in Canada, with international comparisons. (seminar) Prerequisite: 75 credit hours, including CMNS 261 and one of CMNS 253, 333, 334, 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. (seminar) Prerequisite: at least 75 credit hours including CMNS 230, 240 and 333.

CMNS 437-4 Media Democratization: From Critique to Transformation
An advanced seminar on the normative debates, social bases, and strategic potential for media democratization in the context of economically developed liberal democracies like Canada and the United States. This course complements other courses which critically examine state communication policies and the political economy and allegedly ideological character of corporate media. Here, we focus on campaigns and movements in civil society to define and build alternative communicative forms based on equality, democratic participation and/or human rights. (seminar) Prerequisite: 75 credit hours, including CMNS 235, 240 or 331. Cannot be taken for further credit if student has taken CMNS 428 or 487 under the same title.

CMNS 438-4 Communication Policy Project Group
An advanced workshop in communication policy in media and information technology focussed on applied research. (laboratory) Prerequisite: two upper division CMNS courses and permission of the instructor.

CMNS 444-4 Political Economy of International Communication
An examination of the domestic and international implications of the development of mass media and telecommunications and the differential impact of the free flow of technology and information. (seminar) Prerequisite: 75 credit hours, including CMNS 240.

CMNS 446-4 The Communication of Science and the Transfer of Technology
Evaluation of the communication of scientific knowledge and 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. (seminar) Prerequisite: 75 credit hours, including CMNS 261 and 345. Recommended: CMNS 247, 253, 260, 362.

CMNS 447-4 Negotiation and Dialogue as Communication
This course provides frameworks and tools with which to understand and evaluate negotiation and evaluate negotiation as a form of communication. The objective of the course is to provide an understanding of the role of communication in the negotiating process, and the consequences of different kinds of negotiation strategies in intercultural, international, competitive, and conflictual situations. It combines theoretical discussion with practical case studies, involves guest negotiators and analysts, and provides an appreciation of the world-wide scale and importance of negotiation as a basis for clarifying relationships. (seminar) Prerequisite: 75 credit hours, including CMNS 362 and either CMNS 247 or 347.

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/lab) Prerequisite: 75 credit hours, including CMNS 253 and 362.

CMNS 454-4 Computer Mediated Work and Workplace Communication
An investigation of the content, quality and character of jobs and workplace communication systems that involve computers. An examination of the influence of managerial goals and workplace relations on the design and choice of hardware and software for: office automation; computer-aided and computer-integrated manufacturing systems; computer-aided design, expert systems, and electronic networks. (lecture/seminar) Prerequisite: 75 credit hours including CMNS 110 and 130. Recommended: CMNS 253, 353, 362.

CMNS 455-4 Women and New Information Technologies
In the 1970s, technological change came under the scrutiny of a wide range of interest groups. Research concerned with women and technological change documented that women were affected differently by technology than men, and that, in general, women occupy different positions in the technological change process than men. As interest in women and technological change has grown in the past 25 years, the benefits of focusing on gender as a variable of study have extended beyond making women’s experiences visible. Focusing on gender offers the possibility of discovering theoretical limitations which, when addressed, have implications that extend beyond the interests of women. (seminar/lab) Prerequisite: 75 credit hours, including any one of CMNS 253, 353, or 453; CMPT 320; WS 204.

CMNS 456-4 Communication to Mitigate Disasters
An examination of the special role communication and information systems play in efforts to mitigate effects of major emergencies and disasters. Topics
include: Canadian and international disaster management programs, practices and issues; principles of emergency communication planning and operation, and the application and influence of new communication and information technologies (including electronic networks) in hazard information gathering, interpretation, exchange and management. (seminar) Prerequisite: two upper division CMNS courses and permission of instructor.

**CMNS 482-4 Directed Study**  
This 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 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: 75 credit hours including CMNS 372.

**CMNS 473-4 Publication Design and Print Production**  
This advanced workshop in publishing analysis or design focussed on applied research. (laboratory) Prerequisite: two upper division CMNS courses and permission of the instructor.

**CMNS 479-4 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 481-3 Directed Study**  
Independent reading and research on topics selected in consultation with the supervising instructor. Prerequisite: two upper division CMNS courses and consent of instructor. No more than 10 hours of directed study may be taken.

**CMNS 482-4 Directed Study**  
Independent reading and research on topics selected in consultation with the supervising instructor. Prerequisite: two upper division CMNS courses and consent of instructor. No more than 10 hours of directed study may be taken.

**CMNS 483-5 Directed Study**  
Independent reading and research on topics selected in consultation with the supervising instructor. Prerequisite: two upper division CMNS courses and consent of instructor. No more than 10 hours of directed study may be taken.

**CMNS 484-4 Special Topics in Communication**  
Intensive analysis of a particular topic in the general area of communication and/or attention to the work of a particular writer or school of thought. (seminar) Prerequisite: permission of the instructor.

**CMNS 487-4 Special Topics in Communication**  
Intensive analysis of a particular topic in communication and/or attention to the work of a particular writer or school of thought. (seminar) Prerequisite: permission of instructor.

**CMNS 488-4 Special Topics in Communication**  
Intensive analysis of a particular topic in the general area of communication. (seminar) Prerequisite: permission of instructor.

**CMNS 489-4 Field Placement**  
For students who have at least 24 upper level credit hours in communication, this course offers the opportunity to work under faculty supervision in a field placement situation related to one of the areas of concentration in communication. Arrangements for field placement and faculty supervision are the responsibility of the student, and enrolment will depend upon the availability of faculty resources in any semester. Prerequisite: 75 credit hours and permission of the school.

**CMNS 490-4 Communication Practicum III**  
The third semester of work experience for students in the School of Communication’s Co-operative Education Program. Prerequisite: CMNS 396 and normally 56 semester hours, and a minimum GPA of 2.70. Credit is given as pass/withdraw (P/W).

**CMNS 495-4 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, and 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. 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. Includes either group or individual research project under the direct supervision of at least two School of Communication faculty members who will provide guidance and critical feedback as necessary. Prerequisite: successful completion of CMNS 497.

**Community Economic Development CED Faculty of Arts**

**CED 201-3 Introduction to Community Economic Development**  
A survey of community economic development. The focus of this course is on understanding the strengths and weaknesses of conventional approaches to economic development; the rationale for alternative approaches to economic development; the varying definitions and interpretations of community and of development; and the components which must be addressed by any coherent economic development strategy. Prerequisite: CED certificate program approval, 30 credit hours or permission of the CED Centre. Corequisite: certificate students may not take this course concurrently with upper division CED courses.

**CED 301-4 Sustainable Community Development**  
A more sophisticated theoretical foundation for understanding sustainable development at the community level, including an integrated approach to environmental, economic, and social aspects of development. The course includes sections on natural and social capital, and on making community policy (e.g., the role of local government, economic instruments, etc.) which are essential for the subsequent 400 level courses in the program. Prerequisite: CED certificate program approval and CED 201 or CED diploma program approval or completion of 60 credit hours.

**CED 401-4 Concepts, Techniques and Principles for CED Practice**  
Study of concepts and techniques for economic and policy analysis in community economic development. (seminar) Prerequisite: CED 301 or permission of the CED Centre.

**CED 403-4 Models and Cases in Community Economic Development**  
An integration of social, economic and ecological issues from previous CED courses with the methods for case studies of communities and their socio-economic development processes. (seminar) Prerequisite: CED 301, or permission of CED Centre.

**CED 404-4 Project in CED**  
Provides a situation in which a student applies ideas and models acquired in the program to a practical problem in community economic development. Prerequisite: CED 301, 401, and 403.

**CED 410-4 Special Topics in Community Economic Development**  
A specific topic within the field of CED, not covered by regularly scheduled, required courses in the program. Prerequisite: CED 301 or permission of the CED Centre.

**CED 412-4 Directed Studies in Community Economic Development**  
This is an individual study course designed to permit students to significantly expand their knowledge base and apply their critical thinking in CED. The student must develop a readings list in consultation with the CED centre’s academic supervisor and obtain approval for it. A critical, annotated bibliography must be regularly submitted throughout the semester, and a final paper will be required. Non post baccalaureate diploma students must apply for special permission to take this course. Enrollment is limited. Prerequisite: community economic development post baccalaureate diploma program approval, CED 301 and 401.
Techniques of solving problems using structured programs in a modern database programming environment are introduced. (lecture/laboratory) Prerequisite: BC mathematics 12 or MATH 100 or MATH 110. Students who have taken CMPT 101, 102, or 103 may not take CMPT 100 for further credit.

CMPT 101-4 Introduction to Computer Programming
This course is an introduction to problem solving using a computer and is intended as a first computing course for those wishing to major in Computing Science or a related program. Topics include: techniques and methodologies for the analysis and decomposition of the problem; the structural and algorithmic design of a solution; and the modular implementation and testing of the design. Structured programming using sub-programs, recursion, modules and libraries. Structured data objects including arrays, strings and records. (lecture/laboratory) Prerequisite: MATH 100. MATH 100 is waived for those with a minimum grade of B in BC high school mathematics 12. Students with credit for CMPT 102, 103 or 104 may not take CMPT 101 for further credit.

CMPT 102-3 Introduction to Scientific Computer Programming
A programming course which will provide the science student with a working knowledge of a scientific programming language and an introduction to computing concepts, structured programming, and modular design. The student will also gain knowledge in the use of programming environments including the use of numerical algorithm packages. (lecture/laboratory) Corequisite: MATH 152 or 155 (or 158). Students with credit for CMPT 101, 103 or 114 may not take CMPT 102 for further credit.

CMPT 104-2 Computer Programming
This course is intended for students who may not take CMPT 101 because they already have credit for CMPT 102 or 103. The course includes a review of the concept of an algorithm and structured programming using sub-programs, modules, recursion, and structured data objects. (lecture/laboratory) Prerequisite: CMPT 102 or 103. Students with credit for CMPT 101 may not take CMPT 104 for further credit.

CMPT 110-3 Event-Driven Programming in Visual Basic
Introduction to programming in the event-driven paradigm using the Visual Basic language. Forms, controls, events, menus, objects; subprograms, modular design; decisions and repetition; file and data management; special features. Students who have obtained credit for, or are currently enrolled in a computing science course at the 200 level or higher may not take CMPT 110 for further credit except with permission of the School of Computing Science. (self study) Prerequisite: one semester in a university level programming course.

CMPT 118-3 Special Topics in Computer and Information Technology
Special topics in computing science which are of current interest to non-computing students. The course will be offered from time to time depending on availability of faculty and on student interest. Students who have obtained credit for, or are currently enrolled in a computing science course at the 200 level or higher, may not take CMPT 118 for further credit. (3-0-0)

CMPT 150-3 Introduction to Computer Design
Digital design concepts are presented in such a way that students will learn how logic blocks can be designed and employed to construct a simple computer. Topics covered include: basic Von Neumann computer architecture; an introduction to assembly language; combinational logic design; and sequential logic design. An interactive logic simulation environment will be provided for assignments. Assembly language programming is introduced. (3-1-0) This course is identical to ENSC 150 and students cannot take both courses for credit. Students who have taken CMPT 290 cannot take this course for further credit.

CMPT 165-3 Introduction to Multimedia and the Internet
The goal of this course is to serve as an introduction to the use of computers in everyday life. Concepts underlying the use of multimedia and the Internet are examined, as are its applications in various fields. Students who have obtained credit for, or are currently enrolled in a computing science course at the 200 level or higher may not take CMPT 165 for further credit. Students who have taken CMPT 118 may not take CMPT 165 for further credit.

CMPT 201-4 Data and Program Abstraction
Introduction to various widely used data structures such as strings, sets, stacks, queues, lists, hash tables and trees, and algorithms for searching and sorting. Several powerful tools and concepts such as imperative languages, functional programming, modularization, abstract data types, object-oriented programming, specialized debuggers, extensible languages and automatic garbage collection will also be covered. (lecture/laboratory) Prerequisite: CMPT 101 (or 104) and MACM 101.

CMPT 212-3 Object-Oriented Applications 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 limitations of the major building blocks in modern computers are covered in detail. Topics include: processor organization; control logic design; memory systems; and architectural support for operating systems and programming languages. A hardware description language will be used as a tool to express and work with design concepts. Prerequisite: CMPT/ENSC 150, or CMPT 290 or 105 with permission of instructor. This course is identical to ENSC 250 and students cannot take both courses for credit. Students who have taken CMPT 390 may not take CMPT 250 for further credit.

CMPT 275-4 Software Engineering I
An introduction to the various software engineering techniques used for both analysis/design and for software project management. The course centers on a team development project that involves requirements gathering and object-oriented analysis, examination of case use scenarios to drive user documentation and design phases, followed by implementation, testing, installation, support and maintenance issues. Throughout the course, software project planning, quality assurance, metrics, configuration management, and people management are examined. (lecture/laboratory) Prerequisite: CMPT 201, MACM 101 (or CMPT 205), MATH 151.

CMPT 300-3 Operating Systems I
This course aims to give the student an understanding of what a modern operating system is – and the services it provides. It also discusses some basic issues in operating systems and provides solutions. Topics include multiprogramming, process management, memory management, and file systems. (lecture/laboratory) Prerequisite: CMPT 201, MACM 101 (or CMPT 205). Students with credit for CMPT 401 may not take CMPT 300 for further credit.

CMPT 301-3 Information Systems Management
Topics include strategic planning and use of information systems, current ad future technologies, technology assimilation, organizational learning, end-user computing, managing projects and people, managing production operations and networks, evaluating performance and benefits, crisis management and disaster recovery, security and control, financial accountability, and proactive management techniques for a changing environment. (lecture/laboratory) Prerequisite: CMPT 201.

CMPT 305-3 Computer Simulation and Modelling
Introduces the techniques for modelling and computer simulation of complex systems. The philosophy and practice of modelling and of Monte Carlo simulation will be reviewed. The student will learn at least one simulation language (SIMULA, SIMSCRIPT, GPSS, CCS) or other languages implemented at Simon Fraser University), apply it to a model, and simulate a non-trivial system from his/her area of interest. (lecture/laboratory) Prerequisite: CMPT 201, MACM 101 (or CMPT 205), STAT 270 (or MATH 272).

CMPT 307-3 Data Structures and Algorithms
Analysis and design of data structures for lists, sets, trees, dictionaries, and priority queues. A selection of topics chosen from sorting, memory management, graphs and graph algorithms. (lecture) Prerequisite: CMPT 201, MACM 201, MATH 152 and MATH 232.

CMPT 308-3 Computability and Complexity
This course introduces students to formal models of computations such as Turing machines and RAMs. Notions of tractability and intractability are discussed both with respect to computability and resource requirements. The relationship of these concepts to logic is also covered. Prerequisite: MACM 201.

CMPT 310-3 Artificial Intelligence Survey
Provides a unified discussion of the fundamental approaches to the problems in artificial intelligence. The topics considered are: representational typology and search methods; game playing, heuristic programming; pattern recognition and classification; theorem-proving; question-answering systems; natural language understanding; computer vision.
CMPT 318-3 Special Topics in Computing Science
Special topics in computing science at the 300 level. Topics that are of current interest or are not covered in regular curriculum will be offered from time to time depending on availability of faculty and on student interest. Prerequisite: CMPT 201.

CMPT 320-3 Social Implications of a Computerized Society
An examination of social processes that are being automated and implications for good and evil, that may be entailed in the automation of procedures by which goods and services are allocated. Examination of what are dehumanizing and humanizing parts of systems and how systems can be designed to have a humanizing effect. (lecture/seminar) Prerequisite: a course in computing science and 45 credit hours. Students with credit for CMPT 260 may not take CMPT 320 for further credit.

CMPT 340-3 Computers in Biomedicine
The principles involved in using computers for data acquisition, real-time processing, pattern recognition and experimental control in biology and medicine will be developed. The use of large data bases and simulation will be explored. (lecture/laboratory) Prerequisite: completion of 60 credits including CMPT 101 (or 102, 103 or 104 with a grade of B or higher).

CMPT 354-3 Database Systems I
Logical representations of data records. Data models. Studies of some file and database systems. Document retrieval. Other related issues such as database administration, data dictionary and security. (lecture/laboratory) Prerequisite: CMPT 201, MACM 101.

CMPT 361-3 Introduction to Computer Graphics
This course provides an introduction to the fundamentals of computer graphics. Topics include graphics display and interaction hardware, basic algorithms for 2D primitives, anti-aliasing, 2D and 3D geometrical transformations, 3D projections/viewing. Polygonal and hierarchical models, hidden-surface removal, basic rendering techniques (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 (widget-based, mental model, graphic design, ergonomics, metaphor, constructivist/iterative approach, and visual languages) and their evaluation, existing tools and packages (dialogue models, event-based systems, prototyping), future paradigms, and the social impact of UI. (lecture/laboratory) Prerequisite: CMPT 201.

CMPT 365-3 Multimedia Systems
Multimedia systems design, multimedia hardware and software, issues in effectively representing, processing, and retrieving multimedia data such as text, graphics, sound and music, image and video. (lecture/laboratory) Prerequisite: completion of 60 credits including CMPT 201.

CMPT 370-3 Information System Design
This course focuses on the computer-related problems of information system design and procedures of design implementation. Well-established design methodologies will be discussed, and case studies will be used to illustrate various techniques of system design. (lecture/laboratory) Prerequisite: CMPT 275 and 354.

CMPT 371-3 Data Communications and Networking
Data communication fundamentals (data types, rates, and transmission media). Network architectures for local and wide areas. Communications protocols suitable for various architectures. ISO protocols and interworking. Performance analysis under various loadings and channel error rates. (lecture/laboratory) Prerequisite: CMPT 201, CMPT/ENS 150 or CMPT 290 and MATH 152 or equivalent.

CMPT 379-3 Principles of Compiler Design
This course covers the key components of a compiler for a high level programming language. Topics include lexical analysis, parsing, type checking, code generation and optimization. Students will work in teams to design and implement an actual compiler making use of tools such as lex and yacc. Prerequisite: MACM 201, CMPT 150 and 201.

CMPT 383-3 Comparative Programming Languages
Various concepts and principles underlying the design and use of modern programming languages are considered in the context of procedural, object-oriented, functional and logic programming languages. Topics include data and control structuring constructs, facilities for modularity and data abstraction, polymorphism, syntax, and formal semantics. (lecture/laboratory) Prerequisite: CMPT 201, MACM 101 (or CMPT 205).

CMPT 384-3 Symbolic Computing
This course considers modelling and programming techniques appropriate for symbolic data domains such as mathematical expressions, logical formulas, grammars and programming languages. Topics include recursive and functional programming style, grammar-based data abstraction, simplification and reduction transformations, conversions to canonical form, environment data structures and interpreters, metaprocessing, pattern matching and theorem proving. (lecture/laboratory) Prerequisite: CMPT 201, MACM 101 (or CMPT 205).

CMPT 401-3 Operating Systems II
This second course on operating systems studies in depth some of the issues introduced in CMPT 300, as well as new, more advanced topics in modern operating systems. Topics may include interprocess communication, threads, remote procedure calls, language constructs for concurrency, deadlocks, virtual machines, distributed systems, distributed concurrency control, group communication, issues in file system design, security and protection, performance evaluation. (lecture/laboratory) Prerequisite: CMPT 300 and 371.

CMPT 405-3 Design and Analysis of Computing Algorithms
Models of computation, methods of algorithm design; complexity of algorithms; algorithms on graphs, NP-completeness, approximation algorithms, selected topics. (lecture) Prerequisite: CMPT 307.

CMPT 406-3 Computational Geometry
Mathematical preliminaries; convex hull algorithms; intersection problems; closest-point problems and their applications. (lecture) Prerequisite: CMPT 307.

CMPT 407-3 Computational Complexity
Machine models and their 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. 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, non-monotonicity 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 reasoning methods, exhaustive vs. incremental search techniques, constraint logic programming methods, applications in diagnosis, scheduling, planning, process control and animation. (lecture) Prerequisite: CMPT 384.

CMPT 419-3 Special Topics in Artificial Intelligence
Current topics in artificial intelligence depending on faculty and student interest. (lecture/laboratory) Prerequisite: CMPT 310 or permission of the instructor.

CMPT 426-0 Practicum I
The first semester of work experience for students in the Computing Science Co-operative Education program.
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 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 database models and systems, extended relational systems, deductive database systems, and security and integrity.

CMPT 459-3 Special Topics in Database Systems
Current topics in database and information systems depending on faculty and student interest.

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.

CMPT 466-3 Animation
Topics and techniques in animation, including: the history of animation, computers in animation, traditional animation approaches, and computer animation techniques such as geometric modelling, interpolation, camera controls, kinematics, dynamics, constraint-based animation, realistic motion, temporal aliasing, digital effects, and post-production.

CMPT 469-3 Special Topics in Computer Graphics
Current topics in computer graphics depending on faculty and student interest. (lecture/laboratory)

CMPT 470-3 Web-based Information Systems
This course examines: two-tier/multi-tier client/server architectures; the architecture of a Web-based information system; web servers/browser; programming/scripting tools for clients and servers; database access; transport of programming objects; messaging systems; security; and applications (such as e-commerce and on-line learning).

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.

CMPT 475-3 Software Engineering II
The team approach needed in the development of a software product will be examined in depth. Students will study team dynamics and team management, project estimation/planning/control, and the benefits of employing modern techniques at appropriate phases for a variety of software development lifecycles. The importance of configuration management, change management and control, release planning and of quality assurance throughout a project (reviews, inspections, testing strategies) will be brought out. A team project will allow students to try out these techniques. Prerequisite: CMPT 275 and 15 semester hours of upper division courses. Recommended: co-op experience.

CMPT 479-3 Special Topics in Computing Systems
Current topics in computing systems depending on faculty and student interest. (lecture/laboratory)

CMPT 481-3 Functional Programming
The functional style of programming will be examined in the context of a modern functional language such as Haskell. Topics will include lazy evaluation and infinite data structures, higher order functions, pattern matching, program transformation and verification, and polymorphic types.

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.

CMPT 489-3 Special Topics in Programming Languages
Current topics in programming languages depending on faculty and student interest.

CMPT 499-3 Special Topics in Computer Hardware
Current topics in computer hardware depending on faculty and student interest. (laboratory)
FPA* 313-5 Arts, Audience, Patronage, Institutions
An investigation of the fine and performing arts, their audiences, patronage and institutions in a specific historical context. Students will gain an in-depth understanding of a selection of art works and their relationship to their specific cultural context. (lecture/seminar) Prerequisite: 45 credit hours which must include FPA 111 or another critical or history course within the School for the Contemporary Arts. The course may be repeated when different topics are offered. Students who have completed FPA 313 prior to 1998 may take this course for further credit only if the topic differs from the former course. Recommended: FPA 211.

FPA* 389-3 Selected Topics in the Fine and Performing Arts II
A specific topic in fine and performing arts which is not otherwise covered in depth in regular courses and which is not appropriately placed within a single arts discipline. The work will be practical (studio), theoretical, or a combination of the two, depending on the particular topic in a given semester. Prerequisite: will vary with the topic.

FPA 400-3 Directed Studies (Studio)
An opportunity for advanced students to carry out an independent project which is planned and completed in close consultation with the supervisory instructor. Before registration, the student must submit a written proposal outlining the project in detail to the chosen supervisor for approval. Directed studies courses may not be used as a substitute for existing courses. (directed study) Prerequisite: 60 credit hours plus a minimum standing of completion of second year in any of the programs offered in the School for the Contemporary Arts and prior approval.

FPA 401-3 Directed Studies (Theory/History)
This course is intended to provide opportunity for advanced students to carry out an independent project which is planned and completed in close consultation with the supervisory instructor. Before registration, the student must submit a written proposal outlining the project in detail to the chosen supervisor for approval. Directed studies courses may not be used as a substitute for existing courses. (directed study) Prerequisite: 60 credit hours plus a minimum standing of completion of second year in any of the programs offered in the School for the Contemporary Arts and prior approval.

FPA 402-4 Directed Studies (Studio)
Provides an opportunity for advanced students to carry out an independent project which is planned and completed in close consultation with the supervisory instructor. Before registration, the student must submit a written proposal outlining the project in detail to the chosen supervisor for approval. Directed Studies courses may not be used as a substitute for existing courses. (directed study) Prerequisite: 60 credit hours plus a minimum standing of completion of second year in any of the programs offered in the School for the Contemporary Arts and prior approval.

FPA 403-4 Directed Studies (Theory/History)
This course is intended to provide opportunity for advanced students to carry out an independent project which is planned and completed in close consultation with the supervisory instructor. Before registration, the student must submit a written proposal outlining the project in detail to the chosen supervisor for approval. Directed Studies courses may not be used as a substitute for existing courses. (directed study) Prerequisite: 60 credit hours plus a minimum standing of completion of second year in any of the programs offered in the School for the Contemporary Arts and prior approval.

FPA 404-5 Directed Studies (Studio)
Provides an opportunity for advanced students to carry out an independent project which is planned and completed in close consultation with the supervisory instructor. Before registration, the student must submit a written proposal outlining the project in detail to the chosen supervisor for approval. Directed Studies courses may not be used as a substitute for existing courses. Prerequisite: 60 credit hours plus a minimum standing of completion of second year in any of the programs offered in the School for the Contemporary Arts and prior approval.

FPA* 411-3 Interdisciplinary Studies in the Contemporary Arts
This course is an interdisciplinary investigation of key issues in the contemporary arts. (seminar) Prerequisite: at least 45 credit hours including FPA 211 or another critical or history course within the School for the Contemporary Arts.

FPA* 412-4 Advanced Seminar in Art and Culture Studies
Provides an in-depth investigation of a selected theoretical, historical or thematic topic in art and culture studies. This course requires independent research leading to a substantial paper, as well as directed reading preparation for seminars. Topics will vary from semester to semester. The course may be repeated when different topics are offered. (seminar) Prerequisite: eight upper division credit hours including one of FPA 311 or 313.

FPA 489-5 Interdisciplinary Project in Fine and Performing Arts
This course permits students to explore the relationships among the arts by undertaking creative projects involving more than one art form. Students will work under the close supervision of one or more faculty and will be required to discuss their work on a regular basis with others involved in the course. (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)

FPA 122-4 Contemporary Dance I
First studio course in a series designed for students intending to pursue an extended minor in dance. Emphasizes work in modern dance and ballet technique and introduces theoretical approaches to modern dance. (studio) Prerequisite: prior approval as a result of an audition. Corequisite: dance majors and extended minors must take FPA 129 and 122 concurrently.

FPA 123-4 Contemporary Dance II
Second studio course in a series designed for students intending to pursue a major or extended minor in dance. Emphasizes work in modern dance and ballet technique and introduces theoretical approaches to modern dance. (studio) Prerequisite: FPA 122.

FPA 124-3 Dance Improvisation
Selected dance improvisational skills will be explored in a variety of solo, duet, small group and large group forms through structured movement themes. Emphasis will be on sensory awareness, elements of movement, and literal and abstract imagistic stimuli. (studio) Recommended: dance or theatre experience.

FPA* 127-3 History of Dance: Origins to the 20th Century
Survey of the function and form of dance from primitive culture through the 19th century ballet in tsarist Russia. Emphasis will be upon western theatre dance and evolution of the classical ballet. (Lecture/Seminar) Students with credit for FPA 326 or 327 or KIN 310 may not take FPA 127 for further credit.

FPA* 129-3 Fundamental Integration of Human Movement
This studio/theory course incorporates techniques of body awareness, centering, and structural 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. (studio) Prerequisite: FPA 123.

FPA 221-4 Contemporary Dance IV
Studio work designed to develop technical facility in movement and acquaint the student with form and style in contemporary dance. (studio) Prerequisite: FPA 220.

FPA 224-3 Dance Composition I
Study in the craft of dance composition emphasizing specific problems in space, time, dynamics, structure and imagery. Students will perform compositions for critical analysis and participate in the rehearsal and performance of their colleagues' compositions. (studio) Prerequisite: FPA 123.

FPA* 226-3 Dancing in Cyberspace
This is an on-line course that introduces students to the virtual body in cyberspace and its creative potential. A 3-D human animation software program will be utilized to explore human movement through experientially designed sequences. Aesthetic and socio-technological issues of the human body representation will be addressed. (seminar/lab) Prerequisite: basic computer skills.

FPA* 227-3 History of Dance: The 20th Century
Study of the development of modern dance and the reformation of the ballet in the 20th century. Emphasis will be placed on seminal dance artists and the impact their work has had upon the art form in western theatre dance. (lecture/seminar) Students with credit for FPA 328 may not take this course for further credit. Recommended: FPA 127.

FPA* 229-3 Selected Topics in Dance I
A specific topic in dance which is not otherwise covered in depth in regular courses. The work will be practical (studio), theoretical, or a combination of the two, depending on the particular topic in a given semester. Prerequisite: FPA 122 and/or prior approval.

FPA 320-4 Contemporary Dance V
The first of four upper division courses which build upon the movement vocabulary of modern dance. (studio) Prerequisite: FPA 221.

FPA 321-4 Contemporary Dance VI
Continues and expands upon the work undertaken in FPA 320. (studio) Prerequisite: FPA 320.

FPA 322-3 Ballet I
This course explores the vocabulary and movement range of classical ballet technique on the elementary level. Attention will be given to the understanding of body placement, balance flexibility and strength. Practical studio experience is offered within the context of specific theoretical principles. (studio) Prerequisite: FPA 221.

FPA 323-3 Ballet II
This course explores the vocabulary and movement range of classical ballet technique on the lower intermediate level. Further attention will be given to the understanding of body placement, balance, flexibility and strength. Practical studio experience is offered within the context of specific theoretical principles. (studio) Prerequisite: FPA 322.
FPA 324-3 New Dance Composition
Students will be introduced to traditional choreographic structures and explore new directions in composition. Emphasis will be on the creation and analysis of work generated by extending the parameters of source, style and form in contemporary dance. (studio) Prerequisite: FPA 124, plus one of 224, 230, 240, 245, 252, 253 or 260.
FPA 325-3 Special Project in Dance Composition
A specific topic or set of ideas will form the basis for choreographic exploration. Students will create one or more works and participate in research and critical analysis, depending 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 328-3 Selected Topics in Dance II
A specific topic in dance which is not otherwise covered in depth in regular courses. The work will be practical (studio), theoretical or a combination of the two, depending on the particular topic in a given semester. Prerequisite: FPA 220 and/or prior approval.

FPA 420-4 Contemporary Dance VII
The third of four upper division courses which build upon the movement vocabulary of modern dance. (studio) Prerequisite: FPA 321.

FPA 421-4 Contemporary Dance VIII
Continues and expands the work undertaken in FPA 420. (studio) Prerequisite: FPA 420.

FPA 425-5 Intensive Studies in Performance
Advanced performance studies in intensive, specialized workshops and/or participation in choreographic projects culminating in public performance. Course content may include interdisciplinary collaborations and a variety of performance styles and techniques. (studio) Prerequisite: prior approval by application.

FPA 426-3 Dance/Movement Analysis
An introduction into the theory and practice of movement analysis based on recognized theories of analysis. Experimental work may be included in the course and a dance or similar movement background is necessary. (studio/seminar) Prerequisite: FPA 120 or 123 or 151.

FPA 427-3 Ballet III
This course is an extension of classical ballet technique on an upper intermediate level. Understanding of basic principles is assumed and attention will be focused on combinations of movement, musicality and performance. (studio) Prerequisite: FPA 320.

FPA 428-3 Ballet IV
This is an advanced course. Students must have a thorough background in the vocabulary and techniques of classical ballet. Attention will be given to movement sequences from the ballet repertoire. (studio) Prerequisite: FPA 427.

FPA 130-4 Fundamentals of Film
Introduces students to the basic components of filmmaking through lectures, film screenings and creative projects in the various media that combine to form cinema. (seminar/laboratory) Prerequisite: prior approval through formal application. Students who have taken FPA 130, 133, 134 or 230 may not take FPA 130 for further credit. A laboratory fee is required. Students should be advised that course activities may require additional costs.

FPA 131-4 Filmmaking I
An introductory course in 16 mm. film production, emphasizing creative use of the medium. Each student is expected to conceive, direct and edit a short film with a non-synchronous 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. Students should be advised that film production will probably incur significant costs in addition to lab fees. Students who completed FPA 230 The Crafts of Film I in spring 1990 or earlier may not take this course for further credit.

FPA* 136-3 The History and Aesthetics of Cinema I
This course will examine the early development of cinema from 1890 until about 1945, with particular emphasis on the fundamental principles of film as an art form. A substantial number of films will be shown during laboratory sessions. (lecture/tutorial/laboratory) Students with credit for FPA 236 offered in 1982/83 and prior years may not take this course for further credit.

FPA* 137-3 The History and Aesthetics of Cinema II
This course will examine selected developments in cinema from 1945 to the present, with attention to various styles of artistic expression in film. A substantial number of films will be shown during laboratory sessions. (lecture/tutorial/laboratory) Students with credit for FPA 237 offered in 1982/83 and prior years may not take FPA 137 for further credit.

FPA 230-5 Filmmaking II
The first of two courses (FPA 231-5 is the second) which form an intensive study of the craft of sync-sound 16 mm. filmmaking, with an emphasis on production planning, creative development and the shooting and editing of short films. In-class exercises and film screenings will lead to the production of several original films. Each student will be expected to play major creative and technical roles in these productions. (production) Prerequisite: FPA 131, one of FPA 136 or 137 and prior approval. Students should be advised that film production will probably incur significant costs in addition to lab fees. Students who have taken FPA 330 for credit may not take FPA 230 for further credit. Corequisite: FPA 233. A laboratory fee is required.

FPA 231-5 Filmmaking III
This course continues the work begun in FPA 230-5 Filmmaking II. Students will acquire proficiency in film technique through lab exercises, readings and film screenings. As well, all students will participate in the completion of short original sync-sound 16 mm. films which were begun in FPA 230. Emphasis is placed on the development of means for creative expression supported by technical skills. (production) Prerequisite: FPA 230, 233 and laboratory fee required. Students should be advised that film production will probably incur significant costs in addition to lab fees.

FPA 232-3 Film Sound
Through lectures, demonstrations and studio work, students will be introduced to several aspects of location sound recording and audio post production for film and video. Topics will include synchronization systems and techniques, editing, music scoring, mixing and both analog and digital sound technology. (lecture/laboratory) Prerequisite: FPA 131 or 147 and prior approval. Students who have completed FPA 330 may not take FPA 232 for further credit. Recommended: CMNS 258.

FPA 233-2 The Techniques of Film
This course covers the technical aspects of basic 16 mm. production skills: camera, lighting, sound, editing, lab processes. These skills are taught as discrete units of instruction, with lab exercises and exams at the end of each unit. (laboratory) Prerequisite: FPA 131 and prior approval. Laboratory fee required. This course is not a duplicate of FPA 233 Video Production. Corequisite: FPA 230.

FPA* 236-3 Cinema in Canada
Examines the achievements of dramatic, documentary and experimental filmmaking in Canada from the earliest days until the present. Special attention will be paid to the cinemas of Quebec and western Canada, and to the cultural, political and theoretical traditions that have shaped contemporary cinema in Canada. (lecture/seminar) Prerequisite: FPA 136 or 137.

FPA* 237-3 Selected Topics in Film and Video Studies
This course will cover a specific topic within the field of film and video studies not covered in depth in regularly scheduled courses, such as: a national cinema; film and politics; Quebec cinema; documentary film and video, etc. Weekly screenings will be accompanied by lecture/seminar sessions. The course may be repeated for credit if a different topic is taught. (lecture/seminar) Prerequisite: FPA 136 or 137.

FPA 238-3 Screenwriting I
This course introduces the methodologies of writing for the screen in various styles, including dramatic, documentary and experimental forms, with an emphasis on structure and the creative expression of visual ideas. Students will perform a variety of writing assignments and each will be expected to complete one or more short original scripts. (seminar) Prerequisite: one of FPA 136, 137 or 253 and prior approval. Students who have taken FPA 332 for credit may not take FPA 238 for further credit.

FPA 290-2 Video Production I
This course will give students a grounding in technical aspects of video production. The course will be organized around a series of labs and demonstrations that will give students an opportunity to gain hands-on experience in video production and post production. It is expected that individuals will complete this course with sufficient technical training to be able to apply this 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 322-3 Film Production Seminar
Facilitates an in-depth understanding of the organizational aspects of film production, with emphasis on pre-production planning. The class will study methods of proposal writing, pre-production and production, developing production packages for film and video projects. This course is strongly recommended for all students intending to take FPA 430. (seminar) Prerequisite: FPA 231 or prior approval.
FPA 333-3 Cinematography and Lighting
This course emphasizes advanced 16 mm. production skills in cinematography and lighting. Students are expected to participate in intensive camera exercises, as well as to play significant crew roles on fourth year films. (laboratory) Prerequisite: FPA 231 and prior approval. Students who have taken FPA 331 The Crafts of Film III may not take this course for further credit.

FPA 334-3 Selected Topics in Film and Video Production
This course will cover a specific topic within the field of film and video production not covered in depth in regularly scheduled courses, such as optical printing techniques, film and video editing, experimental film and video production, or documentary film and video production. (seminar/studio) Prerequisite: FPA 231 and prior approval.

FPA* 335-4 Introduction to Film Theory
This course is concerned with the systematic understanding of the general phenomenon called Cinema rather than with the properties or techniques of individual films. Various theoretical positions will be assessed and compared in terms of cinematic practice and its ideological functions. (lecture/seminar) Prerequisite: six credits from among FPA 136, 137, 211, 236, 237. Students who have taken FPA 234 for credit may not take FPA 335 for further credit. Recommended: FPA 211.

FPA* 337-3 Intermediate Selected Topics in Film and Video Studies
An intermediate course in critical studies, addressing a variety of topics under this number; for instance, specific genre or area studies (comedy, film noir, science fiction, etc.); national cinemas; film analysis; Third World film, video art, experimental film, etc. The course may be taken again for credit if the topic changes. (lecture/seminar) Prerequisite: will vary according to subject matter. Students who have taken FPA 339 Selected Topics in Film for credit may not take the same topic under FPA 337 for further credit.

FPA 338-3 Screenwriting II
This course presents advanced theory and techniques for writing, experimental and documentary film and video scripts. Additional topics covered include script analysis, production breakdown, and the writing of treatments and proposals. (lecture/seminar) Prerequisite: one of FPA 238 or 239 or 457 and prior approval. Recommended: strongly recommended for all students developing projects for production in FPA 430.

FPA 339-3 Directing and Acting for Film and Video
This course acquaints intermediate level students in film, video and theatre with techniques of dramatic film performance. Students will be expected to perform as both actors and directors on scene work in class. Topics covered include auditioning, script analysis, role preparation, rehearsal, blocking for the camera, and directing techniques. (seminar/studio) Prerequisite: FPA 131 or 151 and prior approval. Students who have completed Directing and Acting for film as FPA 379 in spring 1990 or earlier, may not take this course for further credit. This course is not a duplicate of FPA 339 Selected Topics in Film, available in summer 1990 and earlier.

FPA 390-3 Video Production II
This course is intended for students interested in video as a means of artistic expression. Students will be encouraged to challenge accepted notions of the video medium and explore the creative possibilities of multi channel presentations. The course comprises a series of technical workshops, screenings and group seminars whose purpose is to develop an awareness of the creative and conceptual possibilities of the medium of video. Students will be expected to initiate and complete a short video project based on an idea of their own choosing. Projects which involve school-wide interdisciplinary collaborations will be encouraged. Prerequisite: prior approval through written proposal for a ten minute video project or installation; an interview; plus FPA 290 or equivalent video experience. A laboratory fee is required. Students should be advised that video production may require personal funding beyond the lab fee.

FPA 393-2 Techniques of Video
This is an intermediate course that teaches the fundamentals of digital video production and post-production. Students will be introduced to DV camera technology and non-linear editing, and will have an opportunity to become familiar with and explore the potential of digital video technology. This course is intended for third year film students preparing for their fourth year productions. (lecture/laboratory) Prerequisite: FPA 290 or equivalent and prior approval.

FPA 403-5 Filmmaking IV
The first half of a two-semester project in advanced film and/or video production. Students are expected to participate in the realization of one or more projects during the two semesters. Students seeking entry into this course are required to present a completed script (for a drama) or detailed proposal (for a documentary or experimental film) prior to registration. The exact nature of each student's participation will be determined in consultation with the instructor. (production) Prerequisite: FPA 231 and 10 credit hours in film or video studies plus prior approval. This course is open only to approved film majors. Students should be advised that film production will probably incur significant financial costs in addition to lab fees.

FPA 432-5 Filmmaking V
This course is intended for completion of film and video projects begun in FPA 430. Particular emphasis will be given to advanced film craft in the post-production phase. The exact nature of each student's participation will be determined in consultation with the instructor. (laboratory) Prerequisite: FPA 430. A laboratory fee is required. Students should be advised that film production will probably incur significant costs in addition to lab fees.

FPA* 436-3 Advanced Seminar in Film and Video Studies
This course features intensive study and analysis of selected topics in film theory, history, criticism and aesthetics. Examples include: work of specific directors or periods; theories of narrative; ideological analysis; particular aspects of national cinemas, etc. The course may be repeated for credit for new topics. (seminar) Prerequisite: FPA 335 or permission of instructor.

Music
FPA 104-3 Music Fundamentals
This course is designed to provide a basic understanding of the elements of music and teaches the skill of reading music notation. An introduction to music theory and exposure to the application of music materials in a wide spectrum of music literature will be accompanied by practical exercises. The course is designed for students with no formal music training. (seminar/studio)

FPA 140-3 Music in the 20th Century
An introductory survey of major historical trends and practices of music in the 20th century as revealed by the study of selected music examples. Critical issues fundamental to an understanding of contemporary composition will be examined (e.g. impressionism, twelve-tone music, indeterminacy, the role of technology, improvisation). (lecture) Prerequisite: FPA 104.

FPA 145-3 Introduction to Music Composition and Theory
This course introduces basic concepts of music composition such as melody and pitch organization, harmony, rhythm and form. The fundamental principles of theory and acoustics (e.g. voice-leading, overtone structure, metre) will be studied with particular reference to composition. Students will compose short works within given guidelines that address specific compositional issues. (lecture/studio) Prerequisite: FPA 104.

FPA 147-3 Introduction to Electroacoustic Music
An introduction to the application of electroacoustic technology to music, including the concepts of the audio signal, signal processing and sound synthesis in their musical applications. The techniques of tape music, electronic music and computer music composition will be introduced and their role in both studio composition and live performance will be discussed. Practical experience in several of these areas is included in the lab component. (lecture/laboratory) Prerequisite: prior approval.

FPA 240-3 Contemporary Music Performance I
Performance of works from the contemporary music repertoire for instruments and voice. A range of material will be covered from more improvisational pieces to conventionally notated scores. (studio) Prerequisite: audition/interview.

FPA* 243-3 Gamelan I
Practical and theoretical study of music for gamelan ensemble, based on, but not limited to, traditional Javanese music. This course is designed as an introduction to the study of the music of non-Western cultures and as a method of developing ensemble musicianship. (seminar/studio) Prerequisite: prior approval.

FPA 244-3 Theory of Contemporary Music
The theoretical investigation of the basic materials of the tempered chromatic scale, alternative tuning systems, and contemporary practices of texture and rhythm. Analysis of a wide range of music, score-reading and exposure to recorded music will be part of the course. (lecture/seminar) Prerequisite: FPA 140 and 145.

FPA 245-3 Music Composition I
Composition for small instrumental groups, electroacoustic resources or combinations of instruments and electronics. Students are also encouraged to do work involving collaboration with dance, film, theatre and visual art. In addition to individual composition lessons, students will be required to attend a composition seminar where the practice of composition will be discussed. Seminar topics will include orchestration, world repertoire, and issues of music technology. (seminar/studio) Prerequisite: FPA 145 and prior approval.

FPA 246-3 Music Composition II
This course is a continuation of FPA 245. (seminar/studio) Prerequisite: FPA 245.

FPA 247-3 Electroacoustic Music I
The theory and practice of electroacoustic music technology and composition. In addition to expanding upon the issues introduced in FPA 147, the course will examine through lecture and studio work the following topics: analog and digital synthesis, microcomputer use, the multi-track studio, signal processing, communication protocols such as MIDI and sampling techniques. (lecture/laboratory) Prerequisite: FPA 147.

FPA* 249-3 Selected Topics in Music I
A specific topic in music which is not otherwise covered in depth in regular courses. The work may be practical (studio), theoretical or a combination of the two, depending on the particular topic in a given
semester. Prerequisite: FPA 140 and/or prior approval.

FPA 340-3 Contemporary Music Performance II
A continuation of FPA 240. (studio) Prerequisite: FPA 240.

FPA* 341-3 World Music
The relationship of music and culture, with emphasis on traditional and contemporary music in Asia, Africa, the Middle East, Latin America and the Caribbean, and indigenous cultures of North America. Specific cultural areas may be selected for intensive study in any particular semester, (lecture) Prerequisite: 45 credit hours.

FPA 343-3 Gamelan II
Continuation of FPA 243, with increased emphasis on the theoretical and ethnomusicological aspects of gamelan. (seminar/studio) Prerequisite: FPA 243.

FPA 344-3 Contemporary Music Analysis and Criticism
An in-depth investigation of selected social, critical and theoretical issues associated with contemporary music, with special emphasis on the period c. 1945 to the present. Issues discussed might include such theoretical concerns as integral serialism; indeterminacy; process music; timbral concerns; or new approaches to melody, harmony and tonality. Critical topics such as music and technology; popular music and the mass media; or critical issues connected with world music might also be considered. The material of the course will be presented through the study of scores, recorded examples and when possible, live concerts. (lecture) Prerequisite: FPA 244.

FPA 345-3 Music Composition III
This course is a continuation of FPA 246. (seminar/studio) Prerequisite: FPA 246 or 247, and prior approval.

FPA 346-3 Music Composition IV
This course is a continuation of FPA 345. (seminar/studio) Prerequisite: FPA 345.

FPA 347-3 Electroacoustic Music II
An advanced examination of the aesthetics, technology, and compositional approaches of electroacoustic music. Topics may include computer music programming, performance systems, compositional strategies and their relationship to technology, synthesis and processing techniques and the analysis of works. (seminar/studio) Prerequisite: FPA 245 and 247. Students with credit for FPA 347 under its former title may take this course for further credit.

FPA 349-3 Selected Topics in Music II
A specific topic in music which is not otherwise covered in depth in regular courses. The work may be practical, theoretical or a combination of the two, depending on the particular topic in a given semester. (studio) Prerequisite: FPA 245 and/or prior approval.

FPA 443-3 Gamelan III
Continuation of FPA 343 with emphasis on the technique of the elaborating instruments of the gamelan ensemble. (seminar/studio) Prerequisite: FPA 343.

FPA 445-3 Composition V
This course is a continuation of FPA 346. (seminar/studio) Prerequisite: FPA 346.

FPA 446-3 Music Composition VI
This course is a continuation of FPA 445. (seminar/studio) Prerequisite: FPA 445.

FPA 447-3 Computer Music Composition
The theory and practice of digital techniques and computer systems as applied to sound synthesis and music composition. The course will consider the major types of hardware and software systems developed for music from 1955 to the present, and will discuss such issues as machine programmability, user interaction, acoustic models for sound synthesis, and compositional algorithms. Students will have the opportunity for practical compositional work. (tutorial/studio) Prerequisite: FPA 347. Recommended: CMPT 001 or 110.

Theatre
FPA* 150-3 Introduction to Acting I
An approach to the elements of acting based on improvisation, with some attention to working from established texts. Focus will be placed on the development of the actor’s instrument. The work will include the development of individual powers of expression — vocally, physically, intellectually, imaginatively, and emotionally. (studio)

FPA* 151-3 Introduction to Acting II
Expands the work of Acting I with an increased emphasis on text, leading to scene work. (studio) Prerequisite: FPA 150. Students who have completed FPA 152 may not take 151 for further credit.

FPA* 170-3 Introduction to Production Technology
An introduction to the processes, tools and technology used in the production and presentation of the fine and performing arts. Course requirements will include hands-on assignments in the production of theatre, dance, music and visual art events. Students will work directly with equipment and materials, and are expected to be involved in work on productions and exhibitions outside of lecture and lab hours. (studio) Prerequisite: FPA 170 and 171 preclude taking the two courses concurrently. (lecture/laboratory)

FPA* 171-3 Stage and Production Management
An introduction to the management, and organization of the performing arts. This course will provide a grounding for students who wish to become further involved in the administration of the performing arts and will include practical experience. Students will be expected to be involved in production work outside of regular seminar hours. Similar commitments in FPA 170 and 171 preclude taking the two courses concurrently. (seminar/open lab)

FPA 250-3 Acting I
Begins the concentrated work of training the actor in both the freedom and the control of voice and body. This is accomplished through: work on the self as a source of personal imagery and as a potential wellspring of characters, work with other actors in ensemble relationships, work on text as a blueprint for expression, scene study as a vehicle for the realization of the specific dramatic content and overall shape of a play. (studio) Prerequisite: prior registration in this course, the student must pass a successful audition. Corequisite: FPA 254.

FPA 251-3 Acting II
Continues and expands upon the work undertaken in Acting I. (studio) Prerequisite: FPA 250 and 254. Corequisite: FPA 255.

FPA 252-3 Playmaking I
Introduces elements of playmaking such as self scripting, mask exploration, clowning and political theatre. The objective is to enable students to make their own theatre. (studio) Prerequisite: admission to FPA 250 or prior approval.

FPA 253-3 Playmaking II
Expands the work undertaken in Playmaking I emphasizing writing skills and story structure. (studio) Prerequisite: FPA 150, 151 and prior approval.

FPA 254-2 Theatre Laboratory I
This is the first of four courses in performance research, each of which is ‘attached’ to one of the four courses: FPA 250, 251, 350 and 351. The work comprises voice and speech training. (laboratory) Prerequisite: prior approval. Corequisite: FPA 250 and 129.

FPA 255-3 Theatre Laboratory II
This is the second of four courses in performance research. The work comprises voice and speech training. (laboratory) Prerequisite: FPA 250 and 254. Corequisite: FPA 251.

FPA* 257-3 Context of Theatre I
A conceptual approach to a selected body of dramatic work focussing on the detailed structural analysis of dramatic texts, their historical context, their development and production histories. Particular emphasis will be placed upon the evolving relationship between theatre and its audience. (lecture/seminar)

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 271-3 Stage Management Practice
Provides in-depth training for stage management in the performing arts. Intended for students who have some familiarity with theatrical production and will be of value to any student interested in the management of public presentations. Continues the exploration of stage management techniques begun in FPA 171 and uses both academic and professional productions as subjects for investigation. Prerequisite: FPA 171.

FPA 350-3 Acting III
Continues and expands work undertaken in FPA 250 and 251, with an increased emphasis on work with established texts. (studio) Prerequisite: FPA 251 and 255. Corequisite: FPA 354.

FPA 351-3 Acting IV
Continues and expands on the work undertaken in Acting III. (studio) Prerequisite: FPA 350 and 354. Corequisite: FPA 355.

FPA 352-3 Playmaking III
Continues the development of playmaking research through intensive studio work consisting of the deconstruction or adaptation of a major dramatic text. Provides the basis for a public presentation in the subsequent semester. (studio) Prerequisite: FPA 251 and 255.

FPA 353-4 Playmaking IV
Black Box Theatre. Students will continue playmaking research through the creation of an ensemble season in a series of public presentations. (studio) Prerequisite: second year standing in a studio discipline 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* 357-3 Context of Theatre II
A conceptual approach to a selected body of dramatic work. The detailed structural analysis of dramatic texts, their historical context, their development and production histories. Particular emphasis will be placed upon the evolving relationship between theatre and its audience. (lecture/seminar) Prerequisite: 24 lower division credit hours or prior approval.
FPA 359-3 Selected Topics in Theatre II
A specific topic in theatre which is not otherwise covered in depth in regular courses. The work may be practical (studio), theoretical or a combination of the two, depending on the particular topic in a given semester. (studio) Prerequisite: FPA 250 and/or prior approval.

FPA 372-3 Technical Production I
Students with basic production and design experience will undertake intermediate level responsibilities. As crew chiefs, stage management personnel and designers, students will be required to research problems in construction, staging and organization of production and to apply their solutions within the production process. Prerequisite: FPA 270 or 271 and prior approval.

FPA 373-3 Technical Production II
A continuation of FPA 372-3. Students with some intermediate level technical theatre experience will undertake further production responsibilities. Prerequisite: FPA 372 and prior approval.

FPA 374-3 Stage Lighting
This course explores contemporary stage lighting for theatre, dance and opera. Participants will review the principles of theatrical lighting instruments and control systems and will experiment with the components of lighting design in a variety of studio projects. This course will require a practicum in an actual performance. (seminar/laboratory) Prerequisite: FPA 270 and prior approval. Students with credit for FPA 371 may not take FPA 374 for further credit.

FPA 375-3 Stage Design
For students who have gained the basic knowledge of technical theatre. Students will study various scenographic techniques and be required to solve theoretical problems related to aspects of production. (seminar/laboratory) Prerequisite: FPA 170. Students with credit for FPA 370 may not take FPA 375 for further credit.

FPA 450-3 Advanced Studio Skills
Primarily a course in public performance, with the option of focusing on other advanced studio skills. The objective is to integrate and implement the techniques acquired in the earlier studios. (studio) Prerequisite: prior approval or audition.

FPA 452-3 Selected Topics in Directing
Primarily a course in the fundamentals of directing leading to public performance of student directed projects. The course allows the option of public performance with a professional director. The focus is to integrate and implement the techniques acquired in the earlier studios. (seminar/studio) Prerequisite: FPA 150, 151, and prior approval.

FPA 457-3 Context of Theatre III
An analytical approach to a selected body of dramatic work. Course content includes an intensive consideration of practical dramatic techniques such as story structure and dramaturgy. (seminar) Prerequisite: 45 credit hours and prior approval.

FPA 472-3 Technical Production III
Senior students with extensive experience in production and design will be assigned major production responsibilities. As senior designers and production management personnel, students will be required to apply their skills in a major production role. Prerequisite: FPA 373 and prior approval.

FPA 473-5 Technical Production IV
Students with extensive experience in production and design will be assigned major production responsibilities. As senior designers and production management personnel, students will be required to apply their skills in a major production role. Prerequisite: FPA 373 and prior approval.

**Visual Art**

**FPA* 160-3 Introductory Studio in Visual Art I**
A hands-on studio course modeled on the progressive development of artistic practice from simple mark-making to full scale installation. Through a process of continuous transformation, an original idea is developed in a sequence of methods, materials and scales. Some research is required. (studio) Prerequisite: prior approval, based on an application to the school. A course materials fee is required.

**FPA* 161-3 Introductory Studio in Visual Art II**
A continuation of the work begun in FPA 160, with emphasis on particular problems in the visual arts worked through a series of projects, culminating in the Campus Project, a site-specific public work designed, built and installed at the end of the semester. Some research is required. (studio) Prerequisite: FPA 160. A course materials fee is required.

**FPA* 163-3 Issues in Spatial Presentation**
An interdisciplinary studio course concentrating on ideas of spatial perception, modification and installation, as they generally apply to the arts. From conceptualization and drawn perspective plans, to methods of scaling, projection and construction and manifestation in actual space. (studio)

**FPA* 167-3 History of Art: 1839-1939**
An introduction to the history of the visual arts from the beginnings of photography around 1839 up to WW II. A chronological review of the major works, movements and artistic developments in Europe and North America, placed in their social, institutional and stylistic context. (lecture)

**FPA* 168-3 History of Art: 1940-Present**
This course covers the development of western art from the second world war to the present with attention to the important artists, artworks, ideologies and movements of this period. Debates around modernism, postmodernity, postcolonialism, feminism and the avant-garde will be systematically explored in relation to these factors. (lecture)

**FPA 260-3 Studio in Visual Art I**
This course permits students to work extensively in a mature critical studio environment on a combination of freely chosen and assigned projects in various contemporary media. Readings 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. 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 263-3 Painting I**
This course introduces students to painting as an art form, through the acquisition and application of skills and concepts relevant to the practice of the medium in a contemporary context. Students will work through problems and projects assigned by the instructor to develop their technical abilities in relation to subjects and content. (studio) Prerequisite: FPA 160.

**FPA 265-3 Photography I**
This course introduces students to the technical and material problems of photography as an art form and its relation to current art discourses and issues. Students will work through projects assigned by the instructor to develop their technical abilities in relation to subjects and content. (studio) Prerequisite: FPA 265 and status as
an approved major or extended minor in visual art. A course materials fee is required.

FPA 366-3 Seminar in Visual Art I
A seminar course to be taken by all students in FPA 360. It deals with visual art topics of an historical, critical and theoretical nature which concern practising artists in the contemporary context. Students will be required to complete research papers. Each research subject will be studied in connection with the student's own artistic work. Senior students in other disciplines with appropriate background may request approval to take this course. (seminar) Prerequisite: FPA 211. Visual art major students transferring into third year may request approval to take FPA 211 concurrently. Corequisite: FPA 360.

FPA 367-3 Seminar in Visual Art II
A seminar course to be taken by all students in FPA 361. It deals with visual arts topics of an historical, critical and theoretical nature which concern practising artists in the contemporary context. Students will be required to complete research papers. Each research subject will be studied in connection with the student's own artistic work. Senior students in other disciplines with appropriate background may request approval to take this course. (seminar) Prerequisite: FPA 366. Visual art major students transferring into third year may request approval to take FPA 211 concurrently. Corequisite: FPA 361.

FPA 369-3 Selected Topics in Visual Art II
A specific topic in visual art which is not otherwise covered in depth in regular courses. The work may be practical (studio), theoretical or a combination of the two, depending on the particular topic in a given semester. (studio) Prerequisite: FPA 361, 367 and status as an approved major in visual art. A course materials fee is required.

FPA 460-3 Studio in Visual Art V
This course permits students to work in an open studio situation. Students propose an independent program of work in the media of their choice at the beginning of the semester and develop it in critical dialogue with the instructor(s). (studio) Prerequisite: FPA 361, 367 and status as an approved major in visual art. A course materials fee is required.

FPA 461-5 Studio in Visual Art VI
Permits students completing the visual art major to work in an open and critical studio situation. Students continue to develop a body of work begun in FPA 460 for their graduating exhibition at the end of the semester. Preparation and installation of the exhibition is part of the course requirement. (studio/seminar) Prerequisite: FPA 460 and status as an approved major in visual art. A course materials fee is required.

Criminology CRIM
Faculty of Arts

CRIM 101-3 Introduction to Criminology
Topics will include: examination of different terms and concepts commonly used in criminology, such as crime, delinquency, deviance, criminal, victim, rehabilitation and treatment. Criminology as a body of knowledge and as a profession. Position and subject matter of criminology. Relationship between criminology and other academic disciplines. Specificity of criminology. Relationship between theory and practice. History and evolution of criminological thought. Elements of continuity and discontinuity between classical and modern theories of criminality. Levels of explanations in criminology. Practical applications of criminology. The foundations of a modern criminal policy. (lecture/tutorial) Prerequisite: students who have completed any or all of CRIM 101, 103 and 104 may not register for CRIM 100 or 102.

CRIM 103-3 Psychological Explanations of Criminal and Deviant Behavior
An introduction to, and critical examination of, biogenetic, psychiatric, and psychological explanations of criminal and deviant behavior. Special attention will be given to the hypothesized links between criminality and genetics, physiology, the endocrine system, mental disorders, personality, moral development, and other forms of social learning. (lecture/tutorial) Students who have completed any or all of CRIM 101, 103 and 104 may not register for CRIM 100 or 102. Recommended: PSYC 100 and 102.

CRIM 104-3 Sociological Explanations of Criminal and Deviant Behavior
A survey of some major sociological perspectives on crime and deviance that will include both mainstream and critical theories. These will include: anomie, neutralization, control, group conflict, sub-cultural, ecological, functionalist and critical theories. Critical analysis of the assumptions upon which each theory is based. 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, the criminal 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 specific crimes and to certain major defences. Impact of Canadian Charter of Rights and Freedoms on the processes of law reform in Canada. (lecture/tutorial)

CRIM 210-3 Law, Youth and Young Offenders
An examination of the definition and control of youthful misconduct in an historical and contemporary context. Attention is focused upon: the social construction of 'juvenile delinquency', the decline of the concept, and the emergence of the concept of the 'young offender'; the Young Offenders Act and related legislation; the growth of the welfare state and the role of social workers in 'policing' youth and families; explanations for the criminal behavior of young persons; state and private sector programs designed to deal with such behavior. (lecture/tutorial) Prerequisite: any 100 level CRIM course.

CRIM 213-3 Introduction to Women and Criminal Justice
This course offers an historical and analytical overview of women and crime, taking into account the role of gender in both criminality and social responses to crime. Specific emphasis will be given to feminist theories. Attention will focus on the specific crimes and patterns of control and punishment. (lecture/tutorial) Prerequisite: any 100 level CRIM course.

CRIM 220-3 Research Methods in Criminology
An introduction to criminological research that is intended to develop the student's research and analytical skills. Specifically, the course will focus on the theory of inquiry, the logic, and structure of criminological inquiry, research design, data gathering, analysis and reporting. (lecture/tutorial) Students with credit for CRIM 120 may not take CRIM 220 for further credit. Recommended: any 100 level CRIM course.

CRIM 230-3 Criminal Law
Nature, purpose, scope, sources and basic principles of the criminal law. Study of certain fundamental legal concepts such as mens rea, negligence and strict liability. Analysis of the concept of criminal responsibility in Canada. Critical examination of the legislative policies expressed in the Criminal Code. Study of the basic elements of a criminal offence. Examination of the 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 135.

CRIM 231-3 Introduction to the Judicial Process
A critical examination and evaluation of the judicial process. An introduction to the criminal courts and the legal profession. The structure and functions of the criminal court system and its relationship to other branches of government. The role of the criminal court judge, prosecutor, lawyer, jury, witness, expert, etc. Appointment, tenure, removal of judges; the social psychology of the courts; the jury system; plea bargaining; judicial behavior of the courts; the courts and the community; public opinion, attitudes and images of the courts; the mass media and the courts. (lecture/tutorial) Prerequisite: CRIM 131. Recommended: CRIM 135.

CRIM 241-3 Introduction to Corrections
An examination of the organization, structure and operation of contemporary Canadian corrections. A consideration of the history and development of provincial and federal correctional systems. The role of sentencing in the correctional process and alternatives to confinement. Discussion of the social organization of correctional institutions, including the inmates, correctional officers, correctional treatment staff and administrators. Parole board decision making and the issues surrounding the re-entry of offenders into the community. Community-based corrections programs and outcomes. (lecture/tutorial) Prerequisite: CRIM 131.

CRIM 251-3 Introduction to Policing
An examination of the organization and operation of contemporary Canadian policing. Consideration of
the history and development of policing in Canada, the role of the police in Canadian society and the police occupation, including recruitment and training. Discussion of police-community and crime prevention initiatives. (lecture/tutorial) Prerequisite: CRIM 131. Students with credit for CRIM 151 may not take CRIM 251 for further credit.

CRIM 261-0 Practicum II
Second semester of work experience in the Criminology Co-operative Education Program. (practicum) Prerequisite: successful completion of CRIM 161 and 45 credit hours with a minimum CGPA of 2.75.

CRIM 300-3 Current Theories and Perspectives in Criminology
A detailed examination of current theories and perspectives in criminology. The content of the course will change with developments in the area. Students can expect to study biological, psychological and sociological theories and perspectives, as well as those from other relevant disciplines and fields of inquiry (e.g. geography, political science and cultural studies). (lecture/tutorial) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 301-3 Crime in Contemporary Society
Contemporary issues, problems and themes pertinent to the field of criminology. Development, character and function of criminology as an academic and professional discipline. Status of criminology in the Canadian context. Selected issues of the study of crime, law and justice which will vary depending on instructor. (lecture/tutorial) This course may not be taken by students who are majoring or minoring in Criminology.

CRIM 302-3 Critical Approaches to Crime and Deviance
Critique of traditional criminological theory and of the conventional approaches to the problems of crime and punishment. Critique of classical etiological criminology. Examination of the relationships between crime, class and power. The criminal as a scapegoat for the system. The stereotype of the criminal. Street crime vs. corporation and state crime. Criticism of treatment ideology and techniques. Comparison of conservative and radical criminal policy. The controversy about the possibility of a value-free social science and about the political commitment of the social scientist. (seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 310-3 Young Offenders and Criminal Justice: Advanced Topics
This course will examine, on a semester basis, some of the more complex contemporary issues relating to young offenders and justice. For any given semester, the content of the course will reflect current controversies as well as faculty and student interests. Topics may include social control theory and juvenile justice; an assessment of theories of rehabilitation; the legal philosophy and the young offenders legislation and its impact on Juvenile justice; and an evaluation of diversion, deinstitutionalization and de-legalization in Canada and the United States. (seminar) Prerequisite: one of CRIM 100, 101 or 102; 210.

CRIM 311-3 Minorities and the Criminal Justice System
An analysis of political, economic, and ethnic minorities and their relationship with the criminal justice system. Critical analysis of possible discordance, disharmony or conflict between ethnic and racial minorities such as Native Indians, Inuit, Metis, Doukhobor and others and the legal and social norms of the "host" majority. Women and the criminal justice system. (seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 312-3 Criminological Perspectives on Social Problems
Involves detailed study of forms of deviance that have been commonly defined as constituting 'social problems.' Consideration of drug abuse (alcohol, nicotine, heroin and others), suicide, prostitution, obscenity, gambling and abortion. Justifications for present legislative policy and the relationship between these activities and the criminal justice system. (seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 313-3 Specific Types of Crimes
Critical analysis of a specific type of crime with particular emphasis on the nature, the incidence, correlates, control and prevention. Special attention may be given to white collar crime, organized crime, violent crimes, political crimes, sexual offence, professional crimes, morality crime, etc. (seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 314-3 Mental Disorder, Criminality and the Law
Critical examination of the impact of psychiatry and related clinical professions on the criminal justice system. Relationship between institutions of mental health and legal control. The relevance of psychiatric theory and decision-making for the processing of mentally disordered offenders. The role of forensic clinicians in the courts and related agencies. Specific issues addressed in this course will include psychiatric assessment, criminal responsibility, fitness to stand trial, prediction of dangerousness, treatment of mentally ill criminals and the penal and therapeutic commitment of the insane. (seminar) Prerequisite: one of CRIM 100, 101 or 102. Recommended: CRIM 131.

CRIM 315-3 Restorative Justice
An examination and analysis of the principles, assumptions, key concepts and applications of restorative (Transformative) justice. The course will contrast restorative justice with the dominant retributive/punitive model of justice and provide an introduction to a variety of both established and emerging expressions of restorative justice including, victim/offender reconciliation programs, family/group conferencing and circle remedies. Prerequisite: CRIM 100, 101 or 102.

CRIM 320-3 Quantitative Research Methods in Criminology
A detailed examination of the quantitative research methods and techniques most frequently used in criminological research. Advantages and shortcomings of each method and the appropriateness of each technique for criminological research. Problems of pure and applied research. Specific issues of interdisciplinary research. Critical evaluation of the quantitative methods used in certain major criminological studies. (lecture/tutorial) Prerequisite: one of CRIM 100, 101 or 102; 135. Recommended: CRIM 213.

CRIM 321-3 Qualitative Research Methods in Criminology
A detailed examination and application of qualitative research methods and techniques most frequently used in criminological research. Advantages and disadvantages of each method and the appropriateness of each technique for criminological research. Ethics of criminological research. Specific issues of interdisciplinary research. Critical evaluation of qualitative methods used in certain major criminological studies. Prerequisite: one of CRIM 100, 101 or 102; one of CRIM 120 or 220. CRIM 320 may be taken concurrently with CRIM 321.

CRIM 322-3 Specific Types of Crimes
Involves a detailed study of a specific type of crime with particular emphasis on the nature, the incidence, correlates, control and prevention. Special attention may be given to white collar crime, organized crime, violent crimes, political crimes, sexual offence, professional crimes, morality crime, etc. (seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 330-3 Criminal Procedure and Evidence
Critical examination of selected topics in criminal procedure and evidence, including jurisdiction, police powers of search and seizure, the right to counsel and pre-trial and trial procedures. Brief survey of the system of rules and standards by means of which the admissibility of evidence is determined. Close examination of the Charter of Rights and Freedoms and its impact on criminal procedure and evidence. (lecture/tutorial) Prerequisite: one of CRIM 100, 101 or 102; 230.

CRIM 331-3 Advanced Criminal Law
An extension of CRIM 230, this course will examine Canadian criminal law in greater depth as well as in comparison with other jurisdictions. Each semester several substantive areas will be analysed closely. The areas to be examined will be determined by student interest but may include sexual offences, public order offences, mental disorder and the criminal process, property offences, etc. (seminar) Prerequisite: one of CRIM 100, 101 or 102; 230.

CRIM 332-3 Sociology of Law
Introduction to the theory of sociology of law. Law and social structure. Law as a product of a social system and as an instrument of social change. Social functions of the law. Relationship between law and the structure and function of various other social institutions. The process of law-making. Process by which various interests become translated into legal rules. The social reality of the law; the law in action. Social sciences findings into the operation and practice of the law. Critical and feminist perspectives on law. Public knowledge, awareness, opinions and attitudes to the law, sanctions and the criminal justice system. (lecture/tutorial) Prerequisite: one of CRIM 100, 101 or 102; 135.

CRIM 333-3 Women, Law and the State
This course will provide an in-depth consideration of feminist perspectives on the relationship of women to the state and the law. The nature of the contribution of criminal and family law to the reproduction of gender relations will be analysed. The implications of legal intervention and non-intervention in family relations, sex-specific and sex-related legislation will be examined. Theoretical concepts and issues such as patriarchal relations, sexuality and reproduction, and formal and informal control will be addressed. (seminar) Prerequisite: one of CRIM 100, 101 or 102; 135. Recommended: CRIM 213.

CRIM 335-3 Human Rights and Civil Liberties
A study of the relationship between the government and the individual. Focus upon the Canadian Charter of Rights and Freedoms and its interpretation by the judiciary. Examination of the issues of equality before the law, freedom of speech, freedom of religion and freedom of expression. A study of human rights at the international, federal and provincial levels. (lecture/seminar) Prerequisite: CRIM 330.

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 used as vehicles for exploring the legal and administrative framework that defines 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, constitution and sovereignty. The nature and sources of the 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 343-3 Correctional Practice
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 programs; the context provided by underlying theoretical assumptions about correctional practice and by influences such as public perceptions, politics and the economy. (seminar) 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, 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 352-3 Environmental Criminology: Theory and Practice
Explores the history of the field of environmental criminology and critically examines the theoretical approaches within the field. Special emphasis is placed upon the relationship between crime, fear and the environment, the criminality of place and the decision processes involved in criminal events. Prerequisite: one of CRIM 100, 101 or 102.

CRIM 355-3 The Forensic Sciences
This course will examine the use and interpretation of physical forensic evidence in court. It will critically examine and evaluate the major forensic sciences used in criminal investigations today, as well as look at the crime scene. Subjects examined will include forensic pathology, odontology, biology, DNA evidence, firearms evidence, toxicology chemistry and questioned documents. Techniques will be illustrated with case studies. (lecture/tutorial) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 361-0 Practicum III
Third semester of work experience in the Criminology Co-operative Education Program. (practicum) Prerequisite: successful completion of CRIM 261 and 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 her/his duty to the client; ethics of decision-making; research ethics; situation ethics; professional ethical codes and legal constraints on professional conduct. Different modes of personal interaction in selected parts of the criminal justice system are examined and taught. Mixed problems of skill and ethics are explored in controlled laboratory settings. (lecture/laboratory) Prerequisite: one of CRIM 100, 101 or 102; reserved for criminology majors and honors. This course is a prerequisite for CRIM 462. Completion of this course does not guarantee admission to field practice.

CRIM 370-3 Directed Readings
Independent readings in a selected field of study, under the direction of a single faculty member. Papers will be required. Prerequisite: CRIM 320 and 330, and written application to the school no later than the last day of classes of the preceding semester. CRIM 370 and 470 may not be taken concurrently.

CRIM 402-3 Biological Explanations of Crime
Examine possible biological factors that could result in a predisposition towards criminal behaviour. These include not only the genetic factors that affect behaviour and therefore could potentially predispose towards crime, but also biochemical, neurological, nutritive and accidental effects such as head injuries. This course will critically analyse evidence both for and against any possible biological predispositions for criminogenic behaviours, together with the interaction with the environment. In particular, moral and ethical issues will be considered and debated. Prerequisite: one of CRIM 100, 101 or 102. Students with credit for CRIM 416 in the summer 2000 or 2001 semester may not take CRIM 402 for further credit.

CRIM 410-3 Decision-Making in Criminal Justice
Examination of the factors which influence decision making in the criminal justice system. The exercise of discretion by criminal justice personnel; the role of organizational policies and priorities in decision making; the involvement of victims and the public. Consideration of decision making at specific stages of the criminal justice process. (seminar) Prerequisite: CRIM 131.

CRIM 412-3 Crime, the Media and the Public
Focus is upon the relationship among the content of media, the crime stories and the public. The course will include an examination of the 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 explanations in a comparative perspective 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 416-3 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 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) 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 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 introduction to research methodology, data analysis, and the writing of research papers. Prerequisite: one 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 and 321.

CRIM 430-3 Judicial Administration and Planning
Theory and practice of court administration. Examination of the organization of court systems with particular attention to problems of administration and planning. Consideration of decision making at specific stages of the criminal justice process. Consideration, of the structure and operation of various components of the criminal justice process in selected countries, including the police, criminal courts, and corrections. (seminar) Prerequisite: one of CRIM 100, 101 or 102.

CRIM 432-3 Gender in the Courts and the Legal Profession
The gendered nature of law will be addressed through an examination of its underlying factual assumptions, and the use of social science research as evidence in equality litigation. The use of the charter, human rights legislation, and other legal means to achieve gender equality through the legal system in the areas of work, employment and pay equity, and compensatory schemes for personal injuries will also be examined. This course will also examine women's struggles to gain admittance to the legal profession, and the barriers which may still prevent them from participating equally in the profession today. (seminar) Prerequisite: CRIM 330.

CRIM 435-3 Adult Guardianship Law
A comprehensive exploration of the law affecting adult guardianship, substitute decision-making, and adult protection in Canada, including a detailed examination of the form, content and philosophical underpinnings of the relevant legislation in British Columbia. Topics include assessing mental incapability, powers of attorney, living wills and health care directives, end of life decision-making, the law affecting consent to healthcare, and court-ordered guardianship for adults. Prerequisite: one of CRIM 100, 101 or 102. Recommended: one of CRIM 330 or 335. This course is identical to GERO 435 and students cannot take both courses for credit. Students...
Problems of law enforcement manpower: recruitment, enforcement agencies. Professional police
This course will cover the following topics: theory and
CRIM 455-3 Law Enforcement Administration
(lecture/laboratory) Prerequisite: one of CRIM 100, 101 or 102. Recommended: CRIM 336.
CRIM 437-3 Crime and Misconduct in the
Professions
This course will examine the use of self regulation by professional organizations (e.g. law societies, colleges of physicians and surgeons, stock exchanges) and the increasing demand by other occupational groups and social and economic entities to be governed by these internal controls in addition to, or in lieu of, the criminal law. It will specifically examine how the criminal law is used in the context of self-regulation and how professionals can bypass the criminal law through self-regulating organizations. The professions will be examined in the context of administrative, civil and criminal law. Implications for self-regulation in other areas and the future of self-regulation will also be considered. (seminar) Prerequisite: CRIM 330.
CRIM 442-3 Correctional Practice: Advanced
Topics
An in-depth examination of the various community-based and institutional programs and techniques utilized in correctional systems. The choice of programs and techniques will depend upon the instructor but may include a range of restorative justice initiatives (e.g. victim-offender reconciliation, family-group conferencing, and circle remedies), traditional psychodynamic therapies (e.g. behaviour modification and guided group interaction) and education or skill development programs. The course may include a consideration of the applicability of the precepts of clinical criminology to correctional practice. (seminar) Recommended: CRIM 315 and 343.
CRIM 450-5 Techniques of Crime Prevention II
Introduction to the modern techniques of crime prevention. Emphasis will be on crime prevention and reduction in fear of crime. Crime prevention through social change. Crime prevention through environmental design. Crime prevention through physical planning and architectural design. The concept of ‘defensible space.’ Obstructing and reducing the opportunities for the commission of crimes. Evaluating crime prevention programs. (lecture/laboratory) Prerequisite: one of CRIM 100, 101 or 102.
CRIM 453-3 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; 131 and 251.
CRIM 461-0 Practicum IV
Fourth semester of work experience in the Criminology Co-operative Education Program. (Practicum) Prerequisite: successful completion of CRIM 361 and 75 credit hours with a minimum CGPA of 2.75.
CRIM 462-15 Field Practice
Supervised three month field practicum in selected criminal justice agencies. Students are required to complete a series of reports addressing theoretical and practical issues relating to their placement as well as to attend regular feedback seminar discussions with faculty supervisors and other field practicum students. Prerequisite: prior approval of the school and a minimum CGPA of 2.5 is required. Applicants must be full-time criminal justice majors or honors students, and must be registered in or have completed CRIM 320, 321 and 369. A minimum grade of B- in CRIM 369 is required. Only under exceptional circumstances, to a limit of three credit hours, and with the formal written approval of the director of the undergraduate program, will registration for course work in addition to CRIM 462 be permitted.
CRIM 470-5 Directed Studies
Independent research in a selected criminological area, under the direction and supervision of at least one faculty member. A research report is required. Prerequisite: CRIM 320, 321 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.

Undergraduate Semester in Dialogue DIAL
DIAL 390-5 Undergraduate Semester: Dialogue
The Dialogue component of the Undergraduate Semester at the Centre for Dialogue will immerse students in the art and practice of thinking and communicating. The focus will be on strategies and methods to use in understanding diverse perspectives. Students will have an opportunity to expand their verbal and written communication skills as well as explore dialogues as a developing academic field. The specific focus of the course and the assignments will be linked and interwoven with the current semester’s offering of DIAL 391 and 392, which must be taken simultaneously with DIAL 390. (0-5-0) Prerequisite: 45 credit hours prior to beginning the Undergraduate Semester at the Centre for Dialogue. Students should apply two semesters before the semester in which they wish to enroll. Corequisite: DIAL 391, 392.
DIAL 391-5 Undergraduate Semester: Seminar
Topics covered each semester will vary, but generally each course will examine a subject that encourages broad approaches and probes provocative issues. The course will consist of discussions led by faculty, frequent visits from relevant off-campus experts, a heavy reading load, and a number of individual and group student projects. Learning will be active rather than passive, stimulating students to research, explore and discuss rather than following a lecture format. (0-5-0) Prerequisite: 45 credit hours prior to beginning the Undergraduate Semester at the Centre for Dialogue. Students should apply two semesters before the semester in which they wish to enroll. Corequisite: DIAL 390, 392.
DIAL 392-5 Undergraduate Semester: Final Project
For their final project, each student will produce a manuscript suitable for submission to a major public media outlet on a topic relevant to the course focus for that semester. (0-5-0) Prerequisite: 45 credit hours prior to beginning the Undergraduate Semester at the Centre for Dialogue. Students should apply two semesters before the semester in which they wish to enroll. Corequisite: DIAL 390, 391.

Earth Sciences EASC
Faculty of Science
EASC 101-3 Physical Geology
An introduction to the origin and character of minerals, rocks, earth structure, earth surface processes and plate tectonic theory. (2-0-3) Students with credit for GEGO 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. (0-0-2) Prerequisite or corequisite: EASC 101 or GEGO 111. With the permission of the instructor, students with credit for geology 12 may have the prerequisite waived.
EASC 103-3 The Rise and Fall of the Dinosaurs
An introductory course that deals with the class Dinosauria, and in particular, how our understanding of this extinct group of animals has been radically altered in the light of new discoveries during the last few decades. The course addresses the rise of the dinosaurs, criteria for the recognition of the different groups, fossil data regarding dinosaur metabolism,
Evidence of dinosaur behaviour, possible evolutionary relationships with birds and so-called feathered dinosaurs, and theories of dinosaur extinction. (2-0-2)

**EASC 201-3 Stratigraphy and Sedimentation**
An introduction to the nature, origin and interpretation of stratified earth materials. Principles of lithostratigraphy, biostratigraphy and chronostratigraphy. Sequence stratigraphy. The facies concept. (2-0-2) Prerequisite: EASC 101 or GEOG 111; and EASC 102.

**EASC 202-3 Introduction to Mineralogy**
Introduction to crystallography, crystal chemistry and chemical properties and chemical principles necessary for the study of minerals. (2-0-3) Prerequisite: EASC 101. Corequisite: CHEM 121.

**EASC 203-3 Paleontology**
Principles of classification, morphology and development of the major groups of animals and plants in the geological record; the paleoecologic significance of fossils. (2-0-2) Prerequisite: EASC 102. Recommended: BISC 102.

**EASC 204-3 Structural Geology I**
Description, classification and interpretation of earth structures: folds, faults, joints, cleavage and lineations. Elementary rock mechanics. (2-0-3) Prerequisite: EASC 101 and 102, PHYS 120.

**EASC 205-3 Introduction to Petrology**
Optical phenomena related to the use of the polarizing microscope in the identification of minerals in thin section. Petrogenesis and classification of igneous sedimentary and metamorphic rocks. Hand specimen and thin section identification of rocks and minerals. (2-0-3) Prerequisite: EASC 202, CHEM 122, PHYS 121 and 131.

**EASC 206-1 Field Geology I**
Seven days of field excursions to demonstrate the geology of British Columbia. (field study) Prerequisite: EASC 101 and 102.

**EASC 207-3 Introduction to Geophysics**
An introduction to geophysics emphasizing seismic, magnetic and gravimetric observations of the Earth. Applied geophysics. (2-0-3) Prerequisite: EASC 101, PHYS 121 and 131.

**EASC 208-3 Introduction to Geochemistry**
Low temperature aqueous solution geochemistry. Geochanical processes, chemical and geomorphic environments. (2-0-3) Prerequisite: EASC 101, CHEM 121, 122 and 126.

**EASC 301-3 Igneous and Metamorphic Petrology**
Mineralogy, phase relations, origin of igneous rocks; classification of igneous rocks. Mineralogy and textures of metamorphic rocks: hand sample and thin sections. (2-0-3) Prerequisite: EASC 205 and 206.

**EASC 302-3 Sedimentary Petrology**
Description and classification, field and microscopic identification of sedimentary rocks; petrogenesis and paleoenvironmental reconstruction. (2-0-3) Prerequisite: STAT 101, EASC 201 and 205.

**EASC 303-3 Environmental Geoscience**
Environmental geology is a branch of geology which deals with the relationship of people to their geological habitat. Topics covered will include environmental impact of mineral extraction and logging; erosion and sedimentation in rural and urban environments; mass movements in mountainous terrain. (2-0-2) Prerequisite: 75 credit hours including six credit hours in Earth Sciences and GEOG 213.

**EASC 304-3 Hydrogeology**
Introduction to the theory of groundwater flow; flow nets; well hydraulics; regional groundwater evaluation. (2-0-3) Prerequisite: one of PHYS 102 or 121, and one of EASC 101 or GEOG 111.

**EASC 306-2 Field Geology II**
A ten day field camp held after final exams in the Spring semester. The camp will focus on the field methods of logging, mapping and interpreting rocks in the field setting. Field locations will vary from year to year. (field study) Prerequisite or corequisite: EASC 201, 204, 205, 206 and GEOG 213.

**EASC 307-3 Applied Geophysics**
Application, instrumentation and limitations of electrical, electromagnetic, ground penetrating radar and seismic methods for engineering and geoscience applications. (2-0-3) Prerequisite: EASC 207.

**EASC 309-3 Global Tectonics**
The study of motion and deformation of the earth’s crust and upper mantle at a regional and global scale. A detailed examination of plate tectonic theory: plate boundary types, 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 and 207. Students who completed EASC 407 prior to fall 1998 may not take this course for credit.

**EASC 313-3 Introduction to Soil and Rock Engineering**
An introduction to the engineering properties and behaviour of soil and rock. Laboratory and field measurements of soil and rock properties. Applications in engineering design will be illustrated with case studies of slope stability, road design, foundations and underground excavations. Emphasis will be placed on the importance of soil and rock mechanics in the resources sector. (2-0-2) Prerequisite: EASC 101, 204 or permission of instructor.

**EASC 317-3 Global Geophysics**
Application of geophysical methods to the study of the Earth’s evolution and its interior structure; geometrical nature of plate tectonics on a sphere; the Earth’s magnetic field and its use in reconstruction of past plate motions; earthquake seismology and understanding the deep interior; gravity and lithospheric flexure, radioactive decay and an absolute geological time scale; heat loss and mantle convection; structure of oceanic lithosphere; structure of continental lithosphere; the early Earth and the tectonics of other planets. (2-0-2) Prerequisite: EASC 207 or permission of instructor.

**EASC 401-3 Mineral Deposits**
The petrology and genesis of metalliferous ore deposits; description of deposits, the occurrence and exploitation of industrial and non-metallic minerals. (2-0-3) Prerequisite: EASC 201, 204, 208 and 301.

**EASC 402-3 Sedimentology**
Sediment transport in fluids, the formation, character and classification of internal structures in sediments and paleoenvironmental analysis. (2-0-3) Prerequisite: EASC 302.

**EASC 403-3 Quaternary Geology**
Stratigraphy and history of the quaternary period with emphasis on glaciation, glacial sediments, and holocene alluvial fills. (2-0-3) Prerequisite: EASC 201 and GEOG 313.

**EASC 404-3 Structural Geology II**
Application of advanced concepts in structural geology to a variety of tectonic problems; deformation mechanisms; flow concepts applied to ductile deformation; description and interpretation of microstructural fabrics; strain partitioning from grain scale to global scale. (2-0-3) Prerequisite: EASC 202, 204, 205, 309.

**EASC 406-3 Field Geology III**
An advanced field study course that provides real-world examples of major topics in the earth sciences. This involves lectures, seminars and preparation of a term paper and guidebook during the term which serve as background for a 14-18 day field component held shortly after the spring examination period (generally early May). The field component encompasses a fast-paced excursion to a variety of field sites (which change yearly). (field study) Prerequisite: EASC 306 and a minimum of nine other credit hours in upper division earth science courses (or permission of the instructor). Recommended: EASC 309.

**EASC 408-3 Regional Geology of Western Canada**
The stratigraphy, structure and historical geology of western Canada. Terrain analysis. Important mineral and fossil sites will be discussed. (2-0-3) Prerequisite: EASC 309. Students who completed EASC 305 prior to fall 1998 may not take this course for credit.

**EASC 409-3 Rivers: Environments and Engineering**
Fluid mechanics of open channel flow, channel formation and maintenance, sediment transport and deposition, and river engineering case studies. (2-0-2) Prerequisite: EASC 201, GEOG 313, MATH 152 and PHYS 121.

**EASC 410-3 Groundwater Geochemistry and Contaminant Transport**
An introduction to chemical and mass transport processes in groundwater regimes. Topics include the basic principles of aqueous geochemistry, the evolution of groundwater in different natural geological environments, and contaminant hydrogeology. The processes and principles governing mass transport, including advection, dispersion and diffusion are emphasized. (2-0-3) Prerequisite: EASC 304, CHEM 121. Recommended: CHEM 122.

**EASC 411-3 Applied Environmental Geology**
The application of geologic principles and techniques to environmental problems. Emphasis will be placed on urban and forested environments at both local and regional scales. Geologic case histories. (2-0-3) Prerequisite: EASC 206, 303. Recommended: GEOG 253, 313.

**EASC 412-3 Advanced Geochemistry**
Application of thermodynamics to earth science problems, experimental study of mineral equilibria, theoretical development of geothermometers for earth systems science, the importance of aqueous and gaseous phases in the transport and precipitation of geological phases framed within the context of global tectonics, and the application of stable and radiogenic isotopes to problems within the earth sciences. (2-0-2) Prerequisite: EASC 208, 301.

**EASC 413-3 Forestry Geotechnics**

**EASC 416-3 Field Techniques in Hydrogeology**
This course is intended to complement the theoretical aspects of hydrogeology by providing students with hands-on experience using dyrogeological equipment, and implementing sampling and testing protocols. The course involves a series of pre-field session assignments consisting of the analysis of geophysical, geochemical and surficial geology data, and a week at a hydrogeology field site on the Fraser River delta, British Columbia. After the field work, students will conduct extensive analysis and interpretation of data gathered during the field session, complete exercises and prepare a
written report. The course runs for about three weeks following spring semester final examinations. (field study) Prerequisite: EASC 304. Corequisite: EASC 410. Recommended: EASC 207 and/or 307.

EASC 417-3 Seismology
Elasticity theory and the elastodynamic wave equation; P waves, S waves, and surface waves; reflection and refraction of plane waves; courses and seismometers' earthquakes, Earth structure and plate tectonics of Western Canada; seismic surveying methods in exploration of Earth's crust and detection of hydrocarbons. (2-0-2) Prerequisite: MATH 251 and PHYS 121 or permission of instructor. Recommended: EASC 101, MATH 232 and 252.

EASC 418-1 Terrain Stability: Assessment and Mitigation
A field-based course dealing with site specific assessment of the areas to be logged or impacted by road construction. Topics covered will include terrain stability assessment field procedures, environmental impact and mitigation in forest terrains, forestry-related landslides, forest road construction and deactivation. Rock slope stability assessment. (1-0-1) Prerequisite: EASC 313, 411 and 413.

EASC 419-1 Forest Harvesting Technology
A field-based course dealing with techniques used in the harvesting of timber; their impact and mitigation. Topics covered will include forest harvesting techniques (ground-based systems, cable systems, aerial systems, hand logging and horse logging), elements of operational logging (layout of cut blocks and road systems), and forest development plans. (1-0-1) Prerequisite: EASC 313, 411 and 413.

ECON 247-0 Undergraduate Courses – Economics ECON 247

ECON 102-3 Contemporary World Economies
An examination of the nature, experience and prospects of economies with differing structures, systems and levels of economic development. Consideration of the role, merits and problems of economic planning, both in developed and less developed countries. (lecture/tutorial) Students with credit for Economics courses at the 200 (or higher) division (excluding ECON 200 and 205) may not take ECON 102 for further credit.

ECON 103-3 Principles of Microeconomics
The principal elements of theory concerning utility and value, price and costs, factor analysis, productivity, labor organization, competition and monopoly, and the theory of the firm. (lecture/tutorial) Prerequisite: 12 credit hours. Students with credit for ECON 200 cannot take ECON 103 for further credit.

ECON 105-3 Principles of Macroeconomics
The principal elements of theory concerning money and 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 200 cannot take ECON 105 for further credit.

ECON 107-3 International Economics
International economics and the economic analysis of the world economy. Theory and practice of international trade. (lecture/tutorial) Prerequisite: ECON 103 or 205. Students with credit for ECON 200 cannot take ECON 107 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 developed. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205. Students with credit for ECON 200 may not take ECON 208 for further credit.

ECON 210-3 Money and Banking
Banking theory and practice in a Canadian context; the supply of money; the demand for money and credit creation; monetary policy in a centralized banking system and in relation to international finance. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205. Students with credit for ECON 310 cannot take ECON 210 for further credit.

ECON 211-3 Canadian Macroeconomic Policy
A general survey of Canadian macroeconomic 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 263-3 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 270-3 Canadian Microeconomic Policy
A general survey of Canadian microeconomic 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 282-3 Selected Topics in Economic Concepts and Issues
The objective of this course is to introduce students to the economic approach to decision-making by individuals, firms and institutions. They will see how economic analysis can be used to interpret current economic issues and as an aid to the formation and evaluation of government policy. The course will focus on both microeconomic and macroeconomic concepts. By exploring economic issues, the course will encourage critical thinking and develop problem-solving skills. (3-0-0) Prerequisite: this course is available only to students who are registered in the Integrated Studies Program.

ECON 301-5 Intermediate Microeconomic Theory
The study of the main principles and techniques of economic analysis in their application to modern theories of price, production, distribution, and the theory of the firm. (lecture/tutorial) Prerequisite: ECON 103 or 200 and ECON 105 or 205; MATH 157; and two 200 division ECON or BUJC courses (excluding BUJC 232), 60 credit hours or permission of the department.

ECON 305-5 Intermediate Macroeconomic Theory
Topics and methods of analysis of macroeconomic variables — consumption, investment, government and foreign trade. Classical and Keynesian models compared; analysis of economic statics and dynamics. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; MATH 157; and two 200 division ECON or BUJC courses (excluding BUJC 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 or 105 or 205, or permission of the department; 60 credit hours.

ECON 325-3 Industrial Organization
Introduces students to the economics of imperfect competition. Topics covered include the theory of the firm, market structure, and various aspects of firm strategy such as pricing, advertising, product differentiation, and innovation. Related questions of public policy will also be addressed. Prerequisite: ECON 301; 60 credit hours.

ECON 331-5 Introduction to Mathematical Economics
The mathematical interpretation of fundamental economic concepts; demand, supply, competitive equilibrium. Application of the calculus to production and distribution theory, growth models and investment theory. Differential and difference equations in dynamic economic models. Introduction to activity analysis. (lecture/tutorial) Prerequisite: ECON 103, 105 and MATH 157 or 151; 60 credit hours.

ECON 342-3 International Trade
Topics discussed in this course are: gains from trade in a classical world; the modern theory of international trade; factor price equalization; empirical tests and extensions of the pure theory model; economic growth and international trade; the nature and effects of protection; motives and welfare effects of factor movements; multinational enterprises; the brain drain; customs union theory; pollution control and international trade. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours or permission of the department. Students with credit for ECON 442 cannot take this course for further credit.

ECON 345-3 International Finance
Foreign exchange markets; determination of spot and forward exchange rates; Euro currency markets; balance of payments statistics; international adjustment theory; income price and exchange rate effects; the role of international short term capital flows; the international monetary system: gold standard, freely floating rates, dollar gold exchange standard, centrally created reserves. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours or permission of the department. Students with credit for ECON 445 cannot take this course for further credit.

ECON 353-4 Economic History of Canada
Analysis of leading issues in Canadian economic history. The historical experience of other areas will be examined when useful contrasts can be made. (lecture/tutorial) Prerequisite: ECON 301; 60 credit hours.

ECON 355-4 Economic Development
Analysis of 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/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours. Students with credit for ECON 455 may not take ECON 355 for further credit.

ECON 362-4 Economics of Natural Resources
Application of economic analysis to natural resource problems and efficient management practice; public policy considerations in respect to development and conservation; benefit-cost analysis. (lecture) Prerequisite: ECON 301; 60 credit hours.

ECON 367-3 Transportation
The economic function of transportation; analysis of cost, demand and pricing in various transportation industries; evaluation of public policy toward provision of transportation facilities and the regulation of transport industries. (lecture/tutorial) Prerequisite: ECON 103 or 200 and 105 or 205; 60 credit hours.

ECON 368-3 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 lower division requirements and completion of 60 credit hours, at least 12 of which must be completed at Simon Fraser University with a CGPA of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the preceding semester.

ECON 379-0 Economics Practicum IV
This is the last semester of work experience in the Economics Co-operative Education Program. Prerequisite: ECON 301-5 or ECON 305-5 and 60 credit hours with a CGPA of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the preceding semester.

ECON 381-4 Labor Economics
Analysis of the economics of the labor market with particular emphasis on wage determination, the concept of full employment, and manpower policies. (lecture/tutorial) Prerequisite: ECON 301; 60 credit hours.

ECON 382-383-3 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 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 Economics: Role of Government
The study of the normative rationale for government in a market economy through an analysis of distributional issues, public goods, externalities, non-competitive market structures, and asymmetric information. (lecture/tutorial) Prerequisite: ECON 301; 305; 60 credit hours.

ECON 393-3 Public Economics: Taxation
The study of the public economics of taxation including the efficiency and distributional aspects of taxation, the incentive effects of taxation, tax incidence, tax evasion and fiscal federalism. (2-1-0) Prerequisite: ECON 301 and 305; 60 credit hours.

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, 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 460-3 Seminar in Environmental Economics
Focus will vary from semester to semester. (Seminar) Prerequisite: ECON 301, 305; 60 credit hours.

ECON 478-0 Economics Practicum V
This is an optional semester of work experience in the Economics Co-operative Education Program. Prerequisite: ECON 301, 305, one 400 division course and 90 credit hours and a CGPA of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the third week of the preceding semester.

ECON 480-3 Seminar in the Economics of Labor Market Policy
Seminars 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 arrangements) that may affect income security. (Seminar) Prerequisite: either ECON 381 or both of 301 and 305; 60 credit hours.

ECON 482-483-3 Selected Topics in Economics
The subject matter will vary from semester to semester depending upon the interests of faculty and students. (Seminar) Prerequisite: ECON 301 and 305; 60 credit hours.

ECON 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 492-3 Seminar in Public Economics
This seminar course considers topics such as the potential role for government through an analysis of distributional issues, externalities, non-competitive market structures, and asymmetric information. It may also include topics like the incentive effects of taxation, tax incidence, tax evasion and budgetary considerations. (0-3-0) Prerequisite: ECON 392 or 393.

ECON 496-3 Selected Topics in Economics
The subject matter will vary from semester to semester depending upon the interests of faculty and students. (Seminar) Prerequisite: ECON 301 and 305; 60 credit hours.

ECON 498-3 Directed Studies
Independent reading and research on topics selected in consultation with the supervising instructor. This course may not be repeated for additional credits. Prerequisite: ECON 301 and 305 and permission of the undergraduate chair of the department; 60 credit hours.

ECON 499-6 Honors Seminar in Economics
The purpose of this course is to permit the student to expand and develop a paper that has been prepared for a previous course into an honors paper. (Seminar) Prerequisite: ECON 301, 305; one additional 400 level course in Economics, minimum CGPA of 3.0. Pre- or corequisite: 435.

Education EDUC
Faculty of Education
EDUC 100-3 Selected Questions and Issues in Education
This course introduces students to a small but representative sample of basic questions and issues in education. Students will examine questions relating to: the concept of education; learning and the learner; teaching and the teacher; and more generally, the broader contexts of education. This course also introduces students to different ways of exploring educational questions and issues — from philosophical and critical analysis, to historical and cross-cultural studies, to empirical research. Cannot be taken for credit by students with credit for 300 and 400 level education courses.

EDUC 220-3 Introduction to Educational Psychology
A survey of educational research and theories concerning motivation, learning, development, and individual differences in classroom settings. May be applied towards the certificate in liberal arts.

EDUC 222-3 Research Methods in Educational Psychology
An introductory survey of research methods used in developing and testing theories in educational psychology. Illustrations are drawn from published research in educational psychology. Corequisite: EDUC 220-3

EDUC 230-3 Introduction to Philosophy of Education
This course provides prospective teachers and others interested in education an opportunity to examine a variety of educational problems from a philosophical perspective. The central concern of the course is to elucidate the nature of education as a phenomenon distinct from such activities as training, schooling, and socialization. May be applied towards the certificate in liberal arts.

EDUC 240-3 Social Issues in Education
Social functions of the school; education and socialization; social, political, economic and cultural influences on the institutions and practices of education. May be applied towards the certificate in liberal arts.

EDUC 252-4 Introduction to Reflective Practice
Provides opportunities for prospective teachers to begin their development as reflective practitioners. Through readings, class discussions, and interactions with students and practicing teachers, students will be exposed to various educational issues and questions. They will be given time to explore their own values and beliefs about education and teaching. Time will be spent observing in a selection of local schools, and there will be opportunities to work with children individually, and in small and large groups. Students with credit for EDUC 401 or holding a teaching certificate may not take this course for credit.

EDUC 260-3 Learning and Teaching Through Technology
Provides a practical and theoretical exploration of technology use in K-12 classroom settings. Introduces current technologies that potentially impact student learning as well as a variety of issues and problems surrounding the use of learning technologies in schools. Also offers opportunities to explore technology-based innovations not yet broadly used in schools. Students with credit for any computer course (except CMPT 001) cannot take this course for further credit.

EDUC 298-299-2,3 Special Topics
Courses will explore issues of current concern. Subjects to be taught and the exact assignment of credit (2 or 3) will be announced prior to the beginning of each semester. Course may be on a pass/fail basis. A maximum of 12 semester hours of credit in education special topics courses may be used towards a bachelor of education degree.

EDUC 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 of motivation and beliefs; metacognition, self-regulated learning, and learning skills; problem solving and transfer; cognitive processing models of instruction in mathematics, science, social studies, reading and composition. Prerequisite: EDUC 220.

EDUC 322-3 The Social Lives of School Children
An introduction to the study of social processes in schools. Emphasis on the role of peer relationships in development and the role of the school in supporting positive interactions. Prerequisite: EDUC 220 or PSYC 250.

EDUC 323-3 Introduction to Counselling Theories
Survey of theories undergirding counsellor and teacher interventions aimed at promoting emotional growth, development and personal change. Examination of theories and their sociological, cultural and philosophical contexts. Exploration of links between frequently used interventions and the implicit theories underlying these strategies. Students who have credit for EDUC 425 cannot take EDUC 323 for further credit. Prerequisite: EDUC 220 or equivalent, and 60 credit hours.
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. Prerequisite: EDUC 401/2 or one of EDUC 100, 220, 230, 240.

EDUC 327-3 Self, Psychology and Education
A critical examination of theoretical and empirical programs of inquiry in educational psychology that are concerned with the self (e.g., self-esteem, self-concept, self-directed or self-regulated learning). Students will participate in a wide-ranging seminar that considers topics such as the relationship between personal and social being, historical perspectives on the self, the formation of social identity, the roles of memory, imagination, and narrative selfhood, the development of agency and self, and education and personhood. Prerequisite: 60 hours of credit, including one of EDUC 220, 230, 240 or 250.

EDUC 328-3 Career Education and Career Counselling
An introduction to theories of career choice, adjustment and development. Emphasis on critical evaluation of established theories that are influential in the development of career education curricula and in the practice of career counselling. Prerequisite: EDUC 220 or 401/402.

EDUC 330-3 Movement Language Elements for Dance in Education
In this experiential course students will develop an understanding of the movement concepts (action, space, time, force, relationship) which are the framework for making and teaching dance. This course will explore dance as a non-verbal expressive language, and will introduce students to a variety of aspects of dance within the curriculum. Previous dance training is not required. Prerequisite: 60 credit hours.

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 351-3 Teaching the Older Adult
This is a basic course in adult education for students from all disciplines, of particular interest to those working (or preparing to work) with older adults. The goal is to assist students to develop more effective strategies for meeting the needs of an aging population through education. Prerequisite: 60 credit hours.

EDUC 352-4 Building on Reflective Practice
Building on the experience of EDUC 252, prospective teachers will continue to develop their reflective practice. Various educational issues related to the caring for children and the creation of learning communities will be explored. Prospective teachers will spend time in classrooms exploring the importance of connected learning experiences for children. Students with credit for EDUC 401 or holding a teaching certificate may not take this course for credit. Prerequisite: EDUC 252.

EDUC 355-4 Theatre in an Educational Context
This course deals with teaching theatre in an educational context. It will develop knowledge of theatre skills, and introduce students to a variety of approaches and techniques for teaching theatre and doing theatre in the schools. Prerequisite: 60 credit hours.

EDUC 358-3 Foundations of Educational Technology
A survey of major traditions of research and development in educational technology, including the arguments and assumptions they make about what constitutes a valuable educational outcome. Focus on analyzing and understanding educational technologies as cultural tools that are both shaped by and in turn shape teaching and learning in K-12 schools. Prerequisite: EDUC 260.

EDUC 367-4 Teaching Children from Minority Language Backgrounds in Elementary Classrooms
This course is intended for prospective or practicing elementary school teachers who are interested in enhancing educational practice for children of minority language backgrounds (those often labelled as ESL students) within the context of their mainstream classrooms. Participants will consider theory and research in second language learning, examine recommendations for classroom practice and develop plans for practice relevant to their own educational milieu. Prerequisite: 60 hours of credit.

EDUC 370-399-2,3,4,6 Special Topics
Course will explore major issues of present concern. Subjects to be taught and the exact assignment of credit (3, 4 or 6) and prerequisites will be announced prior to the beginning of each semester. Course may be given on a pass/fail basis. A maximum of 12 credit hours 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/withdraw basis. (Not offered in summer semester.)

EDUC 402-7 Studies of Educational Theory and Practice
A half semester of study which provides students with workshops, seminars, and lectures designed to introduce them to basic curriculum and methods appropriate for the age/grade level in which they expect to teach. Students will also be given an introduction to generic teaching skills, as well as to current issues in educational theory and practice. Grading is on a pass/withdraw basis. (Not offered in summer semester.) Corequisite: EDUC 401.

EDUC 404-0 Course Work Semester
Students undertake 14 semester credit hours of studies in Education to complete the professional development program requirements. Prerequisite: EDUC 401/402.

EDUC 405-15 Teaching Semester
A full semester of classroom experience supervised by University appointed school associates. The school placement is appropriate to the grade level and subject specialties which the student expects to teach after graduation. Grading is on a pass/withdraw basis. (Not offered in summer semester.) Prerequisite: EDUC 401/402.

EDUC 406-12 Supervised Observation and Teaching
Education 406 is designed for those who need to meet BC certification requirements. It is a supervised orientation/observation/teaching sequence of approximately ten weeks, in a BC public school. This practicum is designed as an opportunity to familiarize students with the British Columbia school system and update their teaching skills. Prerequisite: permission will not be given to students without previous teaching experience. Grading will be on a pass/withdrawal basis. Students with credit for EDUC 407 may not take EDUC 406. EDUC 406 is not applicable toward the credit requirements for a degree or diploma, i.e. not counted in total credits.

EDUC 411-3 Investigations in Secondary Mathematics
Students examine secondary mathematics from an advanced standpoint, focusing on problem solving, investigating connections among various topics and representations, and situating secondary mathematics in a broader context, both mathematical and historical. Corequisite: EDUC 415 or appropriate math background and permission of instructor.

EDUC 412-4 Designs for Learning: Secondary Language Arts
Focuses on teaching secondary school language arts and addresses aspects of the theory and practice of language arts education. Students examine their own thinking about language arts education through critical reflection, work with the prescribed curriculum, and explore various ways to develop engaging learning experiences for young adults within a consistent framework using appropriate instructional materials and methods. Prerequisite: EDUC 401/402. Students who have credit for EDUC 472 prior to the 2001-2 semester cannot take EDUC 412 for further credit.

EDUC 414-4 Designs for Learning: Secondary Social Studies
Focuses on teaching secondary school social studies and addresses aspects of the theory and practice of social studies education. Students examine their own thinking about social studies education through critical reflection, work with the prescribed curriculum, and explore various ways to develop engaging learning experiences for young adults within a consistent framework using appropriate instructional materials and methods. Prerequisite: EDUC 401/402. Students who have credit for EDUC 474 cannot take EDUC 414 for further credit.

EDUC 415-4 Designs for Learning: Secondary Mathematics
Focuses on teaching secondary school mathematics. Students explore mathematical learning, their own mathematical thinking and curriculum; and plan mathematical instruction within a consistent framework using appropriate instructional materials and methods. Prerequisite: EDUC 401/402. Students who have credit for EDUC 475 prior to the 2001-2 semester cannot take EDUC 415 for further credit.

EDUC 416-4 Designs for Learning: Secondary Science
Focuses on teaching secondary school science. Students explore the sciences and aspects of learning science; examine their own scientific
thinking; work with the prescribed curriculum; and plan science learning experiences within a consistent framework using appropriate instructional materials and methods. Prerequisite: EDUC 401/402. Students who have credit for EDUC 476 prior to the 2001-2 semester cannot take EDUC 416 for further credit.

EDUC 422-4 Learning Disabilities
A study of conceptual and historic foundations of learning disabilities and an introduction to the methodologies of diagnosis and of learning disabilities. Prerequisite: 60 hours of credit. Corequisite: EDUC 323.

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 EDUC 424-4 Teaching Children and Youth with Special Needs
An introduction to the field of special education including studies of the definitional criteria and characteristics of major categories of special need, and the distinctive instructional challenges associated with these categories. The course focuses on the special learning needs of school age students, both elementary and secondary school levels, and emphasizes both the analysis of issues and treatment needs across the array of special needs. Prerequisite: 60 hours of credit.

EDUC 428-4 Nature and Nurture of Gifted Students
Concepts and practices related to the nature and nurture of the potential for giftedness in educational settings will be introduced. Theoretical and historical foundations of common practices in gifted education will be covered. Grading will be on a pass/fail basis. Prerequisite: EDUC 220 or PSYC 250 or PYSC 302 and EDUC 401/402.

EDUC 430-4 Designs for Learning Dance
This course is for students and teachers with some movement and dance experience who are planning to teach dance in school or recreational settings. Students will continue experiential and theoretical explorations of movement language framework concepts with increasing emphasis on expressive, formal and critical aspects of dance and movement education. Prerequisite: EDUC 330 and either EDUC 401/402, or permission of instructor.

EDUC 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 curricula, the components of a rational curriculum, curriculum design and its differentiation, curriculum integration and the education of the emotions. Also deals with such current issues as the place of behavioral objectives in education, the hidden curriculum and the sociology of knowledge. Prerequisite: 60 hours of credit.

EDUC 437-4 Ethical Issues in Education
Ethical problems in education are identified and examined. Four major areas of concern are explored: 1. the normative character of education as a whole; 2. the justification of education; 3. ethical questions related to equality, autonomy, interpersonal relationships, and rights in education; 4. moral education and values education. Prerequisite: EDUC 230 or EDUC 401/402 or permission of the instructor.

EDUC 441-4 Multicultural/Anti-Racist Education
Focuses on developing approaches for multicultural and anti-racist teaching. Topics include: diversity of race, language and culture among learners; identifying the operation of racism, prejudice and discrimination in classrooms and schools; becoming familiar with a variety of approaches such as: co-operative learning, culturally appropriate assessment, and community involvement to counteract and prevent negative classroom and school dynamics; identifying bias in curriculum resources; and locating entry points in selected curriculum areas (e.g. language arts, social studies, art, music, etc.) for integrating approaches which employ a range of multicultural/anti-racist curriculum resources. Prerequisite: EDUC 240 or SA 333, and EDUC 401/402.

EDUC 445-4 Legal Context of Teaching
This course is designed to provide education students, teachers, counsellors and school administrators with a comprehensive understanding of the legal issues and potential legal liabilities encountered in the BC school system. Special attention is devoted to the legal dimensions and consequences of routine classroom and administrative activity. Topics include: sexual abuse by school board employees; negligence and supervision; private lifestyles and community standards; discipline and corporal punishment; sexual harassment in the workplace; responsibility for curriculum fulfillment; liability outside school hours; and the AIDS controversy. Prerequisite: 60 hours of credit.

EDUC 446-4 Law for the Classroom Teacher
The course provides teachers with the necessary background understanding of the law and legal practices required to teach the law-related dimensions of the BC curricula. The major focus will be on the areas of law, and legal concepts and procedures included in the secondary social studies and 12th grade. Prerequisite: 60 hours of credit.

EDUC 448-4 Law in the Curriculum
The justification and practice of law-related education in the K-12 curriculum are the subjects of this methodology course. Students will examine the place of law in the curriculum, existing resources and appropriate teaching strategies and will have the opportunity to develop unit plans and curriculum materials. Emphasis is on developing and implementing law-related programs in the classroom. Prerequisite: 60 hours of credit.

EDUC 450-4 Classroom French Curriculum Studies
This course is intended for students who would like to gain a broader view of the French second language teacher profession while improving their knowledge of the language and culture in a classroom context. The general objective of this course is to help prospective French teachers to better understand the pedagogical relevance of and the relationship between cultural competence and communicative competence. Prerequisite: When the course is offered in French, 60 hours of credit and 12 credits of French or equivalent. When the course is offered in English, 60 hours of credit.

EDUC 451-4 Classroom French Curriculum Practices
The general objective of this course is to help prospective and practicing French teachers better understand the pedagogical and cultural relevance of a variety of French language registers and of their significance to second language teaching. Prerequisite: When the course is offered in French, 60 hours of credit and 12 credits of French or equivalent. When the course is offered in English, 60 hours of credit.

EDUC 452-8 Environmental Education
This course will examine the educational problems entailed in developing human awareness and understanding of the environment. The course will explore environmental issues through a multi-disciplinary approach and will relate historical and contemporary problems in human-environment interactions to school curricula from the elementary to the secondary level. Includes a laboratory component. Grading will be on a pass/fail basis. A 35 field activity fee will be levied in this course. Normally offered in summer session only. Prerequisite: EDUC 401/402.

EDUC 456-4 Models of the Contemporary Arts in Education
Major conceptions of educational value in the contemporary arts, and application of these ideas to the development of visual arts programs in the schools. Prerequisite: 60 hours of credit.

EDUC 457-4 Drama and Education
This course deals with theory, curricula and methodologies in drama education. Topics will include a selection from the following: aims of drama education; drama as methodology; role of the teacher in the drama classroom; evaluating students in drama classes; creative drama; the use of improvisation and storytelling; incorporating film and video work into drama classes; developing major projects with students such as chorale dramatization, docudrama, anthology, and readers theatre; introducing scene work, stagecraft, and theatre history. Prerequisite: EDUC 401/402.

EDUC 459-4 Instructional Activities in Physical Education
This course focuses on theory and curriculum of school physical education programs. Emphasis is given to the movement education orientation as it pertains to the various program activities and approaches applicable to primary, intermediate and secondary levels. Prerequisite: EDUC 401/402.

EDUC 463-4 Multimedia for Curriculum Design
This course focuses primarily on the evaluation of the use of multimedia software packages in relation to important curricular and instructional issues. A secondary focus will be the student design and production of a multimedia package for use in an educational setting. Prerequisite: EDUC 260 or permission of instructor.

EDUC 464-4 Early Childhood Education
Current trends, issues and research relating to the education of young children. Prerequisite: EDUC 401/402 or PSYC 250.

EDUC 465-4 Children’s Literature
Historical, sociological and literary perspectives on literature for children. Prerequisite: 60 hours of credit.

EDUC 467-4 Curriculum and Instruction in Teaching English as a Second Language
Students will learn to use English language teaching grammar appropriately, to evaluate and use methods of teaching English as a second language, to do error analyses, and to adapt commercial programmes to the specific needs of learners. This course is designed for teachers and prospective teachers. Prerequisite: 60 hours of credit and ENGL 370 or a linguistics course.

EDUC 468-4 Cognition and Language in ESL Instruction
Cognitive approaches to second language learning; syntactic and vocabularv differences in content-area subjects; language learning strategies; visual literacy;
self directed language learning. Prerequisite: 60 hours of credit and one linguistics course.

EDUC 469-4 Music Education as Thinking in Sound
Understanding the language of music, both historical and contemporary, and use of electronic and acoustic instruments in the general music classroom. Prerequisite: 60 hours of credit.

EDUC 470-4 Experience in Teaching Students Who Have Limited English Proficiency
This course is for those who intend to teach people with limited proficiency in English. It permits teachers to develop their own classroom skills specific to teaching the English language to non-native speakers and to reflect upon their own development as teachers. Prerequisite: EDUC 467. A letter of approval is required from a qualified supporting agency willing to supervise the field work component of this course. The appropriate form is available through the Centre for Distance Education.

EDUC 471-4 Curriculum Development: Theory and Practice
Explorations of curriculum theory and processes of development with applications at different levels and in several subject areas. Prerequisite: 60 hours of credit.

EDUC 472-4 Designs for Learning: Elementary Language Arts
Focuses on developing knowledge, skills and strategies to create a rich and stimulating language arts program in the elementary classroom. Issues in reading, writing, speaking and listening will be examined through current theory and teaching practice. Prerequisite: EDUC 401/402. Students who have credit for EDUC 472 prior to 2001-2 semester cannot take EDUC 472 for further credit.

EDUC 473-4 Designs for Learning: Reading
This course offers both theoretical and practical information about teaching reading in primary and early intermediate grades. Prerequisite: EDUC 401/402.

EDUC 474-4 Designs for Learning: Elementary Social Studies
Focuses on teaching elementary school social studies and addresses aspects of the theory and practice of social studies education. Students examine their own thinking about social studies education through critical reflection, work with the prescribed curriculum, and explore various ways to develop engaging learning experiences for children within a consistent framework using appropriate instructional materials and methods. Prerequisite: EDUC 401/402. Students who have credit for EDUC 474 prior to 2001-2 semester cannot take EDUC 474 for further credit. Students with credit for EDUC 414 cannot take EDUC 474 for further credit.

EDUC 475-4 Designs for Learning: Elementary Mathematics
Focuses on teaching elementary school mathematics. Students explore mathematical learning, their own mathematical thinking and their own learning in the school, and curriculum; and plan mathematical instruction within a consistent framework using appropriate instructional materials and methods. Prerequisite: EDUC 401/402. Students who have credit for EDUC 475 prior to 2001-2 semester cannot take EDUC 475 for further credit.

EDUC 476-4 Designs for Learning: Elementary Science
Focuses on teaching elementary school science. Students explore science, aspects of learning science, and their own scientific thinking; work with the prescribed curriculum; and plan science learning experiences within a consistent framework using appropriate instructional materials and methods. Prerequisite: EDUC 401/402. Students who have credit for EDUC 476 prior to 2001-2 semester cannot take EDUC 476 for further credit.

EDUC 477-4 Designs for Learning: Art
This course introduces students to the main ideas, skills, materials, resources, understandings and organizational concerns involved in teaching art in schools. Prerequisite: EDUC 401/402.

EDUC 478-4 Designs for Learning: Music
This course is designed for in-service and pre-service teachers who would like to acquire the skills that will allow them to teach music competently and creatively. They will learn basic conducting techniques, design their own curricula and have an opportunity to prepare and teach their own planning. Previous musical experience is welcome, but not required. Prerequisite: EDUC 401/402.

EDUC 479-4 Designs for Learning: Physical Education
This course is designed to assist teachers in planning and implementing physical education programs in British Columbia schools. It will involve a practical consideration of instructional strategies and curriculum planning in physical education, particularly as they apply to the games, dance and gymnastics areas of the curriculum. Prerequisite: EDUC 401/402. Corequisite: EDUC 459.

EDUC 480-4 Designs for Learning: French as a Second Language
Deals with a variety of approaches, teaching strategies and curricula, for teaching French as a second language in elementary and secondary schools. Prerequisite: EDUC 401/402. Instruction given in French.

EDUC 481-4 Designs for Learning: French Immersion and Programme-cadre de Français
History, definition and growth of immersion (a Canadian phenomenon) and its relations to programme-cadre in British Columbia. Emphasis on integration of four skills (listening, speaking, reading and writing) particularly 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 Designs for Learning: Information Technology
In this course, students develop a critical understanding of information technologies in education and learn how to integrate these technologies into classroom settings. An emphasis is on teaching strategies and methods as they complement the guidelines set forth in the BC Information Technology Curriculum. Prerequisite: EDUC 260 and 401/402 or permission of instructor.

EDUC 483-8 Designs for Learning: Curriculum Studies
Development of conceptual and technical skills through workshops, seminars, and directed and independent study. Deals with human development and learning, and 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, audience, purpose, writing process, self-evaluation. Teaching writing – research, skill acquisition, self-disclosure, risk and creativity, thought and discipline, evaluation. Teacher as researcher – reflective observation, analysis of data, program evaluation, peer support systems. Teacher as developer of curriculum – student writing, drama, literature, use of texts. Prerequisite: EDUC 401/402.

EDUC 486-489-3,4,6 Special Topics
Sections will deal with major issues of present concern. Subjects to be discussed will be announced during the semester prior to that in which the course is to be offered. The exact assignment of credit hours (3, 4 or 6) and prerequisites for the special topics offering will be announced prior to the beginning of each semester. A maximum of 12 semester hours of credit in education special topics courses may be used toward a bachelor of education degree.

EDUC 490-492-2,4 Directed Study
Directed study in education under the supervision of a faculty member. Prerequisite: 60 credit hours and a CGPA of 3.0, consent of supervising faculty member, and approval of the director of undergraduate programs. A maximum of three directed studies courses will be approved for a maximum of 12 credits. Directed studies courses may not parallel regularly taught courses. A student may take a maximum of two directed studies courses with the same faculty member. Applications are available in the undergraduate programs office.

EDUC 495-498-3,4,6 Special Topics
Sections will deal with major issues of present concern. Subjects to be discussed will be announced during the semester prior to that in which the course is to be offered. The exact assignment of credit hours (3, 4 or 6) for the special topics offering will be announced prior to the beginning of each semester. Prerequisite: this will be announced prior to the beginning of each semester. A maximum of 12 hours in education special topics courses may be used toward a bachelor of education degree. Please refer to SA 333 Sociology of Education, as this course is also accepted as education credit.

Education Professional EDPR
Faculty of Education

EDPR 384-399-2,3,4,5,6 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 410-413-2,3,4,5 Field Based Studies in Curriculum Development
These courses are intended for practising teachers, school administrators or other practising educators who are involved in curriculum development. They provide opportunities for members of the teaching profession to work on curriculum development projects under the supervision of faculty members and/or distinguished practitioners designated by the faculty. Those wishing to undertake a field based studies course must submit a proposal form, available from the Office of Field Programs, before the end of the semester prior to the one in which the student intends to commence the study. The proposal must be approved by the director of field programs prior to registration in the course. Field based studies courses may have a credit value of 2, 3, 4 or 5 semester hours depending upon the nature of the proposed project. Evaluation is based on a pass-withdraw 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. Prerequisites: 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 previous semester 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 the 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 418-421-2,3,4,5 Group Field Studies in Selected Professional Topics
These courses are intended for small groups of practising educators who wish to investigate a specific topic in education through focused inquiry. Seminars, readings and related field work are directed by a faculty member or field studies supervisor designated by the Faculty of Education. The designated supervisor, on behalf of the group, must submit a proposal form, available from the Office of Field Programs, before the end of the current semester. This course may not form a component of the 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 selected professional topics may not form a component of EDUC 404. These courses may form a component of an approved program of studies for the post baccalaureate diploma. Prerequisites: teaching certificate or permission of the director of field programs.

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. Prerequisites: EDUC 405 or special permission of the instructor.

Engineering Science ENSC
Faculty of Applied Sciences

ENSC 100-3 Engineering Technology and Society
This course is designed to provide an introduction to the practice of engineering, surveying its history and its current state. The social and political aspects of engineering decisions will be illustrated by a number of case studies. (3-0-0)

ENSC 101-1 Writing Process, Persuasion and Presentations
This course provides a general introduction to the principles of effective communication with special emphasis on the writing process, persuasive writing, research papers, and oral presentations. In conjunction with ENSC 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 Graphics
This major focus of this course is on the style and format of technical writing with attention to laboratory reports and project documentation. This course also examines resumes, cover letters, interview skills and formal reports to help students prepare for their first internship semester. It also addresses listening skills and group dynamics in the context of the team projects undertaken for ENSC 151. (1-0-0) Corequisite: PHYS 131.

ENSC 150-3 Introduction to Computer Design
Digital design concepts are presented in such a way that students will learn how logic blocks can be designed and employed to construct a simple computer. Topics covered include: basic Von Neumann computer architecture; an introduction to assembly language; combinational logic design; and sequential logic design. An interactive logic simulation environment will be provided for assignments. Assembly language programming is introduced. (3-0-0) This course is identical to CMPT 150 and students cannot take both courses for credit. Students who have taken CMPT 290 cannot take this course for further credit.

ENSC 151-2 Digital and Computer Design Laboratory
The practical concepts of assembly language such as programming, digital device interfacing, and hardware/software interfacing will be introduced through a group project. Topics will include: assembler concepts; micro-controllers; the hardware/software interface. Laboratory techniques will also be introduced as needed. This is a project course with a few lectures, or laboratory tutorials. (0-0-4) Prerequisite: CMPT 150 or ENSC 150.

ENSC 194-0 Optional Job Practicum
This is an optional semester of work experience in the Co-operative Education Program available to first year engineering science students. This course will not be counted towards the three required co-operative education semesters; however, it will be recorded on the students’ transcripts. Credit is awarded as in ENSC 195.

ENSC 195-0 Job Practicum I
This is the first semester of work experience in the Co-operative Education Program available to engineering students. Credit is given as pass/withdraw/fail (P/W/F) only, based on the employer’s and co-operative education co-ordinator’s evaluation of the student’s work during the semester and on the evaluation of the work report submitted and the oral presentation at the end of the work session.

ENSC 196-0 Job Practicum II
This is the second semester of work experience in the Co-operative Education Program available to engineering students. Credit is awarded as in ENSC 195. ENSC 196 may or may not involve the same employer as ENSC 195. Prerequisite: ENSC 195.

ENSC 201-3 The Business of Engineering
This course covers the business, management and entrepreneurial concepts that are important to engineers who manage projects, run businesses, or need to decide on the most efficient method for accomplishing a task. The topics to be covered include: financial accounting, rates of return, 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 199-2.

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 (RG and RL), as well as second order (RLC) circuits; real, reactive and rms power concepts. In addition, the course will discuss the worker safety implications of both electricity and common laboratory practices such as soldering. (3-0-1) Prerequisite: PHYS 121 and 131, MATH 232 and 310. MATH 232 and/or 310 may be taken concurrently. Students with credit for ENSC 125 cannot take this course for further credit.

ENSC 225-4 Microelectronics I
This course teaches analog/digital electronics and basic device physics in the context of modern silicon integrated circuits technology. Topics include: qualitative 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 transistors; biasing, current sources and mirrors. (3-0-2) Prerequisite: ENSC 150 or CMPT 150, and ENSC 220. Students with credit for ENSC 222 cannot take this course for further credit.

ENSC 230-4 Introduction to Mechanical Design
This course presents the elements and principles involved in design and analysis of basic mechanical structures and mechanisms. Mechanical elements such as gears, cams and bearings and fundamental relationships between the forces and corresponding motion or deflection are investigated through examples and experiments. This background can then be used in the design, analysis and development of computer controlled machines such as robotic devices. (3-0-2) Prerequisite: PHYS 120, MATH 310.

ENSC 250-3 Introduction to Computer Architecture
This course deals with the main concepts embodied in computer hardware architecture. In particular, the organization, design and limitations of the major building blocks in modern computers is covered in detail. Topics will include: processor organization; control logic design; memory systems; and architectural support for operating systems and programming languages. A hardware description language will be used as a tool to express and work with design concepts. (3-0-0) Prerequisite: CMPT 150 or ENSC 150. This course is identical to CMPT 250 and students cannot take both courses for credit. Students who have taken CMPT 390 may not take CMPT 250 for further credit.

ENSC 283-3 Special Topics in Engineering Science
Prerequisite: permission of the undergraduate curriculum chair.

ENSC 264-4 Special Topics in Engineering Science
Prerequisite: permission of the undergraduate curriculum chair.

ENSC 295-0 Job Practicum III
This is the third semester of work experience in the Co-operative Education Program available to
engineering students. Credit is awarded as in ENSC 195. ENSC 295 may or may not involve the same employers as preceding practicum semesters. Prerequisite: ENSC 196.

**ENSC 296-0 Job Practicum IV**
This is the fourth semester of work experience in the Co-operative Education Program available to engineering students. Credit is awarded as in ENSC 195. ENSC 296 may or may not involve the same employers as preceding practicum semesters. Prerequisite: ENSC 295.

**ENSC 300-3 Engineering Design and Management**
An introduction and overview of modern concepts of engineering design, problem solving and management. Material is presented through lectures, seminars, case studies, and historical review. Studies involve the interrelationship of such factors as problem definition, feasibility studies, specification, constraints, analysis techniques, evaluation, production project management, conflict resolution, and techniques of supervision. Student participation is expected through presentations of independent readings, case analyses and group projects. (2-2-0) This course will be offered for the last time in 99-3.

**ENSC 301-3 Engineering Economics**
The engineer as business people and entrepreneurs. Preparation of a business plan. The economics of capital projects and production processes. Financial analysis: mortgages, loans, direct costs, depreciation, taxes, financial statements, financing alternatives. Estimation of sales, capital and operating costs of new processes and products. Cash flows, Market evaluation comparison of alternatives. Study is in part through independent reading rather than formal lectures. (3-0-0) Prerequisite: completion of at least 60 credit hours. This course will be offered for the last time in 00-1.

**ENSC 304-1 Human Factors and Usability Engineering**
The user is often overlooked in the engineer’s quest for a functional and efficient design. This course examines the factors that make designs more or less usable and how to integrate usability constraints and testing procedures into the design process. (1-0-0) Prerequisite: ENSC 340 or 440)

**ENSC 305-1 Project Documentation and Group Dynamics**
This course is integrated with an ENSC project course (either ENSC 340 or 440) that provides practical experience with the design process for development projects. Topics include project management, team writing, project documentation (proposals, functional and design specifications, progress reports, and user manuals), group dynamics and dispute resolution. (1-0-0) Corequisite: ENSC 340 or 440.

**ENSC 306-1 Research Methods for Engineers**
This course ensures that engineering students are familiar with library resources, database searches, patent searches, and industry standards. The course also covers strategies for formulating research questions and approaching the research task as well as literature surveys and bibliographic conventions. It also provides opportunities for students to explore the implications of technology and to lead group discussions of issues arising from their research. This course will be offered for the last time in 99-3.

**ENSC 320-3 Electric Circuits II**
This course is a second course on electric circuits and the topics covered include: the use of Laplace transform in circuit analysis, including poles and zeros, the frequency response and impulse response; convolution as a method for computing circuit responses; resonant and bandpass circuits; magnetically coupled circuits; three-phase circuits; two port circuits and filtering. (3-0-1) Prerequisite: ENSC 220. Students with credit for ENSC 125-5 cannot take this course for further credit. Corequisite: ENSC 380.

**ENSC 325-4 Microelectronics II**
This course introduces Students to analog integrated circuit design in the context of modern silicon integrated circuits technology. Topics include: integrated circuit technology and design tools; integrated component characteristics and limitations, differential amplifiers; multi stage amplifiers; feedback amplifiers; stability and frequency compensation; integrated operational amplifiers; bipolar and MOS digital circuits, analog aspects of digital electronics. (3-0-2) Prerequisite: ENSC 222 or 225.

**ENSC 327-4 Communication Systems**
This course represents and introduction to analog and digital communications systems. The main topics are: a review of Fourier Transform; the representation of bandpass signals; random signals in communications, including stationarity, ergodicity, correlation, power spectra and noise; amplitude and frequency modulation; circuits and techniques for modulation and demodulation; frequency division multiplexing; baseband digital communication; time division and multiplexing; an introduction to basic digital modulation schemes such as BPSK, FSK and QPSK. Laboratory work is included in this course. (3-0-2) Prerequisite: ENSC 281 or 380 or 382, and STAT 270.

**ENSC 330-4 Engineering Materials**
An introductory course in materials science which covers materials — their structures, properties, and performance; crystal structures and instruments for structure determination; polymers, ceramics, composites; quality control and reliability. (3-0-2) Prerequisite: CHEM 121, PHYS 121.

**ENSC 340-4 Engineering Science Project**
This course is based around a group project that consists of researching, designing, building and testing the hardware implementation of a working system. The course also includes material on how to design for safety, engineering standards and human factors. (1-0-4) Prerequisite: ENSC 151, 225 and 351. Students with credit for ENSC 440 cannot take ENSC 340 for further credit. Corequisite: ENSC 306.

**ENSC 350-3 Digital Systems Design**
This course deals with advanced topics in digital design such as advanced state machine concepts, asynchronous design, hardware description languages, bus interfacing and DSP architecture. It also covers both the architecture and programming of field programmable logic devices. Some laboratory work is expected. (3-0-1) Prerequisite: ENSC 151 and 250 or CMPT 250.

**ENSC 351-4 Real Time and Embedded Systems**
This course concentrates on the problems encountered when attempting to use computers in real time (RT) and embedded applications where the computer system must discern the state of the real world and react to it within stringent response time constraints. Both design methodology and practical implementation techniques for RT systems are presented. Although some hardware will be involved, it should be noted that this course concentrates on real time software. (2-0-4) Prerequisite: CMPT 101, 250 or ENSC 250 or CMPT 290. ENSC 151 is highly recommended. Students with credit for ENSC 385 cannot take this course for further credit.

**ENSC 363-3 Special Topics in Engineering Science**
Prerequisite: permission of the undergraduate curriculum chair.

**ENSC 364-4 Special Topics in Engineering Science**
Prerequisite: permission of the undergraduate curriculum chair.

**ENSC 380-3 Linear Systems**
The objectives of this course are to cover the modeling and analysis of continuous and discrete signals using linear techniques. Topics covered include: a review of Laplace transforms; methods for the basic modelling of physical systems; discrete and continuous convolution; impulse and step response; transfer functions and filtering; the continuous Fourier transform and its relationship to the Laplace transform; frequency response and Bode plots; sampling; the Z-transform. (3-0-1) Prerequisite: ENSC 125 or 220, and MATH 310. Students with credit for ENSC 281 or 382 cannot take this course for further credit. Corequisite: ENSC 320. This course will be taught for the first time in semester 00-1.

**ENSC 383-4 Feedback Control Systems**
This course is an introduction to the analysis, design, and applications of continuous time linear control systems. Topics include transfer function representation of 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. (3-0-2) Prerequisite: ENSC 281 or 380.

**ENSC 387-4 Introduction to Electro-Mechanical Sensors and Actuators**
This course provides an introduction to sensors and actuators for electromechanical, computer-controlled machines and devices. Topics include operating principles, design considerations, and applications of analog sensors, digital transducers, stepper motors, continuous-drive actuators, and drive systems. Component integration and design considerations are studied through examples selected from applications of machine tools, mechatronics, precision machines, robotics, aerospace systems, and ground and underwater vehicles. Laboratory exercises strengthen the understanding of component performance, system design and integration. (3-0-2) Prerequisite: ENSC 281 or 380 or 382.

**ENSC 395-0 Job Practicum V**
This is the fifth semester of work experience in the Co-operative Education Program available to engineering students. Credit is awarded as in ENSC 195. ENSC 395 may or may not involve the same employers as preceding practicum semesters. Ideally, students should enrol in ENSC 498 instead of ENSC 395. Prerequisite: ENSC 296 and permission of the undergraduate curriculum chair.

**ENSC 396-0 Job Practicum VI**
This is the sixth semester of work experience in the Co-operative Education Program available to engineering students. Credit is awarded as in ENSC 195. ENSC 396 may or may not involve the same employers as preceding practicum semesters. Prerequisite: ENSC 395. Prerequisite: ENSC 395 and permission of the undergraduate curriculum chair.

**ENSC 400-402-4 Directed Studies in Engineering Science**
Directed reading and research in a topic chosen in consultation with a supervisor. Admission requires agreement by a proposed faculty supervisor and submission of a proposal to the school at least one month prior to the start of the semester in which the course will be taken. Upon completion of a directed study course, the student must submit a copy of the
ENSC 406-2 Social Responsibility and Professional Practice
This course explores the social implications and/or environmental impacts of a technology relevant to the participants’ field of study through research. This course also uses lectures, case studies and group discussions to increase awareness and understanding of the legal ethical responsibilities of professional engineers, including issues of worker and public safety. (2-0-0) Prerequisite: 100 credit hours or permission of the instructor.

ENSC 407-1 Engineering Law and Ethics
This course uses lectures, case studies and group discussions to increase awareness and understanding of the legal and ethical responsibilities of professional engineers. Students exercise their skills as critical thinkers and persuasive writers. (1-0-0) This course will be offered for the last time in 00-1.

ENSC 408-0 Writing for Publication
This course examines a range of issues related to the process of publishing articles in professional journals including audience analysis, the publication process, referencing and format conventions, and anonymous reviews. It also provides a focused review of the writing process as well as how style and form can impact upon the reader’s comprehension of information.

ENSC 424-4 Multimedia Communications Engineering
This course covers the technical basis for multimedia communications systems. The main topics are as follows: methods for audio and visual signal compression and processing; the communications requirements of multimedia systems, such as synchronization, quality of service and bandwidth; the architectures and protocols associated with multimedia communications networks. (3-0-2) Prerequisite: ENSC 281 or 380 or 382.

ENSC 425-4 Electronic System Design
Aspects of design using digital and analog integrated circuits as circuit blocks for the realization of required system functions are treated, with project activities in the laboratory. Topics include differential amplifiers; operational amplifiers — non-ideal aspects; slew rate, gain error, sensitivities, Active filter design, D/A and A/D conversion. MSI and VLSI digital circuits, combinational and sequential: decoders, encoders, multiplexers, ROM’s, counters, controllers. Communication circuits: AM and FM modulators and demodulators, multiplexers, pulse modulation. Laboratory work is included in this course. (2-0-4) Prerequisite: ENSC 222.

ENSC 426-4 High Frequency Electronics
Transmission lines and waveguides, microwave devices, travelling wave devices. An introduction to the theory of radiation, antenna 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, subscriber lines. Different application domains for adaptive control techniques such as block and conventional codes, as well as comparisons between FEC and ARQ. Laboratory work is included in this course. (3-0-2) Prerequisite: ENSC 327 and 351 or 385.

ENSC 429-4 Discrete Time Systems
Discrete time signals and systems, sampling and quantization. The Discrete Fourier Transform and fast transforms. Digital filters, IIR and FIR, design procedures and implementations. Quantization noise in digital filters and transforms. Random signals, the response to linear systems to random signals. Introduction to adaptive systems. Introduction to system architectures for digital signal processing. Laboratory work includes familiarization with digital signal processing software packages. (3-0-2) Prerequisite: ENSC 281 or 380 or 382, and 327.

ENSC 440-4 Capstone Engineering Science Project
This capstone design course is based around a group project that consists of researching, designing, building, and testing the hardware implementation of a working system. The course also includes material on how to design for safety, engineering standards, and human factors. (1-0-4) Prerequisite: ENSC 151, 225, 351, and any two courses from ENSC 325, 327, 383 and 387. Students with credit for ENSC 340 cannot take ENSC 440 for further credit. Coquisite: ENSC 305.

ENSC 450-4 VLSI Systems Design
This course provides an introduction to the design of Very Large Scale Integrated (VLSI) circuits and systems using mainly CMOS technology. It links computer architecture and design limitations with integrated circuit physical layout issues. Topics will include: CMOS technology and circuit layout rules; combination and sequential logic; logic simulation; system design; design for verification and testability. Some consideration is given to the question of when to use off-the-shelf programmable logic or full custom VLSI (e.g. for DSP). (3-0-2) Prerequisite: ENSC 151, 222 or 225, and CMPT 250 or ENSC 250.

ENSC 460-462-4 Special Topics in Engineering Science
Studies in areas not included within the undergraduate course offerings of the engineering science program. (3-0-2) Prerequisite: permission of the director.

ENSC 481-4 Designing for Reliability
Aspects of quality control and reliability in manufacturing environments will be discussed, including stress and strain, failure modes, reliability testing, statistical and experimental methods, and destructive/non destructive testing. (2-0-4) Prerequisite: ENSC 330.

ENSC 483-4 Modern Control Systems
Analytical representation of the finite dimensional linear systems, analysis and design of linear feedback control systems, 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 and output feedback control systems, eigenspectrum assignment, and state estimator design. (3-0-2) Prerequisite: ENSC 383.

ENSC 488-4 Introduction to Robotics

ENSC 493-3 Special Project Laboratory
This course is intended for students wishing to pursue laboratory research on a specific topic outside the standard course offerings. Each student must be sponsored by a faculty member who will oversee the project. A proposal of the student’s special project must be submitted to the school at least one month prior to the start of the semester in which the course will be taken. The credit value of the project will be assessed during this review phase and the student will be directed to register in the appropriate course. Upon completion of a special project laboratory course, the student must submit a copy of the ‘deliverables’ to the chair of the undergraduate curriculum committee. Prerequisite: permission of the undergraduate curriculum committee chair.

ENSC 499-1 Special Project Laboratory
This course is intended for students wishing to pursue laboratory research on a specific topic outside the standard course offerings. Each student must be sponsored by a faculty member who will oversee the project. A proposal of the student’s special project must be submitted to the school at least one month prior to the start of the semester in which the course will be taken. The credit value of the project will be assessed during this review phase and the student will be directed to register in the appropriate course.
Upon completion of a special project laboratory course, the student must submit a copy of the 'deliverables' to the chair of the undergraduate curriculum committee. Prerequisite: permission of the undergraduate curriculum committee chair.

**ENSC 494-4 Special Project Laboratory**
This course is designed to allow students to pursue laboratory research on a specific topic outside the standard course offerings. Each student must be sponsored by a faculty member who will oversee the project. A proposal of the student's special project must be submitted to the school at least one month prior to the start of the semester in which the course will be taken. The credit value of the project will be assessed during this review phase and the student will be directed to register in the appropriate course. Upon completion of a special project laboratory course, the student must submit a copy of the 'deliverables' to the chair of the undergraduate curriculum committee. Prerequisite: permission of the undergraduate curriculum committee chair.

**ENSC 495-4 Introduction to Microelectronic Fabrication**
This provides an introduction to the practice and theory of semiconductor integrated circuit fabrication. The practical area will be covered in lectures and reinforced with laboratory experience where the students will manufacture diodes, transistors and small circuits. Major areas covered will be: clean room technology and economics, silicon wafer production, thermal oxidation, photolithography, thin film deposition (evaporation, sputtering, chemical vapour deposition, epitaxy), etching (wet, plasma, sputtering, reactive ion), diffusion, ion implantation, multi-layer conductor technology, packaging, device yields, plus 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 and 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. Preparation of the undergraduate thesis project proposal is the formal requirement of this course and the basis upon which it is graded. Grading will be on a pass/fail basis. 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. Final approval of the topic by the School of Engineering Science is given by the granting of the grade of pass for ENSC 498. The locale of the work, supervision and other arrangements follow those for ENSC 498. Grading of the thesis will be on a pass/fail basis, but recognition will be given to outstanding work. Prerequisite: ENSC 498.

**English ENGL Faculty of Arts**
Course outlines for all courses vary each semester. Check at the Department of English general office.

- **ENGL 101, 102, 103 and 104** examine selected works of literature in order to develop a critical awareness of literary techniques and contexts in the representation of experience. Each course may include the comparative study of works in related literary and artistic genres, and will pay some attention to literature of the 20th century. Each course includes attention to writing skills.

- **ENGL 101-3 Introduction to Fiction**

- **ENGL 102-3 Introduction to Poetry**

- **ENGL 103-3 Introduction to Drama**

- **ENGL 104-3 Introduction to Prose Genres**
The literary study of a variety of prose genres, such as the essay, biography, autobiography, travel narrative, and 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 204-3 Medieval and Renaissance Literature**
The study of literary works from the Old English, Middle English and Renaissance periods. Prerequisite: two 100 division English courses.

- **ENGL 205-3 Seventeenth and Eighteenth Century Literatures in English**
The study of literary works from the Jacobean, Commonwealth, Restoration and eighteenth century periods. May include some writing from North America. Prerequisite: two 100 division English courses.

**ENGL 206-3 Nineteenth Century Literatures in English**
The study of literary works from the Romantic period to the beginning of Modernism. May include some writing from North America. Prerequisite: two 100 division English courses.

- **ENGL 207-3 Twentieth Century Literatures in English**
The study of literary works of the twentieth century. May include Canadian, British, American, and other literatures. Prerequisite: two 100 division English courses.

**ENGL 210-3 Advanced University Writing**
Advanced study of writing in the scholarly genres in a variety of academic disciplines. Prerequisite: 24 university credit hours; ENGL 199 or permission of the department.

- **ENGL 212-3 Introduction to the Study of Language**
An introduction to grammatical, stylistic and discursive features of the English language. Prerequisite: two 100 division English courses.

**ENGL 214-3 Introduction to the Study of Rhetoric**
An introduction to the principles of rhetoric, with special attention to those germane to the study of reading and writing. Prerequisite: two 100 division English courses.

- **ENGL 216-3 Introduction to Critical Approaches to Literature**
An introduction to critical approaches to literature, with an emphasis on the application of theoretical perspectives to selected literary texts. Prerequisite: two 100 division English courses.

**ENGL 300-4 Old English I: Introductory Old English**
The study of the basics of the Old English language and the reading of several texts of relative simplicity. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 301-4 Old English II: Advanced Old English**
Intensive study of several Old English poems. Prerequisite: ENGL 300, and two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 304-4 Studies in Medieval Literature**
Studies of medieval authors, genres or issues, from 500-1500. Texts will be studied in the original language or in translation. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 306-4 Chaucer**
The intensive study of selected works by Geoffrey Chaucer, read in the language in which they were written and situated in the context of 14th century European culture. Some course time will be dedicated to the study of the Middle English language. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 308-4 Studies in Renaissance Non-Dramatic Literature**
The study of selected works of Renaissance poetry and prose written in English, and situated in their cultural context. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 310-4 Studies in Drama to 1642**
The study of selected dramatic works written in English prior to the closing of the theatres in 1642. May be organized by various critical approaches or issues. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

**ENGL 311-4 Early Shakespeare**
An intensive study of the early works of William Shakespeare, particularly the history of comedy plays, situated in the context of Elizabethan culture. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Students may take both ENGL 311 and 313 for credit towards the English major. Students with credit for ENGL 312 may not take this course for further credit without permission of the department.

**ENGL 313-4 Late Shakespeare**
An intensive study of the later works of William Shakespeare, particularly the history of tragedy, romance and comedy, situated in the context of Jacobean and Caroline culture. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Students may take both ENGL 311 and 313 for credit towards the English major. Students with credit for ENGL 312 may not take this course for further credit without permission of the department.

**ENGL 314-4 Studies in Seventeenth Century Literature**
The study of selected works of seventeenth century poetry and prose, situated in their cultural context. May include some writing from North America. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.
ENGL 316-4 Milton
The intensive study of selected works by John Milton, situated in their cultural context. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 320-4 Studies in Restoration and Eighteenth Century Literature
The study of selected works of late seventeenth century and eighteenth century literature, with an emphasis on genres other than the novel. May include some writing from outside Britain, and may be organized by various critical issues or approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 322-4 Studies in the Eighteenth Century British Novel
The study of selected 18th century novels, situated in their cultural context. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 325-4 Romantic Poetry
The study of selected works by British Romantic poets. May be organized by various critical issues or approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Students with credit for ENGL 324 or 326 may not take this course for further credit.

ENGL 327-4 Studies in Romantic Literature
Address issues in Romantic literature in English. May include texts in a variety of genres and be organized according to various critical approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 329-4 Studies in Nineteenth Century British Literature
The study of selected 19th century works written after the Romantic era, with an emphasis on genres other than the novel. May be organized by various critical issues or approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 333-4 Studies in the Nineteenth Century British Novel
The study of selected 19th century novels. May be organized by various critical issues or approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Students with credit for ENGL 392 or 394 may not take this course for further credit.

ENGL 336-4 Literature of Transition from the Nineteenth to the Twentieth Century
Addresses changes in society, culture and literature from the late nineteenth century to the early 20th century, through a selection of texts organized by various critical issues or approaches. May include Canadian, British, American and other literatures. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 338-4 Studies in Modernism
Addresses issues in Modernism. May include Canadian, British, American and other literatures. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 340-4 Twentieth Century British Literature to 1945
The study of selected works of British literature written from 1900 to 1945. May be organized by various critical issues or approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 342-4 British Literature Since 1945
The study of selected works of British literature written since 1945. May be organized by various critical issues or approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 347-4 American Literature to 1900
The study of selected works of American literature written before 1900. This course may survey a particular era or topic, and may be organized by various critical issues or approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Students with credit for ENGL 344 or 348 may not take this course for further credit.

ENGL 349-4 Studies in American Literature
Addresses issues in American literature. May be organized by various critical issues or approaches. Prerequisite: two 100 division English courses and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 350-4 Twentieth Century American Literature to 1945
The study of selected works of American literature written from 1900 to 1945. May be organized by various critical issues or approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 352-4 American Literature since 1945
The study of selected works of American literature written after 1945. May be organized by various critical issues or approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 354-4 Canadian Literature to 1920
The study of selected works of Canadian literature written before 1920. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 357-4 Canadian Literature since 1920
The study of selected works of Canadian literature written after 1920. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Students with credit for ENGL 356 or 358 may not take this course for further credit.

ENGL 359-4 Literature of British Columbia
The study of selected works of British Columbian literature. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 360-4 Studies in Canadian Literature
Addresses issues in Canadian literature. May be organized by various critical issues or approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 364-4 History and Principles of Literary Criticism
The study of selected works in the history of literary criticism, up to and including modern and contemporary movements in criticism. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 366-4 Studies in Critical Approaches to Literature
Addresses specific issues or movements in literary criticism, up to and including the current era. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 368-4 Studies in Drama
The literary study of selected dramatic works. May be organized by various eras, issues or critical approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 369-4 Studies in Prose Genres
The study of selected texts in such genres as the essay, biography, autobiography, travel narrative and journalistic writing. May include works which challenge the boundary between fiction and non-fiction. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 370-4 Studies in Language
The study of linguistic, pragmatic and social theories of language. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 371-4 Writing: Theory and Practice
Students will engage in theoretically informed practice of writing in various non-academic genres. Emphasis will be placed on the kinds of writing that students are likely to use after graduation. Prerequisite: 60 university credit hours; ENGL 210 or permission of the department.

ENGL 375-4 History and Principles of Rhetoric
The advanced study of the history and theory of rhetoric. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Recommended: ENGL 214.

ENGL 376-4 Special Studies A
Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 377-4 Special Studies B
Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 378-4 Special Studies C: Single Author
Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 380-4 Literature in Translation
A study of selected texts across world literatures not originally written in English. May include the Bible; may be organized by themes, historical periods, countries of origin, authors, or texts; and may be approached as comparative literature. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 382-4 Cultural Studies
This course will investigate interconnections between literature and culture through the study of selected texts. May be organized according to particular theoretical approaches, issues or historical periods. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 383-4 Studies in Fantasy and Popular Literature
This course may concentrate on a genre of fantasy such as the Gothic novel or dystopian fiction, or on various genres associated with popular literature such as the detective novel, the novel of international intrigue, or romance. The works will be considered in relation to literary theory, and may be organized by various different critical issues and approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.
ENGL 387-4 Studies in Children's Literature
The study of selected works of children's literature from different periods and places. The works will be considered in relation to literary theory, and may be organized by different critical issues or approaches. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Students with credit for ENGL 367 may not take this course for further credit.

ENGL 392-4 World Literature in English I: Designated by Geographical Region
The study of a selection of literary works in English, mainly from regions other than Canada, Britain and the United States. May include a variety of approaches but will organize texts on the basis of their relation to particular societies and their history. The course may focus on the literature of one or several regions. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 394-4 World Literature in English II: Designated by Topic
Addresses international literatures in English, selected and organized according to specific topics. As distinct from ENGL 392, this course may be wholly concerned with writing from Canada, Britain and the United States, although it will be distinguished from other courses by its primary focus on such issues as nationalism, post-colonialism and multiculturalism. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 430-4 Writing and Response in the Research Genres
This course introduces students to current research and theory in composing the academic genres. It includes observation and practice in the Writing Centre. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205; and/or permission of the instructor.

ENGL 431-4 Theory and Practice of Technical and Professional Literacies
Through course readings and seminar discussion, this course introduces students to current research and theory in composing the academic genres. It includes observation and practice in the Writing Centre. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205.

ENGL 445-4 Directed Studies E
Prerequisite: credit or standing in any two of ENGL 101, 102, 103, 104, 105, and 199, and two 200 division English courses, one of which must be ENGL 204 or 205. Admission is by permission of the instructor and the department.

ENGL 446-2 Directed Studies F
Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Admission is by permission of the instructor and the department.

ENGL 461-0 Practicum I
First semester of work experience in the English Co-operative Education Program. Prerequisite: normally 30 semester hours with a CGPA of 3.0; credit or standing in any two of ENGL 101, 102, 103, 104, 105, and 199, and two 200 division English courses, one of which must be ENGL 204 or 205. 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 a CGPA of 3.0; credit or standing in any two of ENGL 101, 102, 103, 104, 105, and 199, and two 200 division English courses, one of which must be ENGL 204 or 205. Students should apply to the Faculty of Arts co-operative education co-ordinator by the end of the third week of the semester preceding the employment semester.

ENGL 463-0 Practicum III
Third semester of work experience in the English Co-operative Education Program. Prerequisite: successful completion of ENGL 462 and normally 60 semester hours with a CGPA of 3.0; credit or standing in any two of ENGL 101, 102, 103, 104, 105, and 199, and two 200 division English courses, one of which must be ENGL 204 or 205. Students should apply to the Faculty of Arts co-operative education co-ordinator by the end of the third week of the semester preceding the employment semester.

ENGL 464-0 Practicum IV
Fourth semester of work experience in the English Co-operative Education Program. Prerequisite: successful completion of ENGL 463 and normally 75 semester hours with a CGPA of 3.0; credit or standing in any two of ENGL 101, 102, 103, 104, 105, and 199, and two 200 division English courses, one of which must be ENGL 204 or 205. Students should apply to the Faculty of Arts co-operative education co-ordinator by the end of the third week of the semester preceding the employment semester.

ENGL 494-4 Research Seminar for the Honors Graduating Essay
This course is intended for the research and preparation of materials for the honors graduating essay. In addition to regular meetings with their supervisors, students will attend a scheduled research seminar. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Open only to students who have been accepted into the honors program. The student must complete this course before taking ENGL 496. Admission is by permission of the instructor and the department.

ENGL 496-4 Honors Graduating Essay
In addition to regular meetings with their supervisors, students will attend a scheduled research seminar. Prerequisite: two 100 division English courses, and two 200 division English courses, one of which must be ENGL 204 or 205. Open only to students who have been accepted into the honors program. Admission is by permission of the instructor and the department.
FNST 201-3 Canadian Aboriginal Peoples’ Perspectives on History
An examination of fact and ideology in history and historic events involving contact between native and European peoples. The course will also address questions of research methodologies in studying Native/European relations, such as the evaluation of oral history and written ethnohistoric sources. An additional focus will be on gender as it influences perspectives. (lecture/seminar) Pre/corequisite: FNST 101.

FNST 301-3 Issues in Applied First Nations Studies Research
An examination of research strategies and issues involving contemporary First Nations communities. Besides the study of methodology and ethical issues involving research on native peoples, students will critically examine a number of case studies and carry out a small scale research project under the supervision of the instructor. (lecture/seminar) Prerequisite: FNST 101 and 201. Recommended: SA 285 or equivalent lower division research methods course.

FNST 322-3 Special Topics in First Nations Studies
(3-0-0) Prerequisite: will vary according to the topic.

FNST 332-3 Ethnobotany of British Columbia First Nations
This course is an introduction to the study of plant knowledge and use by First Nations peoples in British Columbia. It provides students with information about the role of plants in First Nations’ cultures including such areas as foods, medicines, technology, ceremony, ecological indicators, and within First Nations’ knowledge and classification systems. Special focus may be placed on the ethnobotany of one or more Aboriginal groups or culture areas. Prerequisite: FNST 101 or by permission of the department.

FNST 401-3 Aboriginal Rights and Government Relations
An examination of First Nations and aboriginal peoples’ perspectives on political, social and legal issues involving their rights as first citizens of Canada and North America, and the practical and political relations with various levels of government. Issues examined include: aboriginal rights and title questions, self government models and concepts, constitutional matters, the impact of federal government policies, including their impact on women’s lives, and native community and First Nations politics. (lecture/seminar) Prerequisite: FNST 101 and 201. Recommended: POL 221.

FNST 402-3 The Discourse of Native Peoples
Style and content of aboriginal people’s discourse about their culture, world view, history and matters affecting their lives. Includes the analysis of selections from native oral literature, autobiography, expository writing, modern poetry and fiction. (lecture/seminar) Prerequisite: FNST 101 and 201.

FNST 403-3 Indigenous Knowledge in the Modern World
This course explores the subject of traditional indigenous knowledge and its contemporary implications for First Nations programs in such areas as economic development, ecotourism, spiritualism, language retention, biodiversity, ethnoscience, environmentalism, and heritage conservation. First Nations perspectives on patents, copyrights, and other creative products from traditional culture will also be examined through lecture, guest speakers and seminar presentation. (lecture/seminar) Prerequisite: FNST 201 or by permission of the department.

FNST 442-3 Directed Readings in First Nations Studies
Directed readings for upper level students in First Nations Studies who wish to study selected topics in depth. (0-0-0) Prerequisite: nine credit hours in First Nations Studies. Corequisite: permission of an instructor and program chair.

French FREN 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, First Nations Immersion cadre or IB, nor those who have completed any French courses at Simon Fraser University or in another university/college.

FREN 101-3 Introductory French II
Continuation of the work of FREN 100-3. It should be taken, wherever possible, in the semester immediately following FREN 100. (tutorial/laboratory) Prerequisite: grade 11 French or FREN 100, or equivalent. May not be taken by students with credit for FREN 151 and/or subsequent courses.

FREN 151-3 French I
Designed for students with prior knowledge of the language but who need further training in written and oral fluency before proceeding to higher level courses. (tutorial/laboratory) Prerequisite: grade 12 French or FREN 101. May not be taken by students from French immersion, programme cadre or IB, nor those who have taken subsequent language courses (FREN 201-299).

FREN 198-3 French for Reading Knowledge I
For students with little or no background in French who wish to acquire the ability to read periodicals, journals and basic literary and academic texts. May not be taken by students who have completed a French program through grade 12 or by students who have received credit for FREN 151 or its equivalent or higher. (lecture/tutorial) May not be taken by students 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 spelling. Offered as a correspondence course only. Prerequisite: fluency in French. Students will be accepted only after an interview (which may be by telephone) with a faculty member in the Department of French. Students may not get credit for both FREN 201 and 199.

FREN 201-3 Intermediate French I
Further development of the language skills of speaking, understanding and reading. (tutorial/laboratory) Prerequisite: grade 12 French with a grade of A or FREN 151. May not be taken by students with credit for FREN 216 or 199 or subsequent language courses (FREN 202 and up).

FREN 202-3 Intermediate French II
Training in the techniques of self-expression in writing French. (lecture/tutorial) Prerequisite: FREN 199 or 201 or 216. FREN 201 and 202 may be taken concurrently after completion of FREN 151 with a grade of A- or better.

FREN 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. 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 certificate programs.

FREN 300-3 Advanced French — Conversation
For students who have a good command of oral French, but who wish to improve fluency and increase vocabulary. Discussion of selected topics and contemporary issues. In-class presentations. (tutorial) Prerequisite: FREN 206 or permission of instructor.

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 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). Students who have taken FREN 303 may not take this course for further credit. This course may be used in partial fulfillment of the upper division requirements for honors, majors and minors in French in a bachelor of education program, and for honors and majors in French in a bachelor of arts program. This course counts toward an extended minor in a bachelor of general studies program.

FREN 311-3 The Acquisition of Vocabulary
This course is intended for students who may be contemplating a career as French language teachers of core French or French Immersion. The course addresses the practical problems of acquiring the specialized vocabularies needed to teach French as a second language and to teach other school subjects in French. It also studies the techniques by which students may be taught to increase their vocabularies. Prerequisite: FREN 206 and 270 or 306 (or permission of the course chair). This course may be counted as upper division elective credit but may not be counted towards the 15 upper division credits required for an extended minor in French nor towards the 30/50 upper division credits required for a major/honors in French.

FREN 312-3 Corrective Phonetics
This course is intended for students who may be contemplating a career as French language teachers of core French or French immersion. The course is designed to help them to improve their own pronunciation of French; it also provides them with the knowledge and techniques needed to address the pronunciation problems of students in their language classes. Prerequisite: FREN 206 and 270 or 306. This course may be counted as upper division elective credit but may not be counted towards the 15 upper division credits required for an extended minor in French nor towards the 30/50 upper division credits required for a major/honors in French.

FREN 330-3 Francophone World
An interdisciplinary analysis of the socio-cultural reality of French speaking countries. Prerequisite: FREN 206 or permission of instructor.

FREN 342-4 Literature in Translation from the Francophone World
A study of representative and significant works (from one or more French speaking countries) from literature and cinema originally produced in French in their socio-cultural context. (2-2-0) Prerequisite: knowledge of French is not required; two courses in literature. This course does not count towards the degree requirements for an extended minor, 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 dialectology and varieties of French in the French speaking world. (lecture/tutorial) Prerequisite: FREN 301 and 306 or 370. Recommended: FREN 407 and/or 408.

FREN 422-3 Canadian French
Description of Canadian French with special emphasis on its dialects. (lecture/tutorial) Prerequisite: FREN 301 and 306 or 370. Recommended: FREN 421.

FREN 430-3 The French-Canadian Novel and Theatre
(lecture/tutorial) Prerequisite: FREN 230 or 240; and FREN 360.

FREN 431-3 The Contemporary Novel
A study of French and francophone literature from an interdisciplinary point of view. Topics will vary to include different disciplines: history, cultural studies, gender studies, psychology or the study of the relationships between literature and other media, i.e. cinema. (1-2-0) Prerequisite: FREN 230 or 240 and 360.

FREN 437-3 Language and Literary Theory
Introduction to the application of basic linguistic concepts to the study of French literature. (lecture/tutorial) Prerequisite: FREN 301, 370 or 306.

FREN 440-3 The Contemporary Theatre
(lecture/tutorial) Prerequisite: FREN 230 or 240; and FREN 360.

FREN 454-3 French Poetry
(lecture/tutorial) Prerequisite: FREN 230 or 240; and FREN 360.

FREN 465-4 History of French: Philosophy
(lecture/tutorial) Prerequisite: FREN 230 or 240; and FREN 360.

FREN 475-3 The Contemporary Novel
(lecture/tutorial) Prerequisite: FREN 230 or 240; and FREN 360.

FREN 476-3 Interdisciplinary Approaches in French Literature
A study of French and francophone literature from an interdisciplinary point of view. Topics will vary to include different disciplines: history, cultural studies, gender studies, psychology or the study of the relationships between literature and other media, i.e. cinema. (1-2-0) Prerequisite: FREN 230 or 240 and 360.

FREN 480-2 Seminar I
Study in depth of an area covered by a French literature or linguistics course in the 400 division. (lecture) Prerequisite: FREN 230 or 240, and FREN 360; or FREN 301 and FREN 306 or 370, or by permission of the course chair. To be taken in conjunction with a 400 division course in French linguistics or literature.

FREN 491-3 Readings in French Linguistics and/or Literary Criticism
Guided readings in selected topics. May only be taken during the last semesters of study; required as a preparation for the honors essay but may be taken by other students with consent of the instructor. Students with credit for FREN 409 may not take this course for further credit.

FREN 492-3 Honors Essay
Candidates for honors will be required to submit a major paper on a topic of a comprehensive nature in literature or linguistics to be approved by the course chair. (Seminar) Prerequisite: FREN 491 and at least nine 400 division courses in French literature and/or French linguistics.

General Studies GS
Faculty of Arts
GS 420-429-3,4,5 Selected Topics for Integrated Studies
These selected topics are offered only through integrated studies programs within the Bachelor of General Studies degree. They explore fields of professional practice through interdisciplinary approaches not available in regular academic departments. Prerequisite: admission to an integrated studies program.

Geography GEOG
Faculty of Arts
GEOG 100-3 Human Geography
This course introduces the basic systematic approaches in the study of contemporary human geography including the distribution of population, spatial aspects of economic, cultural and political development, landscape and resource study. (lecture)
GEOG 261-3 Canadian Cities
This course will provide a systematic introduction to urbanization in Canada. Topics addressed will include Canadian urbanization as it compares with urbanization in other nations, especially the United States, metropolitan centres, resource towns, and the internal structure of cities. (lecture/tutorial) Prerequisite: GEOG 100 or 162 or permission of instructor.

GEOG 263-3 Geography of British Columbia
An examination of the physical landscape, the migration process, resource exploitation and the development of the settlement patterns. (lecture/tutorial) Prerequisite: at least nine credit hours.

GEOG 301-4 Geographic Ideas and Methodology
A study of contemporary geographical concepts in historical perspective. The course will examine traditional approaches to the subject matter of geography, giving particular attention to present day methodological debate and foci of interest. (lecture/seminar) Prerequisite: completion of 30 credit hours, including 15 in geography.

GEOG 302-0 Geography Practicum I
This is the first semester of work experience in a co-operative education program available to students who plan to pursue a career in geography or related areas. Prerequisite: completion of the requirements for acceptance into the Science and Environment Co-operative education program. Students in the BA program and the BSc program should apply to the Science and Environment Co-operative education program. Applications are due by the end of the third week of the preceding semester.

GEOG 303-0 Geography Practicum II
This is the second semester of work experience in the Geography Co-operative Education Program. Prerequisite: GEOG 302 and acceptance by the Science and Environment Co-operative education program. Students should apply to a co-op co-ordinator in the Science and Environment co-op program by the end of the third week of the preceding semester.

GEOG 314-4 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 201 or GEOG 251; PHYS 100 or 101 or 120; or permission of the instructor.

GEOG 314-4 Climatology II
Intermediate analysis in fluvial and coastal geomorphology with particular reference to British Columbia. (lecture/laboratory) Prerequisite: GEOG 213.

GEOG 314-4 Climatology II
An introduction to atmospheric science with emphasis on processes in the boundary layer; examination of the radiation, energy and water balances; description and analysis of heat and mass transfer. (lecture/laboratory) Prerequisite: GEOG 214 or permission of instructor. Recommended: MATH 151 and 152 or MATH 154 and 155 or MATH 157 and 158.

GEOG 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 or one of GEOG 213, 214, 215, CHEM 121.

GEOG 322-4 World Resources
An analysis of the use and development of natural resources from a geographic, economic and institutional perspective. (lecture/tutorial) Prerequisite: at least 30 credit hours including GEOG 221.

GEOG 323-4 The Dynamics of Industrial Location and Regional Development
An examination of the factors affecting industrial location and the geographic organization of production systems within and among firms from the perspectives of national, regional and urban development. (lecture/tutorial) Prerequisite: GEOG 221.

GEOG 324-4 Geography of Transportation
An empirical and theoretical examination of the geographical aspects of transportation systems. (lecture/tutorial) Prerequisite: GEOG 221 and 241.

GEOG 325-4 Geography of Service Activities
Central place theory, marketing and retail location, urban economic base, land use models, and tourism. (lecture/tutorial) Prerequisite: GEOG 221 or 261.

GEOG 327-4 Geography of Tourism and Outdoor Recreation
Factors underlying the changing geography of tourism and outdoor recreation. Issues of demand, supply and impact are examined. (lecture/tutorial) Prerequisite: GEOG 221 or 241, or permission of the instructor.

GEOG 351-4 Cartography II
Cartographic processes and techniques with an emphasis on thematic cartography; photographic process; the computer as a cartographic tool. (lecture/laboratory) Prerequisite: GEOG 250 or 251.

GEOG 352-4 Methods in Spatial Analysis II
Quantitative techniques for the analysis of spatial data and patterns, including trend surface analysis, spatial interpolation methods, and applications of multivariate statistics in geographic analysis. (lecture/laboratory) Prerequisite: one of GEOG 251, STAT 101, 102, 203 (formerly 103) or 270; GEOG 250 and 253.

GEOG 353-4 Remote Sensing
Applied remote sensing and image analysis. Topics include air photo interpretation, multispectral and color photography, thermal imagery, multispectral scanners, microwave applications, satellite imagery and SPOT data. The relation of remote sensing information and Geographic Information Systems is discussed. Manual interpretation and computer analysis will be used. (lecture/laboratory) Prerequisite: GEOG 253.
GEOG 354-4 Introduction to Geographic Information Systems
This course gives a basic overview of GIS. The emphasis is on: the nature and characteristics of spatial data; a review of software and hardware for GIS; data structures and data base models; data capture and sources of data; GIS operations and basic functions; applications of GIS and GIS products. (lecture/laboratory) Prerequisite: GEOG 241 or GERO 300 or SA 218.

GEOG 387-4 Geography and Gender
An examination of how gender difference interacts with spatial and environmental factors including the natural and built environments and rural and urban landscapes. (lecture/tutorial) Prerequisite: GEOG 241.

GEOG 389-4 Human Ecology: Human Relations to Nature
An examination of concepts and theories relating to the way human populations are shaped by, and shape, their biophysical environments in subsistence, dualistic and capitalist societies. For the last focus, attention is directed to the origins of contemporary environmental degradation and the capacity of various 'green' philosophies to amend current human-environment relations. (lecture/tutorial) Prerequisite: GEOG 221 or EVSC 200 (formerly ENPL 200).

GEOG 400-2 Geography Practicum III
This course introduces the student to 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 402-0 Geography Practicum IV
This is the second semester of work experience in the Geography Cooperative Education Program. Prerequisite: GEOG 303 and acceptance by the Science and Environment Co-operative education program. Students should apply to a co-op co-ordinator in the Science and Environment Co-op program by the end of the third week of the preceding semester.

GEOG 403-0 Geography Practicum V
This is the last semester of work experience in the Geography Co-operative Education Program. Prerequisite: GEOG 402 and acceptance by the Science and Environment Co-operative education program. Students should apply to a co-op co-ordinator in the Science and Environment Co-op program by the end of the third week of the preceding semester.

GEOG 404-2, 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 the optional semester of work experience in the Geography Co-operative Education Program. Prerequisite: GEOG 403 and acceptance by the Science and Environment Co-operative education program. Students should apply to a co-op co-ordinator in the Science and Environment Co-op program by the end of the third week of the preceding semester.

GEOG 411-4 Hydrology II
An examination of hydrologic processes via experimental and observational studies; measurement and analysis of hydrologic data; application of hydrologic models; recent research developments in selected sub-fields of hydrology. (lecture/laboratory) Prerequisite: one of GEOG 311, 313, or 314; one of GEOG 251, STAT 101, 102 or 203 (formerly 103).

GEOG 412-4 Glacial Processes and Environments
A critical evaluation of glacial processes and environments: application of field techniques. (Lecture/Field Work) Prerequisite: GEOG 313; EASC 201 recommended. Students who completed GEOG 412 prior to fall 1996 may also take this course for credit.

GEOG 413-4 Geomorphology III
Advanced treatment of topics in glacial and fluvial geomorphology with emphasis on current research problems. (lecture/laboratory) Prerequisite: GEOG 313.

GEOG 414-4 Climatology III
An examination of recent advances in climatology and application of atmospheric process models. (lecture/laboratory) Prerequisite: GEOG 314.

GEOG 415-4 Advanced Biogeography
A survey of advanced biogeographic theory, and techniques of vegetation analysis. The application of these theories and techniques to biotic resources management is also examined. (lecture/seminar) Prerequisite: GEOG 315.

GEOG 416-4 Pleistocene Geography
An examination of the physical geomorphic, pedologic and biotic processes and evidence from human geography of the period will be studied as they affect landscape changes. (lecture/seminar) Prerequisite: one of GEOG 213, 214, 215, 317.

GEOG 417-4 Soil Science II
Advanced treatment of topics in soil science: soil physics, soil chemistry, soil biology, soil classification and/or forest soils. (lecture/laboratory) Prerequisite: GEOG 317.

GEOG 420-4 Comparative Cultural Geography
A comparative study of selected world cultures and landscapes in the light of recent theoretical developments in geography. (lecture/seminar) Prerequisite: at least 60 credit hours including eight hours of upper division geography courses.

GEOG 422-4 Theories and Practices of Development
A geographic study of ‘development’ and ‘underdevelopment’ with particular references to selected lesser developed regions. (lecture/seminar) Prerequisite: at least 60 credit hours including GEOG 111, 221, and 241.

GEOG 424-4 Urban Transportation
An extension of the theoretical and conceptual approach to transportation (GEOG 324), but with application to urban areas. (lecture/seminar) Prerequisite: GEOG 324 and 362.

GEOG 426-4 Industrial Change and Local Development
Relationships between multinational corporations and local development with reference to resource based towns in British Columbia. An analysis of the implications of changes in employment, organization, technology and resource utilization for community economic development. (lecture/seminar) Prerequisite: at least 60 credit hours including GEOG 323 or 383.

GEOG 427-4 Selected Topics in the Geography of Tourism
Selected topics in the geography of tourism. Topics emphasize policy, planning and management issues associated with tourism. (lecture/seminar) Prerequisite: GEOG 327, or permission of the instructor.

GEOG 441-4 Geography of Urban Regions
An evaluation of the nature of urbanization, having specific reference to theories of urban spatial structure and to comparisons of urbanization in Canada and abroad. (lecture/seminar) Prerequisite: at least 60 credit hours including GEOG 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: at least 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
This course explores sites of socio-cultural change in a global context. Particular emphasis is placed on regional and international migration and the territorial and geopolitical bases of conflict. (lecture/seminar) Prerequisite: 60 credit hours including eight hours of upper division geography.
GEOG 448-4 Public Policy, Theory and Human Geography
This course will outline and explore the contributions that a theoretically informed human geography can make to debates on urban policy and the urban landscape. As will be demonstrated, a geographic perspective can provide a number of critical insights into both empirical and theoretical arenas.
(lecture/tutorial) Prerequisite: GEOG 301.
GEOG 449-4 Environmental Processes and Urban Development
An examination of environmental processes as they influence, and are influenced by, urban development, with attention to implications for urban policy and planning. (seminar) Prerequisite: at least 60 credit hours, including at least one of GEOG 351, 354 or 389, or enrolment in either the Post Baccalaureate Program in Community Economic Development or the Post Baccalaureate Program in Urban Studies.
GEOG 450-4 Environmental Workshop
This is an interdisciplinary course whose principal objective is to act as a round table and forum for in-depth analysis and resolution of important environmental issues as they relate to economy, technology, politics and culture. (seminar) Prerequisite: GEOG 389.
GEOG 452-4 Advanced Issues in Geographic Information Systems
Explores advanced issues in geographic information science such as spatial description; spatial analysis; geostatistics; process modelling; knowledge discovery in databases and visualization; expert systems and artificial intelligence; managing GIS; and ethical issues. Students will design original projects including data acquisition, analysis, and web site development. (lecture/laboratory) Prerequisite: GEOG 355.
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.
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 developent and the settlement process will be examined to explain the geographic character of Western Canada. (lecture/seminar) Prerequisite: at least 60 credit hours including eight hours of upper division geography courses.
GEOG 489-490-4 Selected Topics
The topics will vary from semester to semester depending on the interests of faculty and students. (lecture/tutorial) Prerequisite: at least 60 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.
GEOG 497-5 International Field Study
A fieldwork based study of a selected region conducted in an international setting. Emphasis is placed on how to understand landscapes by relating concepts and models with direct observation, inference and collection of field evidence, as well as published literature on the selected region. Prerequisite: at least 60 credit hours including 12 hours of upper division geography courses.

German GERM
Faculty of Arts
GERO 300-3 Introduction to Gerontology
Examination of the aging process from a multi-disciplinary perspective. Physical and health factors in aging, economic and vocational factors in aging, family and community relations of older people, social policy and politics of aging. Throughout the course, emphasis will be placed on normal aging. (lecture/seminar) Prerequisite: 60 semester hours credit.
GERO 301-3 Research Methods in Gerontology
This course examines research methodology applied to the field of gerontology. Key areas covered include: operationalizing gerontological concepts; sampling older populations; longitudinal designs; outcome and process evaluation of seniors’ programs; and elementary data analyses. (lecture/seminar) Prerequisite: 60 credit hours. Recommended: STAT 203 (or equivalent).
GERO 302-3 Health Promotion and Aging
This course includes an examination of the development of contemporary understanding and practice of health promotion. Students will be given the opportunity to explore theories and models designed to explain health related behaviors and the determinants of health. Strategies for behavioral change and development of socio-environmental approaches will be discussed in the context of an aging Canadian population. (3-0-0) Prerequisite: 60 semester hours. Recommended: GERO 300.
GERO 400-4 Seminar in Applied Gerontology
Discussion of current issues in applied gerontology. Interdisciplinary orientation, drawing upon resource persons from within the University and practitioners in the community. Course requirements include participation in a group research project. (seminar) Prerequisite: 60 credit hours. GERO 300, 301 and two of PSYC 357, SA 420 or KIN 461.
GERO 401-3 Aging and the Built Environment
Impact of the macro- and microenvironment as it affects the aged. Discussion of planned housing and institutional living arrangements, territoriality and the need for privacy, home range and use of space, urban planning, responsive design of housing and care facilities, effects of relocation and institutionalization. (lecture) Prerequisite: 60 semester hours credit. Recommended: GERO 300.
GERO 402-3 Drug Issues in Gerontology
Considers pharmacological issues as they apply to older people; uses and abuses of commonly prescribed and non-prescribed medication; medication reviews; government subsidy programs. (lecture/seminar) Prerequisite: 60 credit hours. GERO 300.
GERO 403-3 Counselling with Older Adults
An examination of the ways of adapting counselling theory and practice to meet the needs of older adults and their families. Emphasis will be placed on counselling techniques and outcomes appropriate to the needs of persons living independently, with their families, or in institutional settings. (lecture/seminar) Prerequisite: GERO 300 and PSYC 357 or SA 420. This course is restricted to students in the Gerontology Diploma program.
GERO 404-3 Health and Illness in Later Life
An examination of issues related to health and illness among older adults, drawing upon theories and concepts from biological, social and public health sciences. An introduction to assessment and intervention skills useful to persons working with older adults in a broad range of practice settings.
GERO 405-3 Aging in Small Communities and Rural Areas
An examination of the demographic trends in aging in small communities and rural areas of Canada, the geographical and social contexts in which these are occurring and the experience of rural communities in assessing needs and providing support services and housing. (lecture/seminar) Prerequisite: 60 credit hours. GERO 300.

GERO 406-3 Death and Dying
The focus of this course is to provide the student with an in-depth understanding of the process of dying. By examining the process of dying, one's personal response to death as well as society's reaction and responsibilities toward dying, the student will gain new insights in caring for the dying person. (lecture/seminar) Prerequisite: 60 semester hours credit. Recommended: GERO 300.

GERO 407-3 Nutrition and Aging
This course examines specific nutritional conditions and concerns of the aging population. It does so by exploring the nutrient needs of the elderly as determined by physiological changes of aging, metabolic effects of common diseases, and biochemical interactions of medications. The course includes a broad investigation of the psychological, sociological, and physical factors which influence food choice and ultimately nutritional status in aging. (lecture/seminar) Prerequisite: 60 semester hours credit. Recommended: GERO 300.

GERO 408-4 Families and Aging
This course entails a comprehensive interdisciplinary study of families and aging. In addition to providing an overview of theory and research on this topic, a variety of substantive issues will be critically examined, including: families in mid life, sibling relationships, divorce and remarriage, dating in later life, care giving, poverty, elder abuse, and policy development. Prerequisite: 60 semester hours. Recommended: GERO 300.

GERO 410-3 Special Topics in Gerontology I
Selected psychological, sociological, economic, biological and practical aspects of the aging of individuals and populations. (lecture/seminar) Prerequisite: 60 semester hours credit. Recommended: GERO 300.

GERO 411-3 Special Topics in Gerontology II
Selected psychological, sociological, economic, biological and practical aspects of the aging of individuals and populations. (lecture/seminar) Prerequisite: 60 semester hours credit. Recommended: GERO 300.

GERO 412-3 Special Topics in Gerontology III
Selected psychological, sociological, economic, biological and practical aspects of the aging of individuals and populations. (lecture/seminar) Prerequisite: 60 semester hours credit. Recommended: GERO 300.

GERO 414-4 Special Topics in Gerontology IV
Selected psychological, sociological, economic, biological and practical aspects of the aging of individuals and populations (0-4-0) Prerequisite: 60 credit hours. Recommended: GERO 300.

GERO 420-4 Sociology of Aging
The structural and behavioral implications of aging. Topics include demographic aspects of aging; the relationship of aging to political, economic, familial and other social institutions; the psychological significance of aging. (2-2-0) Prerequisite: 60 credit hours. Recommended: GERO 300.

GERO 435-3 Adult Guardianship Law
A comprehensive exploration of the law affecting adult guardianship, substitute decision-making, and adult protection in Canada, including a detailed examination of the form, content and philosophical underpinnings of the relevant legislation in British Columbia. Topics include assessing mental incapacity, powers of attorney, living wills and health care directives, end of life decision-making, the law affecting consent to health care, and court-ordered guardianship for adults. (0-3-0) Prerequisite: 60 credit hours. Recommended: GERO 300. This course is identical to CRIM 435 and students cannot take both courses for credit. Students who have taken CRIM 418 or GERO 410 may not take this course for further credit.

History HIST
Faculty of Arts

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 105-3 Western Civilization from the Ancient World to the Reformation Era
An introduction to the Greek and Roman origins of Western Civilization, and its development to the 16th century. (lecture/tutorial)

HIST 106-3 Western Civilization from the Reformation Era to the 20th Century
A sequel to HIST 105 covering the expansion and modernization of the European world. (lecture/tutorial)

HIST 146-3 Africa in Recent History
Colonialism, independence and nation building. (lecture/tutorial)

HIST 151-3 The Modern Middle East
A sequel to HIST 106 covering the modern Middle East, 1914 to 1990. (lecture/tutorial) Recommended: HIST 105 and 106.

HIST 203-3 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 205-3 Premodern Japan
A survey of Japanese history from antiquity until the late nineteenth century or early modern period. (2-1-0) Prerequisite: students with credit for HIST 206 offered prior to 2002-2 cannot take this course for further credit.

HIST 206-3 Modern Japan
A survey of Japanese history from 1868 until 1952 which will examine, among other topics, the establishment of the Japanese colonial empire, the wars with Russia, China and the United States, and the post-war Allied Occupation. (2-1-0) Recommended: HIST 205.

HIST 208-3 Latin America: The Colonial Period
A study of the process and institutions of Spanish colonial administration with emphasis on the clash of European and Amerindian cultures. (lecture/tutorial) Recommended: HIST 104.

HIST 212-3 The United States to 1877
The emergence and development of American civilization from the establishment of the colonies through the Civil War and Reconstruction. (lecture/tutorial) Recommended: HIST 104.

HIST 213-3 The United States since 1877
An analysis of the transformation of American culture from post-Civil War to modern forms. Topics to be discussed will include industrialization, urbanization, foreign policy, cultural and political antagonisms. (lecture/tutorial) Recommended: HIST 212.

HIST 215-3 The Making of the British Isles
A broad survey of some of the central developments that have shaped the history of the British Isles from Roman antiquity to the present. (lecture/tutorial) Recommended: HIST 216.

HIST 216-3 The Ancient World
Aspects of the ancient history of the Near East, Greece and Rome. (lecture/tutorial) Recommended: HIST 104.

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) Recommended: HIST 106.

HIST 220-3 The Later Middle Ages
A survey of Western European history from the high middle ages to the beginning of the Reformation. Attention will be given to both material and cultural dimensions of medieval European civilization. (lecture/tutorial)

HIST 223-3 Early Modern Europe, 1500-1789
A survey of early modern European history which will examine, among other topics, the wars of religion, the 17th century revolutions, 18th and 17th century economic development, the scientific revolution, the enlightenment and the political and social character of the old regime. (lecture/tutorial)

HIST 224-3 Europe from the French Revolution to the First World War
A survey of European history emphasizing the French Revolution, and Napoleonic Europe and first Industrial Revolution, liberalism and its opponents, agrarian conservatism, liberalism and conservatism, the Revolutions of 1848, the struggles for political unification, the second Industrial Revolution and the origins of the First World War. (lecture/tutorial)

HIST 225-3 20th Century Europe
A survey of European history from the First World War emphasizing the origins and effects of the World Wars, the emergence of the Soviet Union and of fascism. (lecture/tutorial)
This course will deal with the historical, social and patterns in which history has been conceived. Attention will be paid to the nature of historical its relationship to the present and future. Particular in the historian’s attempt to apprehend the past and courses in history.

HIST 299-3 Problems in History
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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 225-3 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 326-4 History of Aboriginal Peoples of North America Since 1850
An examination of selected themes in the history of Aboriginal peoples of North America in the nineteenth and twentieth centuries. Topics include the fur trade, missionaries, intermarriage, the Metis, government policies, wage labour, education, treaty making, oral narratives and political activism. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 327-4 Canadian Labor and Working Class History
An examination of the history of labor, primarily in English Canada, during the 19th and 20th centuries. The evolution of trade unions and labor-political movements will be examined together with the impact of industrialization, the rise of mass production, changing patterns of immigration and other contexts of working-class culture and material life. Special attention will be paid to British Columbia as a case study. Historically the course examines 'working class history' as a particular way of studying the past. What is the concept of 'the working class'? (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 101, 102 and 204.

HIST 328-4 The Province of Quebec from Confederation to Confederation
The economic, social, political and cultural history of Quebec. (lecture/tutorial) Prerequisite: HIST 102 plus 45 credit hours including 9 hours of lower division history credit.

HIST 329-4 Canadian Family History
A detailed examination of the changing Canadian family, and its relationship to the state, since the eighteenth century. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 331-4 Germany from the Reformation to 1815
An examination of the principal themes in German social, political, economic and intellectual history from the reformation to the defeat of Napoleon. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 332-4 Germany Since 1815
An examination of the principal themes in German political, social, economics and intellectual history from the defeat of Napoleon in 1815 to the reunification in 1990. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 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) Prerequisite: 45 credit hours including 9 hours of lower division history credit. 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, modernization, and emergence as a super power. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 336-4 Absolutism and Enlightenment in Europe
An examination of the economic, social, political and intellectual developments in 17th and 18th century continental Europe, with emphasis either on the period of Absolutism or on the Enlightenment. Students will read excerpts from important contemporary sources, such as Locke, Voltaire, Rousseau, and Kant. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 337-4 The Balance of Power in Europe
An examination of the shift of power among competing European states from the late 19th century until the mid-20th century. Attention will be given to the origins and consequences of the two great European wars and to the policies of Britain, France, Germany, and Russia which brought about the significant changes in the balances of power. Study will be based primarily upon documents from the Chanceries. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 225.

HIST 338-4 World War II
An introduction to the history of the origins and course of the second world war. (distance education) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 225.

HIST 339-4 The British Empire and Commonwealth
This course provides an outline history of the British Empire, its rise and decline, and discusses the origin and significance of the Commonwealth. In addition there is a detailed account of the 'Westminster Model' of parliamentary democracy, on which the political institutions of many Commonwealth nations are based. (distance education) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 343-4 Africa and the Slave Trade
An examination of the trade in slaves from Africa and the rise of slavery within that continent. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Students with credit for HIST 478 may not enroll in HIST 343. Recommended: HIST 146 or 231.

HIST 344-4 East Africa
A regional study from the Arab and European penetration in the 19th century to the emergence of Kenya, Uganda, and Tanzania as independent states with emphasis on the patterns of economic, political, social and religious change. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 348-4 A History of 20th Century South Africa
An examination of the economic, social and political history of 20th century South Africa. Particular attention will be paid to the factors which led to the rise of apartheid. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: at least one of HIST 148, 231.

HIST 350-4 The Ottoman Empire and Turkey
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: 45 credit hours including 9 hours of lower division history credit. Recommended: one of HIST 151, 249, 251.

HIST 352-4 Religion and Politics in Modern Iran
The intellectual and social history of greater Iran from the Safavids to the twentieth century. Emphasis will be on the relationship between religion and politics. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: one of HIST 151, 249, 251.

HIST 355-4 The Arab Middle East in the Twentieth Century
An examination of this century's major themes in the history of Syria, Lebanon, Iraq, Jordan and Saudi Arabia, as well as other states of the Arabian peninsula. Topics to be investigated include the origins of Arab nationalism and Islamic reformism; the origins and development of the Lebanese question; the emergence of the politics of the military in Iran and Syria, and the special role of the Jordanian and Arabian monarchies. (lecture/tutorial) Prerequisite: nine hours of lower division history credit. Recommended: one of HIST 151, 249, 251.

HIST 360-4 The History of Science: 1100-1725
Topics in medieval and renaissance science including Aristotelian/Platonic 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: 45 credit hours including 9 hours of lower division history or science credit.

HIST 361-4 The History of Science: The 18th Century to the Present
Topics in the history of science and technology to be selected from the 18th/19th century chemistry, the history of the idea of evolution and of Darwinian science, physics to 1914, or 19th century industrial science. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history or science credit.

HIST 365-4 Self and Society in Imperial China
An in-depth examination of selected aspects of Chinese society and culture in the imperial period, particularly the relationships between self, family and society. This course seeks to challenge the perception of a static Chinese culture and demonstrate that a critical understanding of the imperial period remains a key to our comprehension of contemporary Chinese society. Prerequisite: 45 credit hours including 9 hours of lower division history credit including HIST 254 or permission of the department.

HIST 370-0 Practicum I
This is the first semester of work experience in co-operative education. It is meant to be exploratory in nature. Prerequisite: normally 60 semester hours with a minimum CGPA of 2.75. Students should apply to the co-op co-ordinator one semester in advance.

HIST 375-0 Practicum II
This is the second semester of the Co-operative Education Program. Building on the experience of the first employment semester, this semester will provide a work experience that integrates and builds on the research and writing skills associated with the discipline of history. Prerequisite: normally 75 semester hours (including HIST 370) with a minimum CGPA of 2.75. Students should apply to the co-op co-ordinator one semester in advance.

HIST 379-4 The Transformation of American Culture 1830-1900
In 1830 most Americans lived on farms or in small towns, worked on the land, and dreamed of salvation. By 1900 cities, industry, the railroad, electricity, consumerism had transformed material lives. Ideals and dreams had also shifted. This course discusses elements of this change, particularly in popular ideology, everyday life, and literary, political and artistic movements. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 212 or 213.

HIST 382-4 African-American History, since 1865
Examines black history from the end of the American Civil War. The course focuses on the external and internal forces which shaped black communities
across the nation. Special attention will be paid to these communities' struggles against the forces which sought to confine black people to an inferior place in society. Prerequisite: 45 credit hours including 9 hours of lower division history credit.

**HIST 384** - North American Urban History
This course examines the development of North American cities and the social, political and economic forces which have shaped them. Emphasis will be placed on the lives of city dwellers and the distinctive urban cultures they have created. Prerequisite: 45 credit hours including 9 hours of lower division history credit.

**HIST 386** - The Material History of North America, 1500-1850
Examines North American material history from the time of contact through the settlements of the Dutch, English, French, and Spanish, through the collapse of empires and the rise of independent states, addressing issues such as utility, class difference, ideology, aesthetics and taste, and consumerism. The influence of the African diaspora in the New World will also be examined. (0-4-0) Prerequisite: 45 credit hours including 8 hours of lower division history credit. Students with credit for HIST 391 in 2000-3 cannot take this course for further credit. Recommended: HIST 212.

**HIST 387** - The Material History of North America, 1851-Present
Examines North American material history in the latter 19th and 20th centuries, considering stylistic revivals, technological innovation, the class-based nature of taste and role of consumption as ideology. Household objects, furniture, domestic spaces and architecture will be used to explore the ways in which changes in North American culture signify changes in social, economic and political life. (0-4-0) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 212 and 386.

**HIST 390** - Studies in History I
Special topics. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

**HIST 391** - Studies in History II
Special topics. (lecture/tutorial) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

**HIST 400** - Seminar in Historical Methods
A study of methodology, including such subjects as principles of historical criticism, annotation and transcription of source material, generalization, and the techniques of history and the social sciences. Examples will be drawn from all areas in which the department teaches. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

**HIST 402** - Renaissance Italy
An assessment of the principal themes in the history of the Italian Renaissance, and of the role of Renaissance Italy in shaping the character of Early Modern Europe. In certain semesters the experience of one or more Italian cities will serve to elucidate these themes. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 220.

**HIST 403** - The European Reformation
An advanced examination of the complex history and patterns of the Religious Reformation in sixteenth century Europe. Emphasis will be placed on the religious thought of the period, and on its social and political context. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit including HIST 220 or 223 or permission of the department.

**HIST 404** - Religion, Society and Politics in England 1530-1640
From the Reformation to the outbreak of the Civil War, this research seminar will examine the origins, development and impact of Protestantism within English society. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit including HIST 315 or permission of the department.

**HIST 405** - 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: 45 credit hours including 9 hours of lower division history credit including HIST 315 or permission of the department.

**HIST 407** - 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 ‘national 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 war. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 105 or 106.

**HIST 409** - Disease and Society
A seminar devoted to problems in the social history of medicine, which is a field concerned with health, disease, and medicine — in particular social, political, and cultural contexts. Particular attention will be given to the history of epidemic diseases since the eighteenth century. Prerequisite: 45 credit hours including 9 hours of lower division history credit.

**HIST 413** - Britain and Europe in the Twentieth Century
An examination, by means of a series of case studies, of the ways in which Britain’s ambiguous relationships with Europe, the Empire/Commonwealth and the United States have shaped its identity in the Twentieth Century. Prerequisite: HIST 225 plus 45 credit hours including 9 hours of lower division History credit. Recommended: HIST 337.

**HIST 414** - The Impact of the Great War
A brief look at the political, social, and territorial changes of the Versailles settlement, followed by an examination of the impact of the war upon Europe, particularly through the examples of fascism in Italy, national socialism in Germany and the general breakdown of the liberal order during the 1930’s. In certain semesters additional attention may be given to the Soviet Union. (seminar) Prerequisite: HIST 225 plus 45 credit hours including 9 hours of lower division History credit. Recommended: HIST 337.

**HIST 415** - Victorian Britain
A study of major developments and controversies — social, cultural, political, religious, economic — during the period of the rise of industrial and class society. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: one or more of HIST 224, 315, 316.

**HIST 416** - The French Revolution
An analysis of the origins of the Revolution, of its changing nature, and of its impact on society. The Revolution will be examined in its European context. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 223, 224.

**HIST 417** - Modern French Social History
An examination of a principal aspect of, or period in, the history of French society since the Revolution. For example, research seminar may be given to the 19th century French Revolution Tradition, or to society and culture in the Third, Fourth, and Fifth Republics, or to social thought from the French Revolution to L’Action Francais. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 224 or 225.

**HIST 419** - Late Imperial and Revolutionary Russia
A detailed examination of the impact of modernization in late Imperial and early Soviet Russia. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 224 or 225.

**HIST 420** - The History of Russian Foreign Policy from Catherine the Great to Stalin
A detailed study of the conduct of Russian foreign policy from the late 18th century to the middle of the 20th century. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

**HIST 421** - Modern Greece, 1864-1925
Greece and Greek society will serve as a case study of a Balkan country that underwent several political and social transformations. Prerequisite: 45 credit hours including 9 hours of lower division history credit.

**HIST 422** - Greece, 1935-1944: Occupation and Resistance
Examines the cycle of violence that followed the Axis occupation of Greece and created a political schism that lasted until the 1980s. The course will focus on Greek resistance, foreign relations and relations with the British intelligence services. Prerequisite: 45 credit hours including 9 hours of lower division history credit.

**HIST 424** - Problems in the Cultural History of Canada
Selected problems in Canadian ideas and attitudes on such topics as the arts, religion, education, minority and native cultures, nationalism, and Canadian historiography. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 101, 102.

**HIST 425** - Gender and History
This course will study historical changes in masculinity and femininity. It will examine the ways in which gender identities of women and men are formed and changed, and it will consider the influences of gender relationships upon politics, society and the economy. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

**HIST 426** - State Power and Social Regulation
An examination of the growth and evolution of the relationship between state and society in North America. It will examine the myriad direct and indirect ways in which the state has regulated the lives of North Americans and the equally diverse ways in which North Americans have sought to influence and shape state policy. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: PHIL 120 or 220.

**HIST 427** - Problems in the History of Aboriginal Peoples
Examination of selected themes in the history of Aboriginal peoples (0-4-0) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

**HIST 428** - Problems in the Social and Economic History of Canada
Selected problems in the history of Canadian agriculture and industrial development, migration and
settlement, labor, native policy and class structure. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 101, 102.

HIST 430-4 New France
Social, cultural, intellectual, economic, military, and administrative aspects of New France. (seminar) Prerequisite: HIST 101 plus 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 102.

HIST 431-4 Problems in the History of British North America, 1760-1850
The social and cultural life of British North America: religion, education, economic pursuits, social and humanitarian attitudes, politics, and English-French relations. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 101.

HIST 432-4 Problems in Environmental History
An investigation into the major themes and arguments in the environmental histories of North America, emphasizing how different individuals and groups have used, perceived, and managed their environments over time. (0-4-0) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Students with credit for HIST 485 in 2001-3 cannot take this course for further credit. Recommended: HIST 386 and/or 387.

HIST 434-4 Things and Stuff: Problems in Material History
Through the use of case studies, this course considers how historians can effectively and powerfully use furniture, architecture and objects as evidence. Issues to be addressed include 'text' and 'context' and the methodology of reading of material evidence. (0-4-0) Prerequisite: 45 credit hours including 9 hours of lower division history credit. HIST 486 in 2000-1 or HIST 488 in 2001-3 may not take this course for further credit. Recommended: HIST 386 and/or 387.

HIST 435-4 Problems in the History of the North American West
This course examines selected problems in the social, economic, political, and cultural history of the Canadian and/or American West. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 101 and 102.

HIST 436-4 British Columbia
Selected problems in the social, cultural, economic, and political development of British Columbia. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 101 and 102.

HIST 446-4 American Revolution and the Making of the Constitution
Selected topics may include the Revolutionary War Era; the American Enlightenment; the New Nation; American Diplomacy in the Formative Period. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 212.

HIST 450-4 The Era of the American Civil War
Examining the political, social, economic, and cultural elements that led to the break up of the American republic, the Civil War, and the problems involved in reconstructing the union. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Students with credit for HIST 447 under the same topic may not take HIST 450 for further credit. Recommended: HIST 212 or 213.

HIST 452-4 The US in the Progressive Era
The United States emerged as a modern industrial nation in the two decades before it entered World War I. This course will explore the implications of that development, focusing on such topics as the ‘city boss,’ the ‘new immigrants,’ the social justice movement, and the rise of organized labor. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit including HIST 213 or permission of the department. Students with credit for HIST 448 under the same topic may not take HIST 452 for further credit. Recommended: HIST 212 or 213.

HIST 454-4 Gender and Sexuality in US History
This course will explore changing constructions of gender roles and sexuality in United States history. It will examine how prescribed norms have shaped definitions of acceptable and respectable behavior, and how these norms have been regulated over time. We shall also explore how gender and sexual relations have created and reflected power relations between men and women. Special emphasis will be placed on the 19th and 20th centuries. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 458-4 Problems in Latin American Regional History
Advanced concepts and methodology applied to the study of one or more Latin American regions. Examples are: pre-Columbian and colonial Middle America; revolutionary Mexico 1910-1970, Brazil from Slavery to Militarism, frontier society to hyper-urbanism in the La Plata countries. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: one of HIST 104, 208, 209, LAS 200.

HIST 459-4 Problems in the Political and Social History of Latin America
Advanced concepts and methodology applied to the study of traditional and contemporary institutions (the church, the great estate, the peasantry, elite structures) and/or political movements (agrarian revolution, populism, the modernizing military). Emphasis placed on changing historiographical interpretations. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: one of HIST 104, 208, 209, LAS 200.

HIST 465-4 The Palestinian-Israeli Conflict
A discussion of the modern history of nation-building in the context of the Arab-Israeli conflict. The topics discussed include Zionism, the British Mandate in Palestine, the creation of the state of Israel, the rise of modern Palestinian nationalism, and the role of the Palestinian-Israeli dispute in regional and international affairs. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit and one of HIST 151, 249, 251, 250, 354, 355 or permission of the department.

HIST 467-4 Modern Egypt
An interpretive discussion of the course of modern Egyptian history. This may range from the advent to the present, and may focus on specific periods of revolutionary change, (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit and one of HIST 151, 249, 251, 250, 354, 355 or permission of the department.

HIST 471-4 Women in Modern Japanese History
The history of Japan from 1600 to the mid 20th century with a focus on the economic, social, cultural and political contributions of women. (0-4-0) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Students with credit for HIST 485 in 2001-1 or HIST 488 in 2002-1 may not take this course for further credit.

HIST 473-4 The Making of South African Society
An examination of the way in which South African society evolved in the 19th and 20th centuries. Particular attention will be paid to the problem of race relations. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: HIST 231, 348.

HIST 474-4 Modern Chinese Identities
This seminar offers an opportunity for upper level undergraduates to explore in-depth the historicity and constructed-ness of identities, especially in relation to the vast and diverse population known as 'Chinese.' Topic to be discussed include Orientalism, nationalism, race, ethnicity and gender. The course aims to encourage students to develop a critical understanding of the political, social and cultural assumptions that are often behind the creation and perpetuation of identities. Attention will also be given to the history of Chinese diaspora (particularly in North America) and its significance to the project of reinterpreting ‘Chinese-ness’ in the modern world. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit including HIST 255 or permission of the department.

HIST 475-0 Practicum IV
This is the fourth semester of the Co-operative Education Program. The work experience will require a high level of expertise in research and writing skills as well as an ability to exercise independent judgement. Prerequisite: normally 105 semester hours (including HIST 370, 375 and 470) with a minimum CGPA of 2.75. Students should apply to the co-op co-ordinator one semester in advance. Students entering 400 division seminars should have an appropriate background in 100 and 200 division and/or 300 division History. Normally, students should have completed 45 credit hours (or the equivalent) prior to enrollment in any upper division history course.

HIST 481-4 British India
An examination of the British community in India set against the background of British attitudes to India since the late 18th century. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit and HIST 339 or permission of the department.

HIST 483-4 The Struggle for Identity in Sub-Saharan Africa
Selected topics in the history of an African state. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 484-4 Studies in History I
Special topics. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 488-4 Studies in History II
Special topics. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit.

HIST 489-4 Studies in History
Allows students to pursue in greater depth a particular historical problem. It will be offered either as
an individual reading course or as small seminars, depending upon student and faculty interest. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: at least three upper division courses in history.

**HIST 490-4 Studies in History**

Allows students to pursue in greater depth a particular historical problem. It will be offered either as an individual reading course or as a small seminars, depending upon student and faculty interest. Admission only by consent of instructor. (seminar) Prerequisite: 45 credit hours including 9 hours of lower division history credit. Recommended: at least three upper division courses in history.

**HIST 498-8 Honors Essay**

Written under the direction of an individual faculty member, the honors essay will reflect a familiarity with the events and literature of a particular area of study. Prerequisite: 45 credit hours including 9 hours of lower division history credit. Students entering 400 division seminars should have an appropriate background in 100 and 200 division and/or 300 division history. Normally, students should have completed 45 credit hours (or the equivalent) prior to enrollment in any upper division history course.

**Humanities HUM Faculty of Arts**

**HUM 101-3 Introduction to the Humanities**

An introduction to issues and concepts central to the study of the Humanities. Through exposure to primary materials drawn from different periods and disciplines, students will become acquainted with a range of topics and ideas relating to the study of human values and human experience.

**HUM 102-3 Classical Mythology**

An introduction to the myths of the Greeks and Romans. The course will investigate the nature, function, and meaning of myths in the classical world and their considerable influence on western civilization. (lecture/tutorial)

**HUM 151-3 Ancient Greek I**

An introduction to the classical Greek language. (tutorial) Students who have taken GRE 100 cannot take this course for further credit.

**HUM 152-3 Ancient Greek II**

The continuation of Ancient Greek I. (tutorial) Prerequisite: HUM 151, or permission of the instructor. Students who have taken GRE 100 cannot take this course for further credit.

**HUM 161-3 Latin I**

An introduction to the Latin language. (tutorial) Students who have taken LATN 100 cannot take this course for further credit.

**HUM 162-3 Latin II**

The continuation of Latin I. (tutorial) Prerequisite: HUM 161 or permission of the instructor. Students who have taken LATN 101 cannot take this course for further credit.

**HUM 201-3 Great Texts in the Humanities I**

An intensive study of some of the major works which have had a formative influence on the structure and development of western thought. Reading and discussion of primary texts and the major themes which emerge from them will introduce students to essential philosophical, literary, social, and religious themes of western civilization. Texts for this course will be drawn from the Ancient World, Middle Ages and the Renaissance. (lecture/tutorial) Prerequisite: HIST 105 or PHIL 150 or 30 credit hours.

**HUM 202-3 Great Texts in the Humanities II**

An intensive study of some of the major works which have had a formative influence on the structure and development of western thought. Reading and discussion of primary texts and the major themes which emerge from them will introduce students to essential philosophical, literary, social, and religious themes of western civilization. Texts for this course will be drawn from the 17th century through to the modern period. (lecture/tutorial) Prerequisite: HIST 106 or PHIL 151 or 30 credit hours.

**HUM 203-3 Great Texts in the Humanities III**

An introduction to classic texts which have endured as monuments of Asian thought and literature. Readings and discussion of primary texts and their central ideas will introduce students to philosophical, literary and religious themes in a selected, major Asian tradition. (lecture/tutorial) Prerequisite: 30 credit hours.

**HUM 227-3 Introduction to the Study of the Future**

An introduction to the study of the future as a field of inquiry, its methodology, issues, and the problems that arise when we attempt to understand or control what will happen. (lecture/tutorial) Students who have taken GS 227 cannot take this course for further credit.

**HUM 230-3 Introduction to Religious Studies**

The exploration of religion as expressed in a number of major traditions including an investigation of primary textual sources. (lecture/tutorial)

**HUM 240-3 Studies in European Cultures**

An interdisciplinary approach to European cultures through the examination of historical, literary, philosophical and aesthetic materials related to a specific period and place in the development of Western civilization. (lecture/tutorial) Prerequisite: 30 credit hours. Students with credit for GS 240 or 242 cannot take this course for further credit.

**HUM 302-4 The Golden Age of Greece: An Integrated Society**

The study of Athenian society in the 5th century BC, a period unique in the record of human achievement during which virtually all the major humanistic fields were either initiated or received significant new impetus. Integrates the remarkable achievements of this ‘Golden Age’ in an interdisciplinary examination of its art, architecture and writings. (seminar) Prerequisite: 45 credit hours.

**HUM 302-4 The Latin Humanist Tradition**

Studies in the writings of various Latin authors. (seminar) Prerequisite: 45 credit hours.

**HUM 305-4 Medieval Studies**

A detailed interdisciplinary analysis of a selected topic, issue, or personality in the Middle Ages. (seminar) Prerequisite: 45 credit hours.

**HUM 307-4 Carolingian Civilization**

A focused interdisciplinary study of the Carolingian civilization achieved in early medieval Europe under Charlemagne and his family. (seminar) Prerequisite: 45 credit hours.

**HUM 311-4 Italian Renaissance Humanism**

A study of the major writings, cultural milieu, and influence of the humanist movement of the Italian Renaissance. (seminar) Prerequisite: 45 credit hours.

**HUM 325-4 The Humanities and the Natural Environment**

A study of the humanistic, scientific, political, and ideological discourses deriving from concern with the natural environment. Using classic and contemporary sources, this course examines the interaction of humans with the non-human world, and includes such topics as human communities and nature, the immersion of the individual in nature, nature and the human habitat. (seminar) Prerequisite: 45 credit hours.

**HUM 327-4 Critical Issues in the Study of the Future**

An exploration of central controversies and issues in the study of the future. (seminar) Prerequisite: 45 credit hours. Students who have taken this course as GS 427 cannot take this course for further credit. Recommended: HUM 227 is strongly advised.

**HUM 330-4 Religion in Context**

An in-depth investigation of a specific case of religious history and tradition. Religion will be studied through the cultural and historical contexts that pervade and structure religious meaning and expression. (seminar) Prerequisite: 45 credit hours. Students who have taken this course as HUM 304 cannot take this course for further credit.

**HUM 340-4 Great Cities in Their Time**

An exploration of the cultural and intellectual accomplishments of a specific city that achieved prominence in a particular time period, and had substantial impact and influence on human civilization. Examines the political, social, religious, and cultural factors that help to explain a city’s significance and investigates the achievements of its citizens. (seminar) Prerequisite: 45 credit hours.

**HUM 350-4 Great Figures in the Humanistic Tradition**

An interdisciplinary study of the life and works of a man or woman who has made a lasting contribution to the humanistic tradition in more than one field of endeavor (e.g. philosophy, politics, literature, economics, religion). (seminar) Prerequisite: 45 credit hours. Students who have taken this topic under another Humanities course number cannot take this course for further credit.

**HUM 375-4 The Woodsworth Seminar**

A special topic in the humanities to be offered by the Woodsworth chair. (seminar) Prerequisite: 45 credit hours.

**HUM 381-4 Selected Topics in the Humanities I**

(seminar) Prerequisite: 45 credit hours.

**HUM 382-4 Selected Topics in the Humanities II**

(seminar) Prerequisite: 45 credit hours.

**HUM 383-4 Selected Topics in the Humanities III**

(seminar) Prerequisite: 45 credit hours.

**HUM 390-4 Directed Studies in Humanities**

Prerequisite: two of any 300 level humanities courses or permission of the co-ordinator plus permission of instructor. This course may be used only once for credit towards a degree.
ITAL 200-3 Intermediate Italian

An intermediate Italian course following the work of ITAL 101. In addition to consolidation of oral practice, grammar, reading and composition skills, a cultural component is included as well as selected readings from Italian authors. Prerequisite: ITAL 101.

ITAL 201-3 Intermediate Italian II

ITAL 201 continues the work of ITAL 200. Oral and written competence in Italian are extended through grammar review, oral practice, cultural studies, selected readings from Italian authors and multimedia activities. Prerequisite: ITAL 200.

Japanese JAPN

Faculty of Arts

Department of Linguistics

Language Training Institute

Students with a competence in the language beyond the level of the course in which they are registered will be required to withdraw. Students who are not sure of their language level are responsible for seeing that their level of proficiency is assessed prior to registration in the course. Arrangements for proficiency assessment in each language will be announced before the commencement of each semester. Consult the registration handbook or inquire at the Language Training Institute general office for the placement procedure.

Students whose skill level is beyond that of a Simon Fraser University Japanese course are not permitted to enroll in that course. All students must receive permission to register in JAPN courses, except for those students who have completed the course's prerequisites.

JAPN 100-3 Introduction to Japanese I

A comprehensive introduction to the Japanese language including the three writing systems. (tutorial) Prerequisite: students with any prior knowledge or experience in Japanese beyond the level of this course may not register in this course. Students with some previous knowledge of Japanese should consult with the instructor for course placement.

JAPN 101-3 Introduction to Japanese II

Continuation of JAPN 100. (tutorial) Prerequisite: JAPN 100 or permission of the department.

JAPN 200-3 Advanced Beginners' Japanese I

Continuation of JAPN 101. (tutorial) Prerequisite: JAPN 101 or permission of the department.

JAPN 201-3 Advanced Beginners' Japanese II

Continuation of JAPN 200. (tutorial) Prerequisite: JAPN 200 or permission of the department.

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 and biochemistry concepts will be interfaced with practical questions of food choice and eating practices.

KIN 140-3 Contemporary Health Issues

Explores health from a holistic perspective, in which health is viewed as physical, psychological, and social well-being. Considers genetics, environment, personal health behaviors (such as diet, exercise, stress management, and drug use), socioeconomic status, health care delivery systems, and aging with the intent to improve students' abilities to evaluate health information. (lecture/tutorial)

KIN 142-3 Introduction to Kinesiology

Basic procedures for the assessment of the status and performance of the individual according to the principles of anthropometry, functional anatomy, biomechanics, exercise physiology, and motor learning. (lecture/laboratory) Recommended: grade 11 biology, chemistry and physics.

KIN 143-3 Exercise Management

Introduces the student to exercise physiology. Focuses on personal exercise prescription to improve aerobic capacity, muscular strength and endurance, and flexibility. Also discusses athletic conditioning, e.g. speed and power training. The effects of nutritional and environmental factors on exercise and the role of exercise in weight control and stress management are considered. (lecture/laboratory) Recommended: medical clearance from a personal physician.

KIN 201-3 Biomechanics

This course will cover the application of basic mechanics to human movement. It will provide students with a basic understanding of how forces act on body segments and how movements are produced. The subject matter of this course is relevant to quantifying all forms of physical activity, from activities of daily living, physically challenged movement patterns, to elite athletic performance. It also has applications in medical settings, including rehabilitation and sports medicine. (lecture/tutorial) Prerequisite: MATH 152 or 155, PHYS 101 or 120, PHYS 102 or 121, PHYS 130 or 131, KIN 142.

KIN 205-3 Introduction to Human Physiology

An introductory survey of human physiology with an emphasis on mechanisms of regulation and integration. Anatomy of structures will be detailed only when it is critical to a functional understanding. Although this is intended as a survey course, some topics will be covered in reasonable detail in order to give insight into mechanisms of function. (lecture/tutorial) Prerequisite: MBB 221 (or BICH 221), PHYS 101 (or 120), and PHYS 102 (or 121). Kinesiology majors and honors students who have taken KIN 105 must also take KIN 205. For students taking both of these courses, credit will only be given for KIN 205.

KIN 207-3 Information Processing in Human Motor Systems

Students are introduced to human motor systems from psychological, physiological and computational approaches. Although a behavioral (information processing) approach to understanding voluntary goal-directed movement is stressed, research from a variety of distinct areas is integrated in an attempt to provide a coherent picture of our understanding of motor behavior.
KIN 212-3 Food and Society
This course deals with the cultural, social, agricultural and economic factors which influence food selection and nutrition. Students will explore traditional diets of various ethnic groups, and diet modification as immigrants adjust to life in a new country or to an urban setting. The course will also examine domestic and global food security, hunger in the developing and developed world, and sustainable methods of meeting the increasing world food demand. Prerequisite: KIN 110, 111.

KIN 221-3 Special Topics in Kinesiology
Selected topics in areas not currently offered within the undergraduate course offerings in the School of Kinesiology. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

KIN 241-3 Sports Injuries — Prevention and Rehabilitation
Includes delineation of the role of the sports therapist and will study the structural and functional characteristics of the body with regard to the prevention of injury in sport. A first aid approach to athletic injuries will be developed with practical experience in routine treatments. (lecture/tutorial) Prerequisite: KIN 142.

KIN 301-3 Biomechanics Laboratory
This laboratory course covers the quantitative biomechanical evaluation of human movement. Analysis techniques for quantifying motion of body segments in athletes, normal populations and special populations will be included. Experiments will measure force production in whole body activities such as walking and jumping. Experiments will also look at the nature of muscular force generation and the mechanical properties of the musculoskeletal system. Prerequisite: PHYS 130 or 131, KIN 201.

KIN 303-3 Kinanthropometry
A study of human size, shape, proportion, composition, maturation and gross function related to basic concepts of growth, exercise, performance and nutrition. (lecture/tutorial/laboratory) Prerequisite: KIN 142 and STAT 201.

KIN 304-3 Inquiry and Measurement in Kinesiology
This course covers the evaluation of measurement quality, test construction and assessment, and computer techniques for data capture and signal processing relevant to issues in Kinesiology. Prerequisite statistical knowledge will be put into practice when discussing research designs, modeling and hypothesis testing in Kinesiology. (3-1-0) Prerequisite: KIN 142, 201, 205, 207, and STAT 201.

KIN 305-3 Human Physiology I
Deals with the physiology and pathophysiology of the cardiovascular, respiratory, and renal systems in detail. (lecture/tutorial) Prerequisite: KIN 201, 205, CHEM 281 or 150 and 155), PHYS 102 or 121), MATH 155 or 152). Students other than kinesiology majors require KIN 205 or BISC 305 plus permission of the instructor.

KIN 306-3 Human Physiology II (Principles of Physiological Regulation)
Examines the regulation of body functions with an emphasis on the endocrine, gastrointestinal and neuronal systems. The course focuses on integration of physiological mechanisms at the cellular and organ levels. Examples of abnormal human physiology are used to illustrate important principles. (lecture/tutorial) Prerequisite: KIN 201, 205, 207, CHEM 281 or 150 and 155), PHYS 102 or 121), MATH 155 or 152). Students other than kinesiology majors require KIN 205 or BISC 305 plus permission of the instructor.

KIN 310-3 Exercise/Work Physiology
The study of human physiological responses and adaptations to acute and chronic exercise/work. Cardiorespiratory, cellular and metabolic (S adaptations will be studied and discussed in detail. (lecture/seminar) Prerequisite: KIN 205. Recommended: KIN 201 and 207.

KIN 311-3 Applied Human Nutrition
The principles of nutritional biochemistry are applied to nutrition in life cycle — pregnancy, lactation, infancy, childhood and old age. The second part of the course deals with common disease conditions where nutrition plays an important role in prevention or treatment or both. The course is presented in the Canadian context featuring sources of help on Canadian practice. Prerequisite: KIN 105 or 205 and 110. Students with credit for KIN 220 may not take KIN 311 for further credit.

KIN 312-3 Nutrition for Fitness and Sport
This course examines the theory and application of nutrition for fitness and sport. Students will study issues around dietary practices commonly promoted for performance enhancement, including mechanisms, effectiveness, and regulations. Students will learn skills for critical evaluation of nutrition research and nutrition claims, and will employ these in several small group projects investigating specific nutrition issues and products. Prerequisite: KIN 105 or 205), 110 and 303.

KIN 325-3 Basic Human Anatomy
An introductory course for students interested in physical education, health science professions and liberal arts. Brief discussions on applied anatomy, aging, common dysfunctions and diseases enable students to appreciate the relationship between structure and function. (distance education) Prerequisite: KIN 142 and 205 (or KIN 105 with a grade of C or higher). Available only through correspondence, this course will not be counted as an upper level optional course for a major in kinesiology. Students with credit for KIN 326 may not take KIN 325 for further credit.

KIN 326-4 Functional Anatomy
Pursues a systematic study of human anatomy with emphasis on functional applications. A comparative study of organs and body systems using laboratory dissections to provide an understanding of the three dimensional organization of the human body. Participation in all labs is required. (lecture/laboratory) Prerequisite: KIN 142, 201, 205 and at least 60 hours of undergraduate course credit. Students with credit for KIN 326 may not take KIN 325 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 340-3 Active Health: Behavior and Promotion
This course examines the relationships among health, physical activity and other health associated behaviors. Background information is provided concerning the influence of fitness on various disease states as well as the epidemiology of health and exercise behaviors. The course examines the theories and models of health behavior in the context of intervention and promotion strategies. (3-0-0) Prerequisite: KIN 105, 140, 143; or KIN 205. Recommended: 60 credit hours.

KIN 342-3 Active Health
An extension of KIN 143, Exercise Management, this course parallels the on-campus course KIN 343, This course is designed for students completing the Health and Fitness Certificate and/or a Kinesiology minor.

The goal of the course is to provide students with an opportunity to appreciate principles of exercise leadership, assess individual fitness needs, design programs and monitor effects of prescribed exercise. This course is available only through distance education. Prerequisite: KIN 105 (or 205), 142 and 143. Kinesiology majors and honors students may not receive credit for KIN 342.

KIN 343-3 Active Health: Assessment and Programming
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 142, 143 and 205; STAT 201 or an equivalent statistics course. Students with credit for KIN 342 may not take KIN 343 for further credit.

KIN 351-0 Practicum I
The first semester of work experience. It is available only to kinesiology co-operative education students. Prerequisite: students must apply to the kinesiology co-op co-ordinator at least one semester in advance. A student may not register for KIN 499 and 351 concurrently.

KIN 352-0 Practicum II
The second semester of work experience. It is available only to kinesiology co-operative education students. Prerequisite: students must apply to the kinesiology co-op co-ordinator at least one semester in advance. They will normally be required to have completed KIN 351. A student may not register for KIN 499 and 352 concurrently.

KIN 363-3 Psychology of Motor Skill Acquisition
An examination of phases of skill acquisition, transfer of training, training principles, retention of motor skills, and the influence of motivation, personality and social factors on the acquisition of skill. (lecture/tutorial/laboratory) Prerequisite: KIN 207.

KIN 375-3 Human Growth and Development
The fundamentals of physiological growth and development from conception to maturity. Topics included form a strong foundation for those interested in designing appropriate activity programs for children of all ages. (lecture/tutorial) Prerequisite: KIN 105 or 205, 142 and 143.

KIN 380-3 Occupational Biomechanics
This course will teach the principles of biomechanical analysis and their application in the workplace. Topics will include techniques for measurement and analysis of movement; analysis of forces and accelerations in three dimensions; work and power; simple biomechanical and biodynamic models; standards for lifting and carrying, their application and limitations. Prerequisite: KIN 201, 205 and 326 which may be taken concurrently.

KIN 381-3 Psychology of Work
The application of psychological principles and methods to the study of human performance at work. A systems approach will be taken to study the interactions among the individual worker, his/her task, groups of workers, and the management structure of the organization. Prerequisite: PSYC 210 or both of KIN 207 and STAT 201. Corequisite: STAT 201 may be taken concurrently.

KIN 382-3 Physical Hazards in the Workplace
The focus of this course will be the study of the physical environment and its effects on the health, safety and performance of the worker. Physical problems associated with noise, vibration, lighting, radiation, dust and ventilation will be examined together with methods of recognition, treatment, protection and prevention. Prerequisite: KIN 142, 201, 205, PHYS 130 or 131.
KIN 383-3 Human-Machine and Human-Computer Interaction
Human information processing and motor control factors are considered as factors relevant to effective, usable human-machine interfaces. A user-centred approach deals with task analysis, context of use, information processing demands, the interface, and the design, assessment and usability of tools, machines and computers. (lecture/tutorial) Prerequisite: KIN 201 and 207.

KIN 402-3 Mechanical Behaviour of Tissues
An extension of KIN 201, designed to provide students with an understanding of tissue structure-function relations in health and disease, from a biomechanical perspective. Topics include the effect of disease (and aging) on tissue properties, the mechanics and prevention of tissue injury, and the design of implants and prostheses. While the focus will be primarily on analysis of the musculoskeletal system at the tissue and whole-body levels, we will also consider biomechanical models of the cardiovascular and respiratory systems. (lecture/tutorial) Prerequisite: KIN 201.

KIN 407-3 Human Physiology Laboratory
Experiments dealing with the nervous, muscular, cardiovascular, respiratory, and renal systems are covered. (laboratory) Prerequisite: PHYS 130 (or 131), KIN 305 and 306.

KIN 412-3 Molecular and Cellular Cardiology
This course entails a detailed analysis of the molecular and cellular basis of cardiac function. The material will be derived from myriad disciplines including: anatomy (histology and ultrastructure), biomechanics, physiology, electrophysiology, biochemistry and molecular biology. A particular emphasis will be placed on the mechanisms by which the heart responds to stresses such as ischemia and exercise. (lecture/tutorial) Prerequisite: KIN 305.

KIN 415-3 Neural Control of Movement
An in depth treatment of neurophysiology. Synaptic inputs and cell interactions in the spinal cord are used to illustrate the general principles of interaction in the nervous system. Other topics include central and peripheral motor control, the vestibular system and the visual system. (lecture/tutorial) Prerequisite: KIN 306 or BISC 305 and KIN 326.

KIN 416-3 Control of Limb Mechanics
Control of the human musculoskeletal system examined from the perspective of mechanical impedance. Mechanics of individual muscles, single joints spanned by multiple muscles and multi-joint limb segments are discussed in the context of physical interaction with the environment. Prerequisite: KIN 201 and 306.

KIN 418-3 Electrophysiological Techniques Lab
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
Selected topics in areas not currently offered as formal courses within the undergraduate course offerings in the School of Kinesiology. The topics in this course will vary from semester to semester, depending on faculty availability and student interest. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

KIN 421-3 Selected Topics in Kinesiology II
Selected topics in areas not currently offered as formal courses within the undergraduate course offerings in the School of Kinesiology. The topics in this course will vary from semester to semester, depending on faculty availability and student interest. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

KIN 422-3 Selected Topics in Kinesiology III
Selected topics in areas not currently offered as formal courses within the undergraduate course offerings in the School of Kinesiology. The topics in this course will vary from semester to semester, depending on faculty availability and student interest. Prerequisite: to be announced in the Course Timetable and Exam Schedule.

KIN 423-3 Selected Topics in Kinesiology IV
Selected topics in areas not currently offered as formal courses within the undergraduate course offerings in the School of Kinesiology. The topics in this course will vary from semester to semester, depending on faculty availability and student interest. (lecture/tutorial) Prerequisite: to be announced in the Course Timetable and Exam Schedule.

KIN 424-3 Selected Topics in Kinesiology V
Selected topics in areas not currently offered as formal courses within the undergraduate course offerings in the School of Kinesiology. The topics in this course will vary from semester to semester, depending on faculty availability and student interest. (lecture/tutorial) Prerequisite: to be announced in the Course Timetable and Exam Schedule.

KIN 425-3 Selected Topics in Kinesiology VI
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 the limb musculature and its innervation. Prerequisite: KIN 326.

KIN 430-3 Human Energy Metabolism
Pathways of energy flow in animals and man, and the relationship of biological energy transduction to the needs of the whole animal. Quantitative aspects of bioenergetics and adaptation to changes in energy supply and demand. Measuring techniques applied to adaptations to muscle activity and variations in food intake. (lecture/tutorial) Prerequisite: KIN 306 or 310 or MBB 321 (or BICH 321).

KIN 431-3 Environmental Carcinogenesis
An introduction to core concepts in the field of environmental carcinogenesis. Emphasis will be on the complex interactions of lifestyle factors, carcinogen exposure, genetic susceptibility and dietary habits as determinants of cancer risk. Class work will include discussions of new techniques to monitor exposure to environmental carcinogens and of regulatory aspects of governmental agencies towards carcinogenic agents, as well as approaches being used by such agencies in risk assessment. (lecture/tutorial) Prerequisite: MBB 221 and at least 90 semester hours of credit.

KIN 442-3 Biomedical Systems
Concepts and tools of systems analysis will be introduced. Since these involve a philosophy of problem-solving rather than a catalogue of techniques, they will be applied to a number of very different problems in biomedicine and kinesiology. (lecture/tutorial) Prerequisite: MATH 155 (or 152), PHYS 130 (or 131), KIN 305, 306.

KIN 444-3 Cardiac Disease: Prevention and Rehabilitation
The overall goal of this course is to provide the student with both basic and practical knowledge of cardiac rehabilitation. Through this course, the student will be better prepared to participate in community or hospital based cardia rehabilitation programs. This knowledge base in conjunction with KIN 445 is intended to adequately prepare the student to successfully complete the requirements for certification through the American College of Sports Medicine as an exercise specialist. Prerequisite: KIN 305. Recommended: KIN 110, 306, 310 and 343.

KIN 445-3 Advanced Cardiac Rehabilitation
This course will provide students with experience in practical aspects of assessing cardiac performance and techniques of cardiac rehabilitation. It will also introduce students to relevant research questions in cardiac rehabilitation and provide a basis for understanding of how this field will expand and evolve. Along with KIN 444 and time spent working in a cardiac rehabilitation program, this course will help prepare students for certification through the ACSM as an exercise specialist. Prerequisite: KIN 444.

KIN 446-3 Neurobiology of Disease
Examines neural and neuromuscular diseases, including Alzheimer’s disease, amyotrophic lateral sclerosis, multiple sclerosis, stroke, and myasthenia gravis. Emphasizes currently favoured hypotheses, underlying evidence and pathogenic mechanisms. (3-0-0) Prerequisite: KIN 306. Recommended: KIN 336 and/or KIN 415.

KIN 448-3 Rehabilitation of Movement Control
This course is aimed at students interested in neuromuscular rehabilitation. Students will learn about the pathological origins of movement disorders associated with impaired function of sensory and motor systems. The course will be focused on the stages and strategies for recovery of voluntary control of essential functions. The range of rehabilitation interventions available to assist recovery and restore voluntary control will be explored, with special emphasis on advanced techniques to restore control of movement and bodily functions in paralyzed people. (3-0-0) Prerequisite: KIN 201, 207, 306.

KIN 451-0 Practicum III
The third semester of work experience. It is available only to kinesiology co-operative education students. Prerequisite: students must apply to the kinesiology co-op co-ordinator at least one semester in advance. A student may not register for KIN 499 and 451 concurrently.

KIN 452-0 Practicum IV
The fourth semester of work experience. It is available only to kinesiology co-operative education students. Prerequisite: students must apply to the kinesiology co-op co-ordinator at least one semester in advance. They will normally be required to have completed KIN 451. A student may not register for KIN 499 and 452 concurrently.

KIN 453-0 Practicum V
The fifth semester of work experience. It is available only to kinesiology co-operative education students. Prerequisite: students must apply to the kinesiology co-op co-ordinator at least one semester in advance, and normally must have completed KIN 452. A student may not register for KIN 499 and 453 concurrently.

KIN 461-3 Physiological Aspects of Aging
Designed for those who require a serious but fairly broad discussion of specific physiological aspects of aging. The overall emphasis is on humans and other mammalian species and the varieties of aging changes they manifest. (lecture/tutorial) Prerequisite: KIN 105 or 205, 142 and 90 credit hours.

KIN 467-3 Human Motor Control
The advanced study of human motor control, primarily from a behavioral perspective. Course content will include sections on Bernstein’s approach to the problem of co-ordination and action, theories of action, studies of relatively recent empirical work in support of the theories. (lecture/tutorial/laboratory) Prerequisite: KIN 205 and 207 or permission of instructor.
KIN 481-3 Activity-Generated Musculoskeletal Disorders
This is a kinesiological approach to understanding the causes and prevention of musculoskeletal disorders caused by activity (work and sport). Particular attention will be paid to injuries to the back, neck, hand and arm. (lecture/tutorial/laboratory)
Prerequisite: KIN 201 and 326.

KIN 484-3 Altitude & Aerospace Physiology
The theme of this course is human physiology in environments of decreased atmospheric pressure, high G-force, and weightlessness. The course will deal with acute and chronic adaptations to these environments as well as life support systems and “countermeasures” developed to expand the envelope of human performance. Developments of breathing apparatus and G-suits for high performance aircraft will be examined as they relate to solving the physiological problems of exposure to these environments. Effects of short and extended periods of weightlessness on cardiovascular, cerebrovascular, musculo-skeletal, neural, hormonal and vestibular systems will be explored. (3-0-3) Prerequisite: KIN 305, 306. Recommended: KIN 407.

KIN 485-4 Human Factors in the Underwater Environment
The physiological effects of pressure on the human body and interfacing of humans and machine underwater are considered. Topics include the history of diving, decompression theory, decompression disorders, pulmonary function, underwater work, underwater breathing apparatus, narcosis, saturation diving, high pressure nervous syndrome, and atmospheric diving suits. (lecture/tutorial/laboratory) Prerequisite: KIN 305, 306, MATH 155 (or 152).

KIN 486-3 Human Factors in Industrial Design
The objective of the course is to learn the rudiments of design layout. In an industrial context, a well designed human-machine system must have more than just good display and control components. The essence of industrial design is to arrange system components so as to minimize production inefficiencies and quality control and safety compromises. Industrial examples will be presented to illustrate how human-factors input can improve the production process and help to control some of the extreme hazards that arise in industrial environments. Prerequisite: KIN 304, 380 and 383.

KIN 496-3 Directed Study I
Directed reading and literature research on topics selected in consultation with the supervising instructor. This course may not be repeated for additional credit. A student who has completed KIN 499 may not receive credit for KIN 496. A short proposal of the project, approved by the course supervisor must be submitted for approval to the 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.

KIN 497-3 Kinesiology Undergraduate Honors Thesis Proposal
Supervised directed study and research leading to the development of a formal undergraduate thesis proposal for work to be conducted in KIN 499. The activity in KIN 497 may be augmented by other course work and a pilot study. In cases where an industrial/community partner is involved in the development of a project, the work need not be conducted at Simon Fraser University and may be completed external to SFU. Supervision of KIN 497 will be conducted by a suitable faculty member, but may be co-supervised by an industrial/community partner. Supervisor(s) must be approved by the undergraduate program committee. The plan of activities for each KIN 497 should be submitted to the chair of the undergraduate program committee for approval one month prior to the semester in which the course will be taken. Prerequisite: only students in the honors program may register for KIN 497; 90 credit hours, STAT 201, and permission of the chair of the undergraduate program committee.

KIN 498-3 Directed Study II
Directed study and research selected in consultation with the supervising instructor. A short proposal of the project approved by the course supervisor must be submitted for approval to the director of kinesiology before the first registration period of the semester in which the student plans to register. Prerequisite: STAT 201 and permission from the chair of the undergraduate program committee. Usually, upper level standing with at least 75 semester hours in the kinesiology program will be required. Students with credit for KIN 497 may not take KIN 498 for further credit. Honors students may not take KIN 498 for credit.

KIN 499-12 Kinesiology Undergraduate Honors Thesis
A thesis based on research previously proposed in KIN 497. Formal approval of the research topic is given by attaining a minimum grade of B in KIN 497. Regulations regarding the locale of the work, supervision and other arrangements, follow those for KIN 497. The written thesis should be submitted to the chair of the undergraduate program committee by the last day of exams of the semester. The thesis will also be presented orally as a seminar in an open forum at the end of the semester. Prerequisite: KIN 497. Only students in the honors program may register for KIN 499. A student may register for one other course concurrently with KIN 499 with permission from the faculty supervisor for KIN 499.

Labor Studies LBST
Faculty of Arts
Department of History
LBST 101-3 Introducing Labor Studies
Introduction to key concepts necessary for understanding the character and organization of work in contemporary society. The discussion of such issues as how our society decides who works, what the work will be, and under what conditions people work, will be situated in the context of current debates, trend and issues. (2-1-0)

LBST 301-3 Labor Movements: Contemporary Issues and Images
This course will give students a comprehensive understanding of the contemporary structure, issues, and perceptions of labor unions and other forms of working-class organization. It will focus on external and internal problems that the labor movement faces, such as labor law and state policy, employer strategies, bureaucracy, racism and sexism. The treatment of labor in the media and popular culture will provide an understanding of how labor is viewed in society, how labor views itself, and how working-class culture informs and is informed by the larger culture. (seminar) Recommended: LBST 101.

Language LANG
Faculty of Arts
Department of Linguistics
Language Training Institute
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. Inquire at the Language Training Institute general office for the procedure to be followed.

LANG 100-149-1,2,3,4,5 Introduction to a World Language I
The acquisition of introductory language skills in a world language not separately designated in the Calendar. The specific course number and credit hours assigned will vary with the language studied as well as the focus and method of instruction.

LANG 150-199-1,2,3,4,5 Introduction to a World Language II
The acquisition of basic proficiency in language skills in a world language not separately designated in the Calendar. The specific course number and credit hours assigned will vary with the language studied as well as the focus and method of instruction. Prerequisite: LANG 100-149 in the same language, or placement on the basis of prior knowledge. Please inquire at the Language Training Institute for information on placement.

LANG 200-249-1,2,3,4,5 Intermediate Language Study I
The development of fluent language skills in a world language not separately designated in the Calendar. The specific course number and credit hours assigned will vary with the language studied as well as the focus and method of instruction. Prerequisite: LANG 150-199 in the same language, or placement on the basis of prior knowledge. Please inquire at the Language Training Institute for information on placement.

LANG 250-299-1,2,3,4,5 Intermediate Language Study II
Further development of the skills of reading, writing and speaking in a world language not separately designated in the Calendar. The specific course number and credit hours assigned will vary with the language studied as well as the focus and method of instruction. Prerequisite: LANG 200-249 in the same language, or placement on the basis of prior knowledge. Please inquire at the Language Training Institute for information on placement.

Latin American Studies LAS
Faculty of Arts
LAS 100-3 Images of Latin America
A multimedia introduction to Latin American Studies. Film screenings and media analysis sessions will complement a series of introductory lectures on various relevant contemporary issues such as ethnicity and race, gender, the ecology, and current social and political events. This is a course of general interest open to all students. (lecture/tutorial)

LAS 140-3 Cultural Heritage of Latin America
A multi-disciplinary introduction to contemporary Latin American culture through the examination of pre-Columbian, Iberian, and African civilizations. (lecture/tutorial) Students with credit for SPAN 140 may not take LAS 140 for further credit.

LAS 200-3 Introduction to Latin American Issues
A multidisciplinary introduction to contemporary Latin America. The course is organized in three modules: people and the land, the human condition, and the political alternatives, each of which will be examined from the varying perspectives of history, geography, politics, the arts, etc. (lecture/tutorial) Prerequisite: LAS 100 or 140 or permission of the instructor.

LAS 300-3 Latin American Literature
A study in English of significant contributions to Latin American literature. (lecture/tutorial)

LAS 309-3 Special Topics: Regional Studies
An interdisciplinary study of a specific Latin American region, e.g. Central America, the Andes, the Southern Cone, Amazonia, etc. One region will be examined
from a multidisciplinary perspective: history, literature, politics, economy, etc. (seminar) Prerequisite: LAS 200.

**LAS 311-4 Special Topics: Latin American International Relations**
A multidisciplinary study of bilateral issues between Latin America and a specific country or region, e.g., US and Latin America, the Pacific Rim. Historical, economic, and ideological perspectives as well as topics related to business, foreign aid, and immigration will be emphasized. (lecture/tutorial) Prerequisite: LAS 200. This course is identical to POL 340 and students cannot take both courses for credit.

**LAS 312-3 Special Topics: Latin American Cultural Topics**
A cross-disciplinary focus on specific elements of contemporary Latin American culture. Topics such as indigenism, Afro-Latin culture, religion, literature, and folklore will be studied. (lecture/tutorial) Prerequisite: LAS 140 or 200.

**LAS 318-4 Political Economy of Latin American Development**
This is a survey course which introduces students to the various theoretical approaches which have been used since the 1950's to understand the political economy of Latin American development. It deals with some of the classic theories of modernization, dependency, world systems, and modes of production analysis. The last unit of the course is devoted to the most contemporary issues of Latin American development, such as the agrarian question, women and development, problems of urbanization and the informal sector. (lecture/seminar) Prerequisite: LAS 200 and either ECON 102 or 105 or permission of the instructor. This course is identical to POL 383 and SA 328 and students cannot take more than one of these courses for credit.

**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 337-4 Government and Politics: Selected Latin American Nations I**
An examination of the political systems of selected Latin American nations, including an analysis of political culture, political economy, political institutions, interest groups and both formal and informal political processes. (lecture/seminar) Prerequisite: POL 231 or LAS 200. Students taking LAS 337 may not take POL 337 for further credit.

**LAS 380-0 Practicum I**
First semester of work experience in the Latin American Studies Co-operative Education Program. Prerequisite: 30 semester hours with a minimum CGPA of 2.75, including recommended courses LAS 100, 140, 200 and SPAN 102. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the second week of the semester preceding the employment semester.

**LAS 390-0 Practicum II**
Second semester of work experience in the Latin American Studies Co-operative Education Program. Prerequisite: completion of LAS 380 and 45 semester hours with a minimum CGPA of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the second week of the semester preceding the employment semester.

**LAS 392-4 Latin America**
An introduction to the peoples and institutions of Latin America in historical and contemporary perspective, emphasizing macro-level patterns of similarity and diversity. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286, 293; or LAS 200. Students with credit for SA 391 or 392 may not take this course for further credit.

**LAS 402-5 Field Study**
A multidisciplinary study of a selected country or region. This course will normally be part of the LAS Field School in Latin America, and will be conducted in co-operation with local lecturers from the host country. (seminar/field study) Prerequisite: LAS 200.

**LAS 403-4 Special Topics: Latin American Economy and Society**
This seminar will be taught co-operatively by LAS associated faculty or by a visiting professor. A topic will be chosen which can be examined profitably from a multidisciplinary perspective. (seminar) Prerequisite: LAS 200. This course is identical to SA 403 and students cannot take both courses for credit.

**LAS 404-3 Special Topics: Field School I**
This course will be part of the LAS field school in Latin America. The selected region will be examined on site from a multidisciplinary perspective. (seminar) Prerequisite: LAS 200 or permission of the department.

**LAS 405-3 Special Topics: Field School II**
This course will be part of the LAS field school in Latin America. A topic will be chosen which can be examined profitably from a multidisciplinary perspective. (seminar) Prerequisite: LAS 200 or permission of the 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 480-0 Practicum III**
Third semester of work experience in the Latin American Studies Co-operative Education Program. Prerequisite: completion of LAS 390 and 60 semester hours with a minimum CGPA of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the second week of the semester preceding the employment semester.

**LAS 490-0 Practicum IV**
Fourth semester of work experience in the Latin American Studies Co-operative Education Program. Prerequisite: completion of LAS 480 and 75 semester hours with a minimum CGPA of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the second week of the semester preceding the employment semester.

**LAS 498-5 Independent Study Project**
Independent reading and research on a cross-disciplinary project under the supervision of a faculty member. A term paper will be required. Prerequisite: 90 credit hours, including LAS 200, and permission of the department.

**Liberal Arts LBRL 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 01. 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 LING Faculty of Arts**

**LING 100-3 Communication and Language**
A non-theoretical approach to the study of language using examples from a variety of languages. (lecture)

**LING 110-3 The Wonder of Words**
Study of the structure of words, the change of meaning of words, the change in form of words. Examples from English, French and other languages. A general interest course open to all students. (lecture)

**LING 130-3 Practical Phonetics**
Practical training in the description of sounds used in language. (seminar) Students in the First Nations Studies program should take LING 231 before LING 130.

**LING 200-3 Introduction to the Description of English Grammar**
A practical overview of English grammar based on linguistic principles, for those desiring basic knowledge of language structure, grammatical categories and grammatical analysis. This course is particularly suited for students interested in the teaching of English as a second language. (lecture)

**LING 220-3 Introduction to Linguistics**
An introduction to linguistic analysis. (lecture/tutorial) Students with credit for LING 240 may not take this course for further credit.
LING 213-3 Introduction to Phonology
The principles of phonological analysis. (lecture) Prerequisite: LING 130, 220.

LING 223-3 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 writing systems, phonetics, vocabulary, word formation, and grammatical constructions. The course will be based on a designated language to be named each time it is taught, and will usually be chosen from the Northwest Coast area. (tutorial) Students who have taken LING 431 in semester 90-3 may not take this course for further credit. Recommended: students in the First Nations Studies program should take LING 231 before LING 130.

LING 232-3 Introduction to a First Nations Language II
A continuation of the introductory course in a native language, including phonetics, vocabulary, word formation, and grammatical constructions. The course will be based on a designated language to be named each time it is taught, and will usually be chosen from the Northwest Coast area. (tutorial) Prerequisite: LING 231 in the same language. Students who have taken LING 432 in semester 91-1 may not take this course for further credit.

LING 241-3 Languages of the World
A survey of the languages of the world. An examination of the linguistic structure of selected languages. (lecture) Prerequisite: LING 220.

LING 260-3 Language, Culture, and Society
An introduction to language in its social and cultural dimensions. (lecture/tutorial)

LING 306-6 Intensive Survey of Linguistic Analysis
An in-depth examination of core areas of linguistic analysis, including extensive practice with representative linguistic data from a variety of languages. (lecture/tutorial) This course may not be taken for credit toward a major, extended minor, minor or honors program in Linguistics. Students with credit for LING 220 may not take LING 310 for further credit.

LING 321-3 Phonology
An overview of theoretical principles in phonology. (lecture/tutorial) Prerequisite: LING 221 or 310.

LING 322-3 Syntax
The study of sentence structure in language through a survey of constructions found in natural language data together with a consideration of syntactic theory. (lecture/tutorial) Prerequisite: LING 222 or 310.

LING 323-3 Morphology
Word structure in natural languages and its relationship to phonological and syntactic levels of grammar. (lecture) Prerequisite: LING 221, 222; or 310.

LING 324-3 Semantics
The basics of word meaning, including: sense and reference, componential analysis, color and kinship terminology, semantic universals, synonymy and antonymy, and two term predicates, lexical decomposition, presupposition, and selection restrictions. (lecture/tutorial) Prerequisite: LING 222 or 310.

LING 330-3 Phonetics
A survey of methods of speech sound description and transcription. (lecture/tutorial) Prerequisite: LING 221 or 310.

LING 331-3 Description and Analysis of a First Nations Language I
An intermediate course in the structure of a native language of the Americas, including writing systems, texts and examination of the general linguistic properties of the language and the language family in which it is situated. The course will be based on a designated language to be named each time it is taught, and will usually be chosen from the Northwest Coast area. (tutorial) Prerequisite: LING 232 or equivalent credit in the same language.

LING 332-3 Description and Analysis of a First Nations Language II
A continuation of the intermediate course in a native language of the Americas, including writing systems, texts, and examination of the general linguistic properties of the language and the language family in which it is situated. The course will be based on a designated language to be named each time it is taught, and will usually be chosen from the Northwest Coast area. (tutorial) Prerequisite: LING 331 or equivalent credit in the same language.

LING 335-3 Topics in First Nations Language I
Course content varies as required by First Nations language communities or learners. It will usually focus on having students gain insights into intermediate to advanced level topics on structural aspects of a particular First Nations language, with further emphasis on how those structural features of the languages can best be learned and taught in the classroom. (0-3-0) Prerequisite: LING 130, 231, 332 or permission of instructor. Recommended: LING 360.

LING 350-3 First Language Acquisition
Introduction to the study of language acquisition from the point of view of linguistic structure. (lecture/tutorial) Prerequisite: LING 130, 220; or LING 310. Students who have taken LING 250 may not take this course for further credit.

LING 360-3 Linguistics and Language Teaching
Theoretical and practical aspects of second language learning. (lecture/tutorial) Prerequisite: LING 130, 220; or 310.

LING 362-3 English as a Second Language: Theory
Application of linguistic principles to the teaching of English as a second language. (lecture/tutorial) Prerequisite: LING 130, 220; or 310.

LING 363-3 English as a Second Language: Practice
Implementation of linguistic principles in the teaching of English as a second language, including a practical experience with learners of English. (lecture/lab) Prerequisite: LING 360, 362. This course is graded on a pass/fail basis.

LING 370-0 Linguistics Practicum I
First semester of work experience in the Linguistics Co-operative Education Program. Prerequisite: normally 30 credit hours, including LING 130 and 220 and three other courses in Linguistics, with a minimum CGPA of 2.75.

LING 371-0 Linguistics Practicum II
Second semester of work experience in the Linguistics Co-operative Education Program. Prerequisite: successful completion of LING 370 and 45 credit hours with a minimum CGPA of 2.75.

LING 400-3 Formal Linguistics
Formal systems and their relation to linguistic methods and theory. Topics include the mathematical properties of natural languages, and rigorously defined frameworks for linguistic analysis and their formal properties. (lecture/tutorial) Prerequisite: LING 322. Recommended: PHIL 210.

LING 401-3 Advanced Phonetics
Advanced training in speech sound description and analysis in the impressionistic and instrumental modes. (lecture/tutorial/lab) 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 322.

LING 405-3 Advanced Syntax
In-depth investigation of theoretical frameworks for syntactic description of natural languages. (lecture/tutorial) Prerequisite: LING 322, 324. Recommended: PHIL 210.

LING 407-3 Historical Linguistics
The development of languages and language families through time; genetic grouping, the comparative method, reconstruction, etymology, universals and language change. (lecture) Prerequisite: LING 321, 322 and 323.

LING 408-3 Field Linguistics
The investigation and description of an unfamiliar language. (lecture/seminar) Prerequisite: LING 221 and 222; or 310.

LING 409-3 Sociolinguistics
A systematic approach to the study of linguistic variation in different areal, social, and cultural settings. (lecture) Prerequisite: LING 220 or 310. Recommended: LING 260.

LING 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 433-3 First Nations Language Mentoring I
Intended for advanced learners of a particular First Nations language. It will enable them to get advanced vocabulary and/or grammatical skills in the First Nations language through individualized practice with fluent speakers (usually elders) of that language. Enrollment in this course requires the prior approval of the Department of Linguistics and the local First Nations community. Students will be evaluated on the basis of the individualized goals and objects set at the beginning of the course. (0-3-0) Prerequisite: LING 332 or permission of course supervisor.

LING 434-3 First Nations Language Mentoring II
A follow up to LING 433. It will involve students, on an individualized basis, carrying out 39 hours of learning with a mentor, who is a fluent speaker (usually First Nations elder) or a particular First Nations language. (0-3-0) Prerequisite: LING 433 or permission of course supervisor. Recommended: LING 431 and 432.

LING 435-3 Topics in First Nations Language II
Course content varies as required by First Nations language communities or learners. It will usually focus on having students gain insights into intermediate to advanced level topics on structural aspects of a particular First Nations language, with further emphasis on how those structural features of the
languages can best be learned and taught in the classroom. (0-3-0) Prerequisite: LING 220, 332 or permission of instructor. Recommended: LING 360, 431 and 432.

LING 441-3 Linguistic Universals and Typology
A survey of the main language types found in the world with reference to their structural properties; the categorization of language types as a consequence of linguistic universals. (lecture) Prerequisite: LING 221 and 222; or 310.

LING 470-0 Linguistics Practicum III
Third semester of work experience in the Linguistics Co-operative Education Program. Prerequisite: successful completion of LING 371 and 60 credit hours with a minimum CGPA of 2.75.

LING 471-0 Linguistics Practicum IV
Fourth semester of work experience in the Linguistics Co-operative Education Program. Prerequisite: successful completion of LING 470 and 75 credit hours with a minimum CGPA of 2.75.

LING 480-3 Topics in Linguistics I
Investigation of a selected area of linguistic research. (seminar) Prerequisite: 12 credit hours of upper division linguistics courses.

LING 481-3 Topics in Linguistics II
Investigation of a selected area of linguistic research. (seminar) Prerequisite: 12 credit hours of upper division linguistics courses. Note: may be taken without LING 480.

LING 490-3 Honors Essay
Topic of a specific nature to be agreed upon by the student and a particular faculty member. (seminar) Prerequisite: a minimum of 35 hours of upper division linguistics courses counting toward the honors degree.

Management and Systems Science MSSC
Faculty of Science
See also courses listed under Economics (ECON) (page 251), Business Administration (BUS) (page 227), Computing Science (CMPT) (page 237) and Mathematics (MATH) (page 281) and Statistics (STAT) (page 298).

MSSC 480-481-1 Undergraduate Seminar in Management and Systems Science
A seminar for students undertaking a major or an honors program in management and systems science. (seminar) Prerequisite: completion of all required lower division courses and at least 15 upper division credits required in the program.

Marine Science MASC
Faculty of Science
See also courses listed under Biological Sciences (BISC) (page 225).

Note: These courses are generally offered at the Bamfield Marine Station, located on Vancouver Island, during the summer and fall. See "Department of Biological Sciences" on page 194 for further information.

In addition to the MASC courses listed below, the Bamfield Marine Station biennially offers a suite of Marine oriented courses at the station, Vancouver Island. Students interested in this offering should contact the Department of Biological Sciences for details of the next proposed offering.

Offerings of the MASC courses may vary from summer to summer because instructors are drawn from different universities. For that reason, prerequisites may vary slightly. In general, upper division standing in biology is required, and admission is usually competitive. Students are encouraged to consult the brochure published each fall by the Bamfield Marine Station for full and specific details. The brochure will be available from the Department of Biological Sciences.

MASC 412-6 Biology of Fishes
Classification, physiology, ecology, behavior and zoogeography of fishes with particular emphasis on those in the marine environment of the British Columbia coast. Local collections from a variety of habitats will be used for experimental studies. Prerequisite: Offerings of the MASC courses may vary from summer to summer because instructors are drawn from different universities. For that reason, prerequisites may vary slightly. In general, upper division standing in biology is required, and admission is usually competitive. Students are encouraged to consult the brochure published each fall by the Bamfield Marine Station for full and specific details. The brochure will be available from the Department of Biological Sciences.

MASC 413-3 Biology of Marine Molluscs
An advanced course of selected topics emphasizing functional morphology, ecology and evolution of this diverse phylum. Field trips will be undertaken to survey the representative molluscs of the Bamfield region. Students will be expected to complete an independent field or laboratory study of selected molluscs. Prerequisite: Offerings of the MASC courses may vary from summer to summer because instructors are drawn from different universities. For that reason, prerequisites may vary slightly. In general, upper division standing in biology is required, and admission is usually competitive. Students are encouraged to consult the brochure published each fall by the Bamfield Marine Station for full and specific details. The brochure will be available from the Department of Biological Sciences.

MASC 415-3 Structure and Function in Animals
The course will focus on the structure of marine animals and their adaptations to the marine environment. Neurobiology, developmental biology, functional morphology and other topics will be covered. Prerequisite: Offerings of the MASC courses may vary from summer to summer because instructors are drawn from different universities. For that reason, prerequisites may vary slightly. In general, upper division standing in biology is required, and admission is usually competitive. Students are encouraged to consult the brochure published each fall by the Bamfield Marine Station for full and specific details. The brochure will be available from the Department of Biological Sciences.

MASC 425-3 Ecological Adaptations of Seaweeds
The course will explore morphological physiological, genetic and reproductive adaptations of seaweeds to their natural and man-altered environments. Prerequisite: Offerings of the MASC courses may vary from summer to summer because instructors are drawn from different universities. For that reason, prerequisites may vary slightly. In general, upper division standing in biology is required, and admission is usually competitive. Students are encouraged to consult the brochure published each fall by the Bamfield Marine Station for full and specific details. The brochure will be available from the Department of Biological Sciences.

MASC 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 sub-tidal and benthic environments by diving and dredging are envisaged. Prerequisite: Offerings of the MASC courses may vary from summer to summer because instructors are drawn from different universities. For that reason, prerequisites may vary slightly. In general, upper division standing in biology is required, and admission
is usually competitive. Students are encouraged to consult the brochure published each fall by the Bamfield Marine Station for full and specific details. The brochure will be available from the Department of Biological Sciences.

**MASC 437-3 Marine Population Ecology and Dynamics**

An analytical approach to the study of marine ecology and marine populations. Intertidal and sub-tidal communities will be examined, with emphasis on the biota of the Barkley Sound region. Prerequisite: Offerings of the MASC courses may vary from summer to summer because instructors are drawn from different universities. For that reason, prerequisites may vary slightly. In general, upper division standing in biology is required, and admission is usually competitive. Students are encouraged to consult the brochure published each fall by the Bamfield Marine Station for full and specific details. The brochure will be available from the Department of Biological Sciences.

**MASC 440-3 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 in the Barkley Sound region. Seabird identification, classification, morphology, plumages and molt will be examined in the laboratory. Prerequisite: Offerings of the MASC courses may vary from summer to summer because instructors are drawn from different universities. For that reason, prerequisites may vary slightly. In general, upper division standing in biology is required, and admission is usually competitive. Students are encouraged to consult the brochure published each fall by the Bamfield Marine Station for full and specific details. The brochure will be available from the Department of Biological Sciences.

**MASC 445-3 Biology of Marine Mammals**

A comparative study of marine mammals, their sensory capabilities and physiology, with special emphasis on the cetacea. The course includes lectures, laboratory periods and numerous field trips in the Barkley Sound region. The course will involve an independent field study. Prerequisite: Offerings of the MASC courses may vary from summer to summer because instructors are drawn from different universities. For that reason, prerequisites may vary slightly. In general, upper division standing in biology is required, and admission is usually competitive. Students are encouraged to consult the brochure published each fall by the Bamfield Marine Station for full and specific details. The brochure will be available from the Department of Biological Sciences.

**MASC 446-3 Comparative Ethology**

A comparative study of marine animals (vertebrate and invertebrate) emphasizing behavioral description, underlying physiological mechanisms, the biological significance of behavior and behavioral evolution. The course will include independent laboratory and field studies. Prerequisite: Offerings of the MASC courses may vary from summer to summer because instructors are drawn from different universities. For that reason, prerequisites may vary slightly. In general, upper division standing in biology is required, and admission is usually competitive. Students are encouraged to consult the brochure published each fall by the Bamfield Marine Station for full and specific details. The brochure will be available from the Department of Biological Sciences.

**MASC 470-479-3,6 Special Topics in Marine Biology**

Offered, as opportunities arise, by visiting scientists who are working at the Bamfield Marine Station and are prepared to offer a course of either three or six weeks. Courses will be of a specialized nature. Prerequisite: will vary and will be announced in advance of the course offering.

**MASC 480-3 Seminars and Papers in Marine Science**

A series of weekly seminars covering current topics of interest in the Marine Sciences. Seminars will be presented Bamfield Marine Station researchers, graduate students and visiting scientists as well as by the students themselves. Prerequisite: Offerings of the MASC courses may vary from summer to summer because instructors are drawn from different universities. For that reason, prerequisites may vary slightly. In general, upper division standing in biology is required, and admission is usually competitive. Students are encouraged to consult the brochure published each fall by the Bamfield Marine Station for full and specific details. The brochure will be available from the Department of Biological Sciences.

---

**Mathematics MATH**

**Faculty of Science**

See also courses listed under Actuarial Mathematics (ACMA) (page 223), Mathematics and Computing Science (MACM) (page 283) and Statistics (STAT) (page 298).

**Open Workshops for MATH Courses**

(see courses marked with ** below)

Some introductory and service courses are organized through the department's open workshops. In addition to regularly scheduled lectures, students registered in these courses are encouraged to come to the workshops for assistance any time during posted working hours. At the workshop students will have the opportunity to meet with the co-ordinator, the teaching assistants and other students, and work together to understand mathematics in a friendly and helpful environment.

**Algebra Workshop**

MATH 100, 190, 232, MACM 201 – AQ 4135

**Calculus Workshop**

MATH 151, 152, 251 – AQ 4110

**Applied Calculus Workshop**

MATH 110, 154, 155, 157, 158 – K 9503

**Beginning Level Requirements in Mathematics**

Students who do not have the appropriate prerequisites as listed below must successfully complete a mathematics assessment test in order to register in a mathematics course. Entering students who are without the appropriate prerequisites and seeking to register in a mathematics course from outside the Lower Mainland of Vancouver may, with permission of the department, be given a temporary clearance to register. However, by the end of the first week of classes, the student must show proof of successful completion of the mathematics assessment test or will be dropped from the course.

- Mature students who are unsure of their level of preparation are strongly encouraged to take the mathematics assessment test. The test is delivered at the main campus and at Harbour Centre. Contact the general office at the Department of Mathematics (604) 291-3331/3332 for information.
- Students considering registering in a mathematics course who do not have BC mathematics 11 (or equivalent) with at least a grade of C may take the non-credit course, basic algebra, offered by the Department of Mathematics.
- 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-

Students who are unsure of their level of preparation are strongly encouraged to take the free math assessment test at the algebra workshop, AQ 4135 or SFU at Harbour Centre. Students should make certain that they discuss the test results with the lab instructor for the Algebra Workshop (or her designate).
Minimum Grade Requirement in
Prerequisites for Later MATH Courses
Students enrolled in courses offered by the Department of Mathematics must have obtained grades of C- or better in prerequisite courses. Some experience with a high level programming language is recommended by the beginning of the second year.

Courses marked with an asterisk (*) are intended to be particularly accessible to students who are not specializing in mathematics.

No student may take, for further credit, any course offered by the Department of Mathematics which is a prerequisite to a course for which the student has already received credit.

MATH* 100-3 Precalculus**
Algebraic, exponential, logarithmic and trigonometric functions and their graphs. Conic sections, applications. (3-0-1) Prerequisite: BC mathematics 11 (or equivalent) with a grade of at least C or permission of the department or the non-credit course, basic algebra. Students entering Simon Fraser University directly from high school who take BC MATH 12 or equivalent, with a grade of at least B, may not take this course for credit at Simon Fraser University. Students may not count more than one of MATH 100 or 110 for credit. MATH 100 may not be counted towards the mathematics minor, major or honors degree requirements.

MATH* 110-3 Introductory Mathematics for the Social and Management Sciences**
Linear and quadratic functions, sequences and sums, compound interest, exponential and logarithmic functions, counting techniques, probability. (3-0-1) Prerequisite: BC mathematics 11 (or equivalent) with a grade of at least C or permission of the department or the non-credit course, basic algebra. Students entering Simon Fraser University directly from high school who have BC MATH 12 or equivalent, with a grade of at least B, may not take this course for credit at Simon Fraser University. Students may not count more than one of MATH 100 or 110 for credit. MATH 100 may not be counted towards the mathematics minor, major or honors degree requirements.

MATH* 113-3 Euclidean Geometry
Plane Euclidean geometry, congruence and similarity. Theory of parallels. Polygonal areas, Pythagorean theorem. Geometrical constructions. (3-1-0) Prerequisite: BC mathematics 11 (or equivalent) with a grade of at least C or permission of the department or the non-credit course, basic algebra.

MATH 151-3 Calculus I**
Functions and graphs, conic sections, limits and continuity, derivatives, techniques and applications of differentiation, trigonometric functions, logarithms and exponentials, extrema, the mean value theorem and polar co-ordinates. (3-0-1) Prerequisite: BC mathematics 12 (or equivalent) with a grade of at least B, or MATH 100 with a grade of at least C-. Students with credit for either MATH 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. Students may also use MATH 157 with a grade of at least B or B. Students with credit for MATH 155 or 158 may not take MATH 152 for further credit.

MATH 154-3 Calculus I for the Biological Sciences**
This course is designed for students specializing in the biological and medical sciences. Topics include: limits, growth rate and the derivative; logarithmic, exponential and trigonometric functions and their applications in population study; optimization and approximation methods. (3-0-1) Prerequisite: BC mathematics 12 (or equivalent) with a grade of at least B, or MATH 100 with a grade of at least C-. Students with credit for either MATH 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; MATH 157 with a grade of A or B. Students with credit for MATH 152 or 158 may not take MATH 155 for further credit.

MATH 157-3 Calculus for the Social Sciences I**
This course is designed for students specializing in business or the social sciences. Topics include: limits, growth rate and the derivative; logarithmic and exponential functions and their application to business, economics, optimization and approximation methods; functions of several variables. (3-0-1) Prerequisite: BC mathematics 12 (or equivalent) with a grade of at least B; or MATH 110 with a grade of at least C- or (with permission of the department) MATH 100 with a grade of at least C-. Students with credit for either MATH 151 or 154 may not take MATH 157 for further credit.

MATH* 158-3 Calculus for the Social Sciences II**
Theory of integration and its applications; introduction to differential equations with emphasis on some special first-order equations and their applications to economics and social sciences; algebraic operations with matrices, systems of linear equations, determinants, introduction to linear programming. (3-0-1) Prerequisite: MATH 151 or 154 or 157. Students with credit for MATH 152 or 155 may not take MATH 158 for further credit.

MATH 161-0 Honors Supplement for Calculus I
The class meets one hour each week. Students will spend most of the time working on challenging problems relating to the material of MATH 151, Calculus I but will also have the opportunity to investigate many different areas of mathematics. (0-1-0) Prerequisite: a grade of A or better in mathematics 12 (or equivalent) or a grade of A or better in MATH 151 or permission of the department. This course will be graded on a pass/no entry basis.

MATH 162-0 Honors Supplement for Calculus II
The class meets one hour each week. Students will spend most of the time working on challenging problems relating to the material of MATH 152, Calculus II, but will also have the opportunity to investigate many different areas of mathematics. (0-1-0) Prerequisite: a grade of A or better in MATH 151 or its equivalent and a grade of pass in MATH 161 or permission of the instructor. This course will be graded on a pass/no entry basis.

MATH 171-1 Computer Explorations in Calculus I
This supplement to MATH 151/154/157 gives students the opportunity to explore and investigate the underlying principles of differential calculus using leading edge computer software currently used in mathematical and scientific research and industry. Previous experience with computers would be beneficial, but it is not required. (1-0-2) Prerequisite: BC mathematics 12 (or equivalent) with a grade of at least B or MATH 100 with a grade of at least C. Corequisite: MATH 151, 154 or 157. Other students may register with special permission.

MATH 172-1 Computer Explorations in Calculus II
This supplement to MATH 152/155/158 gives students the opportunity to explore and investigate the underlying principles of integral calculus using leading edge computer software currently used in mathematical and scientific research and industry. Previous experience with computers would be beneficial, but it is not required. (1-0-2) Prerequisite: MATH 151, 154 or 157. Corequisite: MATH 152, 155, or 158. Other students may register with special permission.

MATH* 190-4 Principles of Mathematics for Teachers**
Mathematical ideas involved in number systems and geometry in the elementary school curriculum. Whole number; fractional number, and rational number systems. Plane geometry, solid geometry, metric geometry, and motion geometry. (4-0-1) Prerequisite: BC mathematics 11 (or equivalent) with a grade of at least C or permission of the department or the non-credit course, basic algebra. This course may not be counted toward the Mathematics minor, major or honors degree requirements. Candidates for degrees in the Faculty of Science may not use this course for the satisfaction of degree requirements. Students who have taken, have received transfer credit for, or are currently taking MATH 151, 154 or 157 may not take MATH 190 for credit without permission from the Department of Mathematics and Statistics.

MATH 198-4 Selected Topics in Mathematics
Topics in areas of mathematics and statistics not covered in the regular undergraduate curriculum of the department. (4-1-0) Prerequisite: dependent on the topic covered.

MATH 223-3 Elementary Linear Algebra**
Matrix arithmetic, linear equations, and determinants. Real vector spaces and linear transformations. Inner products and orthogonality. Eigenvalues and eigenvectors. (3-0-1) Prerequisite: MATH 151 or 154 or 157.

MATH 242-3 Introduction to Analysis
Mathematical induction. Limits of real sequences and real functions. Continuity and its consequences. The mean value theorem. The fundamental theorem of calculus. Series. (3-1-0) Prerequisite: MATH 152 or 155.

MATH 251-3 Calculus III
Vectors, solid analytic geometry, differential calculus of several variables, multiple integrals, cylindrical and spherical coordinates, line integrals. (3-1-0) Prerequisite: MATH 152 or 155; or MATH 158 with a grade of A or B. Recommended: MATH 232 should be completed before this course is attempted.

MATH 252-3 Vector Calculus
Vector functions of a single variable, space curves, scalar and vector fields, conservative fields, surface and volume integrals, and theorems of Gauss, Green and Stokes. (3-1-0) Prerequisite: MATH 232 and 251. Students with credit for MATH 312 may not take MATH 252 for further credit.

MATH 291-2 Selected Topics in Mathematics
The topics included in these courses will vary from semester to semester, depending on faculty availability and student interest. (2-1-0) Prerequisites will be specified according to the particular topic or topics offered. Each course may not count more than once toward degree requirements.

MATH 292-3 Selected Topics in Mathematics
The topics included in these courses will vary from semester to semester, depending on faculty availability and student interest. (3-1-0) Prerequisites will be specified according to the particular topic or topics offered. Each course may not count more than once toward degree requirements.

MATH* 308-3 Linear Programming
Theory and applications of linear programming, geometric and computational considerations, networks, applications of duality. (3-1-0) Prerequisite: MATH 232. Recommended: 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 formulæ, 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 the conduction equation, the wave equations and Laplace’s equation. Sturm-Liouville problems. Separation in polar co-ordinates. Laplace transforms. (3-1-0) Prerequisite: MATH 252 (or 253) and 310.

MATH 320-3 Advanced Calculus of One Variable
Sequences and series of functions; uniform convergence; consequences of uniform convergence; improper integrals; additional applications of convergence. (3-1-0) Prerequisite: MATH 242 and 251.

MATH 322-3 Complex Variables
Functions of a complex variable, differentiability, contour integrals, Cauchy’s theorem, Taylor and Laurent expansions, method of residues. (3-1-0) Prerequisite: MATH 251. Students with credit for MATH 422 may not take MATH 322 for further credit.

MATH 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 330-0 Job Practicum I
This is the first semester of work experience in a co-operative education program available to mathematics students. Interested students should contact departmental advisors as early in their careers as possible, for proper counselling. (0-0-0) Prerequisite: students must apply to and receive permission from the co-op co-ordinator at least one, preferably two, semesters in advance. They will normally be required to have completed 45 semester hours of credit with a GPA of 2.5. This course will be graded on a pass/withdraw basis. A course fee is required.

MATH 337-0 Job Practicum II
This is the second semester of work experience in a co-operative education program available to mathematics students. (0-0-0) Prerequisite: MATH 336 and permission of the co-op co-ordinator; students must apply at least one semester in advance. This course will be graded on a pass/withdraw basis. A course fee is required.

MATH 339-3 Groups and Symmetry
Symmetries, groups, subgroups and generators, isomorphisms, dihedral groups, matrix groups, products, Cayley’s Theorem, Lagrange’s Theorem and Cauchy’s Theorem. (3-1-0) Prerequisite: MATH 232.

MATH 342-3 Elementary Number Theory
Divisibility of primes, congruences, arithmetic functions and related topics. (3-0-0) Prerequisite: any 200 level MATH or MACM course.

MATH 343-3 Applied Discrete Mathematics
Discrete modelling, generation of combinatorial objects, matching theory, scheduling, applications of graphs. (3-1-0) Prerequisite: MATH 243 or MACM 201. Recommended: a computing language.

MATH 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 and PHYS 120.

MATH 380-3 History of Mathematics
An account of the history of mathematics from ancient times through the development of calculus and the origins of modern algebra in the nineteenth century. Emphasis will be on developments which shaped the mathematics studied in high school and the first two years of university. (3-1-0) Prerequisite: MATH 151, 232 and one of 152 or 113. Students who have taken MATH 180 may not take MATH 380 for additional credit.

MATH 399-3 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 402-4 Industrial Mathematics
Three or four team projects covering a broad range of mathematical modeling problems. (3-0-1) Prerequisite: MATH 291; MATH 251; MATH 310; STAT 330; and one of MATH 308, 314, 343; CMPT 305 or MACM 316.

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 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) Prerequisite: MATH 310. Recommended: MATH 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 301 and MACM 316.

MATH 418-3 Partial Differential Equations
First-order linear equations, the method of characteristics. The wave equation. Harmonic functions, the maximum principle, Green’s functions. The heat equation. Distributions and transforms. Higher dimensional eigenvalue problems. An introduction to nonlinear equations. Burgers’ equation and shock waves. (3-0-0) Prerequisite: MATH 314 (or PHYS 384) or permission of the department. Recommended: MATH 242 and 320.

MATH 419-3 Linear Analysis
Convergence in Euclidean spaces, Fourier series and their convergence, Legendre polynomials, Hermite and Laguerre polynomials. (3-0-0) Prerequisite: MATH 232, 320 or permission of the instructor. Recommended: MATH 252 and 320.

MATH 424-3 Applications of Complex Analysis
Conformal mapping, application to boundary value problems, Schwarz-Christoffel transformation, integral formulas, analytic continuation, argument principle. (3-0-0) Prerequisite: MATH 322.

MATH 425-3 Introduction to Metric Spaces
Metric spaces, convergence in metric spaces, continuity, compactness, connectedness and completeness, contraction mapping principle, and other useful theorems. (3-0-0) Prerequisite: MATH 320.

MATH 436-0 Job Practicum III
This is the third semester of work experience in a co-operative education program available to mathematics students. (0-0-0) Prerequisite: MATH 337 and permission of the co-op co-ordinator; students must apply at least one semester in advance. This course will be graded on a pass/withdraw basis. A course fee is required.

MATH 437-0 Job Practicum IV
This is the fourth semester of work experience in a co-operative education program available to mathematics students. (0-0-0) Prerequisite: MATH 436 and permission of the co-op co-ordinator; students must apply at least one semester in advance. This course will be graded on a pass/withdraw basis. A course fee is required.

MATH 438-3 Linear Algebra
Linear Algebra. Vector space and matrix theory. (3-1-0) Prerequisite: MATH 332 or 339 or permission of the instructor.

MATH 439-3 Algebraic Systems
Algebraic systems including, for example, groups, rings. Polynomial theory. (3-0-0) Prerequisite: MATH 332.

MATH 440-3 Galois Theory
An introduction to the theory of fields, with emphasis on Galois theory. (3-0-0) Prerequisite: MATH 332.

MATH 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 and MACM 201.

MATH 445-3 Graph Theory
Connectivity, Eulerian graphs, Hamiltonian graphs, planar graphs, matchings, vertex coloring, and applications of graphs. (3-0-0) Prerequisite: MACM 201.

MATH 447-3 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 462-3 Fluid Dynamics
Incompressible fluid flow phenomena: kinematics and equations of motion, viscous flow and boundary layer theory, potential flow, water waves. Aerodynamics. (3-0-0) Prerequisite: MATH 314 or PHYS 384, MATH 322.

MATH 467-3 Dynamical Systems
Stability and bifurcation in vector fields and discrete maps. Centre manifold theory and applications of normal forms. Introduction to chaos, Lyapunov exponents, and normal hyperbolicity. (3-0-0) Prerequisite: MATH 232 and 310. Recommended: MATH 320.

MATH 470-3 Variational Calculus
Procedures of Euler, Lagrange and Hamilton. Extremum problems, stationary values of integrals, canonical equations of motion, phase space, Lagrangian and Poisson brackets. (3-1-0)
MATH 491-2 Honors Essay
Selected topics. Prerequisite: written permission of the department undergraduate studies committee.

MATH 492-494-4 Directed Studies
Independent reading or research in topics selected in consultation with the supervising instructor. Prerequisite: written permission of the department undergraduate studies committee.

MATH 495-496-4 Selected Topics in Mathematics
The topics included in these courses will vary from semester to semester depending on faculty availability and student interest. (4-1-0) Prerequisite: will be specified according to the particular topic or topics offered under these course numbers.

Mathematics and Computing Science MACM

Faculties of Applied Sciences and Science
See also courses listed under Mathematics (MATH) (page 281), Computing Science (CMPT) (page 237), and Statistics (STAT) (page 298).

Minimum Grade Requirements
Students wishing to register for Mathematics/Computing Science courses must have obtained grades of C– or better, in prerequisite courses. Students will not normally be permitted to enrol in any MACM course for which a D grade or lower was obtained in any prerequisite. No student may take, for further credit, any course offered by the Department of Mathematics which is a prerequisite for a course the student has already completed with a grade of C– or higher, without permission of the department.

MACM 101-3 Discrete Mathematics I
Introduction to counting, induction, automata theory, formal reasoning, modular arithmetic. (lecture) Prerequisite: BC high school mathematics 12. Entry into this course is obtained through the School of Computing Science.

MACM 201-3 Discrete Mathematics II
A continuation of MACM 101. Topics covered include graph theory, trees, relations, asymptotics, generating functions and recurrence relations. Prerequisite: MACM 101.

MACM 202-4 Mathematical Modeling and Computation
A variety of continuous and discrete models including difference equations, differential equations, automata and networks are introduced. Students will learn to model physical phenomena and analyse the mathematical model. A mathematical software package, such as Maple, will be extensively used in a laboratory setting. Prerequisite: MACM 152, CMPT 101 (or equivalent) and one of MACM 101 or MATH 232.

MACM 300-3 Introduction to Formal Languages and Automata with Applications
Languages, grammars, automata and their applications. TURING machines. Computability and undecidability. Complexity theory. (lecture/tutorial) Prerequisite: MACM 201.

MACM 316-3 Numerical Analysis I
A presentation of the problems commonly arising in numerical analysis and scientific computing and the basic methods for their solutions. (lecture/tutorial) Prerequisite: MACM 152 or 155 or 158, and 232 and knowledge of a high level computer language such as FORTRAN, C, PASCAL or MODULA 2. Students with credit for MATH 406 or MATH 316 may not receive further credit for MACM 316.

MACM 401-3 Introduction to Computer Algebra
A first course in computer algebra — also called symbolic computation. It covers data-structures and algorithms for mathematical objects, including polynomials, general mathematical formulae, long integer arithmetic, polynomial greatest common divisors, the Risch integration algorithm. Other topics include symbolic differentiation, simplification of formulae, and polynomial factorization. Students will learn Maple for use on assignments. Prerequisite: CMPT 307 or MATH 332.

Molecular Biology and Biochemistry MBB
Faculty of Science

MBB 151-0 Practicum I
First semester of work experience in the Molecular Biology and Biochemistry Co-operative Education Program. (0-0-0) Prerequisite: Acceptance in the Science Co-operative Education Program.

MBB 221-3 Cellular Biology and Biochemistry
A study of the molecular processes which underlie cell structure and function, integrating ultrastructural, physiological and biochemical approaches. Modern techniques used in the analysis of organelle and cell function are integral parts of the course. (3-1-0) Prerequisite: BISC 101. For a course to be accepted as fulfilling a prerequisite for a molecular biology and biochemistry course, a student must have obtained a minimum grade of C– (C minus). Corequisite: CHEM 281 (or 150). Recommended: CHEM 281 precede MBB 221. Students with credit for BICH 221 may not take MBB 222 for further credit.

MBB 222-3 Molecular Biology and Biochemistry
An introduction to DNA replication and recombination, RNA transcription and protein synthesis in the context of their locations within the cell and their timing in the cell cycle. The relationship between structure and function of proteins and nucleic acids will be addressed. (3-1-0) Prerequisite: MBB 221 (or BICH 221). For a course to be accepted as fulfilling a prerequisite for a molecular biology and biochemistry course, a student must have obtained a minimum grade of C– (C minus). Corequisite: CHEM 282 (or 250). Recommended: CHEM 282 precede MBB 222. Students with credit for BICH 221 may not take MBB 222 for further credit.

MBB 300-1 Special Topics in Biotechnology and Business
A survey of the legal, economic and social aspects of technology transfer in the areas of molecular biology, biochemistry, and biotechnology presented by a series of local experts. Topics will include patents, contracts, intellectual property, capitalization and others. The format will be a formal lecture followed by a workshop. (1-1-0) Prerequisite: completion of the second year in the Molecular Biology and Biochemistry and Business Administration joint major or equivalent experience.

MBB 308-3 Molecular Biology and Biochemistry Laboratory I
Modern molecular biological and recombinant DNA methods such as DNA isolation, plasmid preparation, restriction enzyme digestion, Southern blots, cloning and polymerase chain reaction. (1-0-4) Prerequisite: MBB 222 (or BICH 222), CHEM 281. Students with credit for BISC 431, BICH 311 or MBB 311 may not take MBB 308 for further credit. For a course to be accepted as fulfilling a prerequisite for a molecular biology and biochemistry course, a student must have obtained a minimum grade of C– (C minus).

MBB 309-3 Molecular Biology and Biochemistry Laboratory II
Contemporary techniques in biochemistry including protein purification, immunoochemical methods, and lipid characterization. (1-0-4) Prerequisite: CHEM 282, 286, MBB 222. Students with credit for MBB 312 or BICH 312 may not take MBB 309 for further credit. For a course to be accepted as fulfilling a prerequisite for a molecular biology and biochemistry course, a student must have obtained a minimum grade of C– (C minus).

MBB 321-3 Intermediary Metabolism
Major catabolic and anabolic pathways and their regulation. Particular emphasis is placed on bioenergetics and experimental methods encountered in biochemical research. (3-1-0) Prerequisite: MBB 222 (or BICH 222) and CHEM 282 (or 250). Students with credit for BICH 321 may not take MBB 321 for further credit. For a course to be accepted as fulfilling a prerequisite for a molecular biology and biochemistry course, a student must have obtained a minimum grade of C– (C minus).

MBB 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: MBB 222 (or BICH 222) and CHEM 282 (or 250). For a course to be accepted as fulfilling a prerequisite for a molecular biology and biochemistry course, a student must have obtained a minimum grade of C– (C minus). Recommended: MBB 321 (or BICH 321). Students with credit for BICH 322 may not take MBB 322 for further credit.

MBB 351-0 Practicum III
Third semester of work experience in the Molecular Biology and Biochemistry Co-operative Education Program. (0-0-0) Prerequisite: Acceptance in the Science Co-operative Education Program.

MBB 403-3 Physical Biochemistry
The physical properties of biomacromolecules and their use in determining molecular weight and conformation; modern physical methods applied to biomolecules; properties and analysis of membrane systems. (3-1-0) Prerequisite: MBB 321 (or BICH 321) and CHEM 360 (or 261). For a course to be accepted as fulfilling a prerequisite for a molecular biology and biochemistry course, a student must have obtained a minimum grade of C– (C minus). Recommended: MBB 413 (or BICH 413) should be taken concurrently. Students with credit for BICH 403 may not take MBB 403 for further credit.
MBB 412-4 Enzymology
Enzyme isolation and assay procedures: energy of activation; enzyme kinetics and inhibition; mechanisms of enzymatic reactions; allosteric enzymes. (2-1-4) Prerequisite: MBB 321 (or BICH 321), CHEM 360 (or 261) and one of MBB 311 or 312 (or BICH 311 or 312). Students with credit for BICH 412 may not take MBB 412 for further credit. For a course to be accepted as fulfilling a prerequisite for a molecular biology and biochemistry course, a student must have obtained a minimum grade of C– (C minus).

MBB 413-2 Physical Biochemistry Laboratory
The measurement of physical properties of macromolecules; studies with bio-membranes. (0-0-4) Prerequisite: MBB 311, 312 and 321. For a course to be accepted as fulfilling a prerequisite for a molecular biology and biochemistry course, a student must have obtained a minimum grade of C– (C minus).

MBB 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. For a course to be accepted as fulfilling a prerequisite for a molecular biology and biochemistry course, a student must have obtained a minimum grade of C– (C minus).

MBB 421-3 Nucleic Acids
Recent literature is examined for insights into the structure and properties of DNA and RNA, drawing on a variety of biochemical, chemical and molecular biological perspectives. (3-1-0) Prerequisite: BISC 331. Students with credit for BICH 421 may not take MBB 421 for further credit. For a course to be accepted as fulfilling a prerequisite for a molecular biology and biochemistry course, a student must have obtained a minimum grade of C– (C minus).

MBB 422-3 Biomembranes
A review of recent research on the structure, dynamics, function and biosynthesis of membranes, membrane lipids and proteins. (3-1-0) Prerequisite: MBB 321 and 322 (or BICH 321 and 322). For a course to be accepted as fulfilling a prerequisite for a molecular biology and biochemistry course, a student must have obtained a minimum grade of C– (C minus). Recommended: MBB 403 (or BICH 403). Students with credit for BICH 422 may not take MBB 422 for further credit.

MBB 423-3 Protein Structure and Function
Recent research in transition state theory; specificity in enzyme catalyzed reactions, the use of recombinant DNA techniques to describe and modify enzyme catalysis, the function of enzymes in organic solvents, and the development of new catalytic activities through monoclonal antibody techniques. (3-1-0) Prerequisite: BISC 331 and either MBB 321 (or BICH 321) or MBB 322 (or BICH 322). Students with credit for BICH 423 may not take MBB 423 for further credit. For a course to be accepted as fulfilling a prerequisite for a molecular biology and biochemistry course, a student must have obtained a minimum grade of C– (C minus).

MBB 426-3 Immunology
This course aims at covering the field of immunology, with emphasis on the human immune system. The first half of the course covers topics explaining how immune recognition occurs, whereas the second half of the course covers topics involving disease states and the role the immune system plays in them (i.e., immune responses to infection, immunodeficiency, hypersensitivity reactions, autoimmunity and transplantation). (3-1-0) Prerequisite: MBB 322 (or BICH 322) or consent of instructor. Students with credit for BICH 426 may not take MBB 426 for further credit. For a course to be accepted as fulfilling a prerequisite for a molecular biology and biochemistry course, a student must have obtained a minimum grade of C– (C minus).

MBB 432-3 Advanced Molecular Biology Techniques
Laboratory with accompanying lectures designed to give practical experience in advanced contemporary molecular biology techniques. Lab exercises will include site-directed mutagenesis, preparation and characterization of GST-fusion proteins, construction of transgenes and their expression in transgenic organisms. (2-0-4) Prerequisite: MBB 308, BISC 331.

MBB 435-3 Genomic Analysis
The analysis of entire genomes of organisms has only been possible since 1995. This new area of study will be examined in detail with emphasis on current research. (3-1-0) Prerequisite: BISC 202, 351. Students with credit for BICH 435 may not take MBB 435 for further credit. For a course to be accepted as fulfilling a prerequisite for a molecular biology and biochemistry course, a student must have obtained a minimum grade of C– (C minus).

MBB 451-0 Practicum IV
Fourth semester of work experience in the Molecular Biology and Biochemistry Co-operative Education Program. (0-0-0) Prerequisite: Acceptance in the Science Co-operative Education Program.

MBB 452-0 Practicum V
Fifth semester of work experience in the Molecular Biology and Biochemistry Co-operative Education Program. (0-0-0) Prerequisite: Acceptance in the Science Co-operative Education Program.

MBB 490-3 Directed Study in Advanced Topics of Biochemistry
Directed reading in a topic of molecular biology or biochemistry chosen in consultation with a supervisor. Before seeking approval for registration in this course, the student should 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: MBB 222 (or BICH 222) and permission of the molecular biology and 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. Students with credit for BICH 490 may not take MBB 490 for further credit. For a course to be accepted as fulfilling a prerequisite for a molecular biology and biochemistry course, a student must have obtained a minimum grade of C– (C minus).

MBB 491-5 Undergraduate Research
Full time laboratory research in an area of molecular biology or biochemistry for preparation of a thesis for the honors degree in molecular biology and biochemistry. This course is available to honors students who have already taken MBB 491 (or BICH 491-5), or who plan to break an individual studies project into two semesters (see below). The course will include the preparation of a comprehensive written research report on the results of the project, and may also, at the discretion of the supervisor, include an oral presentation of the results. Prerequisite: permission of the Biochemistry advisor (for criteria of approval, see below). Students with credit for BICH 491 may not take MBB 491 for further credit.

MBB 492-15 Individual Study Semester
(Option A)
Full time laboratory research in an area of molecular biology or biochemistry for preparation of a thesis for the honors degree in molecular biology and biochemistry. This course is available to honors students who have not yet taken an undergraduate research course and wish to complete an individual studies project in one semester. The course will include the preparation of a comprehensive written research report on the results of the project, and may also, at the discretion of the supervisor, include an oral presentation of the results. Prerequisite: permission of the molecular biology and biochemistry advisor (for criteria of approval, see below). Students with credit for BICH 492 may not take MBB 492 for further credit.

Nuclear Science NUSC
Faculty of Science
Requirements for the nuclear science minor program are listed in the Department of Chemistry (page 199). See also courses listed under Chemistry (CHEM) (page 231) and Physics (PHYS) (page 287).

NUSC 341-3 Introduction to Radiochemistry
Brief description of the nucleus and its decays and reactions; interaction of radiation with matter; nuclear instrumentation; radioisotopes in chemistry; activation analysis and related analytical techniques; other applications of nuclear techniques; nuclear reactors and nuclear fusion. (3-1-0) Prerequisite: completion of 60 credit hours in a science program, including first year calculus, chemistry and physics.

NUSC 342-3 Introduction to Nuclear Science
Review of nuclear properties and systems. Properties of the nuclear force; shell model and structure of complex nuclei, nuclear decay via particle emission and spontaneous fission; experimental description of nuclear reactions; nucleon-nucleus and heavy ion reactions. (3-1-0) Prerequisite: NUSC 341 or permission of the department. Recommended: MATH 251.

NUSC 344-3 Nucleosynthesis and Distribution of the Elements
Formation and distribution of the chemical elements in the early universe, in present stellar environments and in the solar system; elemental abundances and isotopic ratios; and radiometric chronology techniques. (3-1-0) Prerequisite: completion of 60 credit hours in a science program, including first year calculus, chemistry and physics.
NUSC 346-2 Radiochemistry Laboratory
Introduction to the techniques of radiochemistry; proportional and Geiger counters; sample preparations and half-life measurement; synthesis and separation of labeled compounds; beta and gamma-ray spectroscopy. (0-0-4) Prerequisite: NUSC 341.

NUSC 444-3 Special Topics in Nuclear Science
Advanced topics in nuclear science. (3-1-0) Prerequisite: NUSC 342 or 442, or permission of the department.

NUSC 485-3 Particle Physics
Physics of elementary particles. Symmetries, strong interactions, electromagnetic interactions, weak interaction. (3-1-0) Prerequisite: PHYS 385 or CHEM 361 or permission of the department.

Philosophy PHIL Faculty of Arts

PHIL 001-3 Critical Thinking
An introduction to the evaluation of arguments as they are encountered in everyday life. The central aim will be to sharpen skills of reasoning and argumentation by understanding how arguments work and learning to distinguish those which actually prove what they set out to show from those which do not. Open to all students. (lecture/tutorial)

PHIL 100-3 Knowledge and Reality
An introduction to some of the central problems of philosophy. Topics to be discussed include the different theories of reality; the nature and sources of knowledge, truth, evidence, and reason; the justification of belief and knowledge about the universe. These topics and problems will be considered as they arise in the context of issues such as: relativism versus absolutism; the existence of God; personal identity; the nature of the mind and its relation to the body; free-will and determinism; the possibility of moral knowledge. (lecture/tutorial)

PHIL 110-3 Introduction to Logic and Reasoning
The aim of this course is to familiarize students with fundamental techniques of correct reasoning. Special attention is given to the methods of logic in particular, and to their role in the discovery of truth not only within science and philosophy, but within all forms of rational enquiry. (lecture/tutorial)

PHIL 120-3 Introduction to Moral Philosophy
An introduction to the central problems of ethics: for example, the nature of right and wrong, the objectivity or subjectivity of moral judgments, the relativity or absolutism of values, the nature of human freedom and responsibility. The course will also consider general moral views such as utilitarianism, theories of rights and specific obligations, and the ethics of virtue. These theories will be applied to particular moral problems such as abortion, punishment, distributive justice, freedom of speech, and racial and sexual equality. Sometimes the course will also focus on important historical figures such as Plato, Aristotle, Kant and Mill. (lecture/tutorial)

PHIL 150-3 History of Philosophy I
A survey of philosophic thought from late antiquity to the Renaissance. Special attention will be given to the works of Socrates, Plato, Aristotle, Augustine, and Aquinas. The views of these great thinkers have helped to shape the ways in which we see the world. This course is therefore recommended to everyone with an interest in our intellectual heritage. (lecture)

PHIL 151-3 History of Philosophy II
A survey of philosophic thought from the Renaissance to the 20th Century. Special attention will be given to the works of Descartes, Leibniz, Spinoza, Locke, Berkeley, Hume, Kant, Hegel and Mill. The views of these great thinkers have helped to shape the ways in which we see the world. This course is therefore recommended to everyone with an interest in our intellectual heritage. (lecture)

PHIL 203-3 Metaphysics
An examination of central problems of metaphysics such as space and time, universals and particulars, substance, identity and individuation and personal identity. (lecture) 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, MACM 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 231-232-3 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, Turgeniev, 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 significant form. Theories of aesthetic criticism will be studied in relation to taste, personal experience, and truth. (lecture/tutorial)

PHIL 244-3 Introduction to the Philosophy of Natural and Social Science
An introduction to philosophical issues concerning the nature of science. Topics to be discussed include the distinction between science and pseudo-science, the nature of scientific method, the nature of explanation in the natural and social sciences, the phenomenon of scientific change, the relationship between scientific theory and observation, and the objectivity of social science. (lecture/tutorial)

PHIL 280-3 Introduction to Existentialism
A study of existentialist philosophers such as Kierkegaard, Nietzsche, Heidegger, Sartre, and Camus and a survey of precursors such as Kant and Hegel. (lecture/tutorial)

PHIL 300-3 Introduction to Philosophy
An introductory course especially 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
An introduction to one or more topics such as: philosophical logic; deontic logic; the logic of knowledge and belief; the logic of preference; tense logics; foundations of set theory; recursive functions; the history of logic. (seminar) Recommended: PHIL 210, 214, or an otherwise suitable background.

PHIL 314-3 Topics in Logic I
An examination of one or more topics such as: philosophical logic; deontic logic; the logic of knowledge and belief; the logic of preference; tense logics; foundations of set theory; recursive functions; the history of logic. (seminar) Recommended: PHIL 210, 214, or an otherwise suitable background.

PHIL 320-3 Social and Political Philosophy
An examination of an issue or selection of issues in social and political philosophy. Contemporary or historical readings or a mixture of these will be used. Possible topics include: justice, the law and legal system, the nature of sovereign power and authority, democracy, liberty and equality. Sometimes the course will focus on the views of historically important political philosophers, such as Plato, Aristotle, Hobbes, Locke, Rousseau, Burke, Bentham, Mill and Marx. (seminar) Prerequisite: PHIL 120 or 220.

PHIL 321-3 Moral Issues and Theories
An advanced investigation of central issues and theories in moral philosophy. In any given term, the course may focus on a general theory or concept or concern, for example meta-ethics, utilitarianism, or theories of rights. Sometimes it will focus on a particular problem or problems, such as medical ethics, moral personhood, or free will and moral responsibility. (seminar) Prerequisite: PHIL 120.

PHIL 331-333-3 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 341-3 Philosophy of Science
A study of the nature of scientific enquiry, classificatory systems, laws and theories, the role of observation in science, the demarcation between science and non-science, causality, the status of theoretical constructs, and teleological explanation. (seminar) Prerequisite: PHIL 100 and 203, or COGS 200; PHIL 210 or 214.

PHIL 343-3 Philosophy of Mind
A study of theories of the mind, consciousness, and human action. (seminar) Prerequisite: PHIL 100 and 203, or COGS 200.

PHIL 344-3 Philosophy of Language I
An introduction to the major philosophic theories of language. Topics to be considered include the relationship between language and mind, language and the world, language and society. (seminar) Prerequisite: PHIL 100 and 203, or COGS 200.

PHIL 350-3 Ancient Philosophy
(seminar) Prerequisite: PHIL 100 or 150.

PHIL 353-3 Locke and Berkeley
(seminar) Prerequisite: PHIL 100 or 151.
PHIL 354-3 Descartes and Rationalism
(senior) Prerequisite: PHIL 100 or 151.

PHIL 355-3 Hume and Empiricism
(senior) Prerequisite: PHIL 100 or 151.

PHIL 360-4 Seminar I
(senior) 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.
(senior) 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.
(senior) Prerequisite: PHIL 210 or 214.

PHIL 451-4 Kant
(senior) 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.
(senior) Prerequisite: at least two of PHIL 353, 354, 355, 451.

PHIL 453-4 Background to Analytical Philosophy
(senior) Prerequisite: two 300 level PHIL courses.

PHIL 455-4 Contemporary Issues in Epistemology and Metaphysics
(senior) 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.
(senior) Prerequisite: at least two of PHIL 353, 354, 355, 451, 452.

PHIL 467-4 Seminar II
(senior) Prerequisite: two 300 level PHIL courses.

PHIL 477-5 Honors Tutorial I
(senior) 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 478, honors students should obtain departmental approval of a proposed syllabus and arrange for faculty supervision of the course.

PHIL 478-5 Honors Tutorial II
(senior) 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 PHYS
Faculty of Science
See also courses listed under Nuclear Science (NUSC) (page 285).

PHYS* 100-3 Introduction to Physics
A course for students with relatively weak backgrounds in physics. Kinematics and dynamics; waves; optics; electricity and magnetism. (3-0-1) Prerequisite: BC high school algebra 12 (or equivalent) or MATH 100 (may be taken concurrently). Students who have obtained a grade of C+ or better in BC high school Physics 12 (or its equivalent) or who have taken any further physics course normally may not take PHYS 100 for credit.

PHYS* 101-3 General Physics I
A general survey course for life science students. Kinematics and dynamics, including rotational motion; fluids, properties of matter and thermal physics. (3-0-1) Prerequisite: BC Principles of Physics 12 or PHYS 100 or equivalent. This prerequisite may be waived, at the discretion of the department, as determined by the student's performance on a regularly scheduled PHYS 100 final exam. Please consult the physics advisor for further details.
Corequisite: MATH 151, 154 or 157 must precede or be taken concurrently. Students with credit for PHYS 120 may not take PHYS 101 for further credit.

PHYS* 102-3 General Physics II
A general survey course for life science students. Waves and optics; electricity and magnetism; modern physics emphasizing radioactivity. (3-0-1) Prerequisite: PHYS 101. Students with credit for PHYS 121 may not take PHYS 102 for further credit.
Recommended corequisite: MATH152, 155 or 158 should precede or be taken concurrently. Students are encouraged to take PHYS 130 at the same time as PHYS 102.

PHYS* 120-3 Modern Physics and Mechanics
A general survey course for students in the physical sciences. A survey of physical phenomena from quarks to galaxies, statics and dynamics, special relativity, rotational motion, elementary quantum ideas. (3-0-1) Prerequisite: BC Principles of Physics 12 or PHYS 100 or equivalent. This prerequisite may be waived, at the discretion of the department, as determined by the student's performance on a regularly scheduled PHYS 100 final exam. Please consult the physics advisor for further details.
Corequisite: MATH 151 or 154 must precede or be taken concurrently.

PHYS* 121-3 Optics, Electricity and Magnetism
A general survey course for students in the physical sciences. Light, geometrical optics, electricity, simple circuits, magnetism, applied physics. (3-0-1) Prerequisite: PHYS 120 (or PHYS 101 with a grade of A or B). Students with credit for PHYS 102 may not take PHYS 121 for further credit.
Corequisite: MATH 152 or 155 must precede or be taken concurrently.

PHYS 130-2 General Physics Laboratory
Elementary experiments in optics, electricity, mechanics and heat that are designed to augment the general survey course. (0-0-4) Prerequisite: PHYS 102 should be taken concurrently or may precede; or by permission of the department. Students may not count more than one PHYS 130 or 131 for credit.

PHYS 131-2 Physics Laboratory I
Elementary experiments in optics, electricity, and mechanics that are designed to augment the general survey courses. (0-0-4) Students may not count more than one of PHYS 130 or 131 for credit. Corequisite: PHYS 121 should be taken concurrently or may precede; 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 include: 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 and the solar system, stellar evolution, galaxies, cosmology. (3-1-0)

PHYS 197-3 Peripherical Topics II
Selected topics from sciences closely allied with physics. (3-1-0) Prerequisite: BC high school physics 11 or equivalent, and algebra 12 (or equivalent).

PHYS 211-3 Intermediate Mechanics
An intermediate mechanics course covering kinematics, dynamics, free, forced and damped oscillations, non-inertial reference frames, central forces and orbits, rigid body motion. (3-1-0) Prerequisite: PHYS 121; or PHYS 101 and PHYS 102 with a grade of B or better. Students may not count both PHYS 211 and MATH 263 for credit. Corequisite: MATH 251 must precede or be taken concurrently.

PHYS 221-3 Intermediate Electricity and Magnetism
Electrostats, magnetostatics, capacitance, inductance, DC and AC circuits, concepts of electric and magnetic fields, Maxwell's equations. (3-1-0) Prerequisite: PHYS 121 or 102. Corequisite: MATH 251. Recommended corequisite: MATH 252.

PHYS 232-3 Physics Laboratory II
Experiments chosen from among mechanics, heat, optics, electricity, magnetism, properties of matter, atomic and nuclear physics. Engineering Science students will do a selected set of experiments. (0-0-3) Prerequisite: PHYS 131 or 130.

PHYS 234-3 Computers in Physics Laboratory
Introductory physics laboratory with experiments chosen from mechanics, heat, optics, electricity, magnetism, properties of matter, atomic and nuclear physics, along with lectures on the use of computers for data acquisition and data analysis in the physics laboratory. (1-0-3) Prerequisite: PHYS 233 or permission of the instructor.

PHYS 285-3 Introduction to Relativity and Quantum Mechanics
Special relativity, including relativistic kinematics and dynamics; tests of relativity; matter waves and early quantum models; wave mechanics and its application to molecular, atomic and subatomic systems. (3-1-0) Prerequisite: PHYS 121, MATH 152.

PHYS 324-3 Electromagnetics
Electromagnetics, magnetostatics, electromagnetic waves, transmission lines, waveguides, antennas and radiating systems. (3-1-0) Prerequisite: PHYS 221, MATH 252.

PHYS 326-3 Electronics and Instrumentation
Circuits and circuit theory, passive and active devices, amplifiers, feedback, modern measurement techniques and instrumentation. (3-1-0) Prerequisite: PHYS 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 332.

PHYS 332-3 Optics Laboratory
Experiments in optics and modern physics, including diffraction, interference, spectroscopy, lasers and holography. Engineering Science students will do a selected set of experiments. (0-0-4) Prerequisite: PHYS 234. Corequisite: PHYS 335 must precede or be taken concurrently.

PHYS 335-0 Practicum I
This is the first semester of work experience in a co-operative education program available to students who are studying physics or related areas, such as biophysics, chemistry 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, chemistry 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 344-3 Thermal Physics
Heat, temperature, heat transfer, kinetic theory, laws of thermodynamics, entropy, heat engines, applications of thermodynamics to special systems, phase transitions. (3-1-0) Prerequisite: PHYS 121 and MATH 251.

PHYS 346-3 Energy and the Environment
The physical principles and limitations of renewable energy source utilization and energy conversion. A quantitative introduction to energy conversion and storage systems, including solar power and heating; wind, tidal, geothermal, hydroelectric and nuclear power, hydrogen technology, electrical and mechanical energy storage. (3-1-0) Prerequisite: CHEM 120 or 121, PHYS 102 (or 121), MATH 155 (or 152).

PHYS 355-3 Optics
Geometrical and physical optics, interference, diffraction, polarization, coherence, spectra, optical instruments. (3-1-0) Prerequisite: PHYS 221 and MATH 252.

PHYS 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. Recommended: PHYS 285.

PHYS 384-3 Methods of Theoretical Physics I
Applications of mathematical methods in physics, differential equations of physics, eigenvalue problems, solutions to wave equations. (3-1-0) Prerequisite: PHYS 211 (or MATH 263), PHYS 221, MATH 252. MATH 310.

PHYS 385-3 Quantum Physics
Postulates of quantum theory, atomic models, waves and particles, Schrödinger equation, free and bound states, the hydrogen atom, atomic structure, spectra and applications. (3-1-0) Prerequisite: PHYS 211, 221, 285, MATH 252; PHYS 285 may be waived by permission of the department. Engineering science students are exempt from the PHYS 285 prerequisite. Corequisite: MATH 310 must precede or be taken concurrently.

PHYS 390-3 Introduction to Astrophysics
Characteristics of stars and their evolution, thermodynamics of stellar interior, origin of the elements, galaxies, cosmology, origin of the planets. (3-1-0) Prerequisite: PHYS 211 and either CHEM 120 or 121.

PHYS 395-3 Computational Physics
Computer based approaches to the solution of complex physical problems. A partial list of topics includes: Monte-Carlo and molecular dynamics techniques applied to thermal properties of materials; dynamical 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, CMPT 101 or 102. Recommended: PHYS 344 (or PHYS 244) or equivalent.

PHYS 413-3 Advanced Mechanics
Central forces, rigid body motion, small oscillations, Lagrangian and Hamiltonian formulations of mechanics. (3-1-0) Prerequisite: PHYS 384 or permission of the department. Non-physics majors may enter with MATH 252, 310 and either PHYS 211 or MATH 263.

PHYS 415-3 Quantum Mechanics
Foundations of quantum mechanics, Schroedinger equation, perturbation theory, angular momentum, applications. (3-1-0) Prerequisite: PHYS 385 and either PHYS 384 or MATH 314 and 419.

PHYS 425-3 Electromagnetic Theory
Electrostatics and boundary value problems, magnetic fields, Maxwell equations and their relativistic formulation, radiation and propagation of electromagnetic waves. (3-1-0) Prerequisite: PHYS 285, 384 (or PHYS 221 and MATH 314).

PHYS 430-5 Digital Electronics and Interfacing
Digital logic design with particular apparatus. Construction and use of interface devices for various laboratory experiments. Computer data reduction. (2-0-4) Prerequisite: PHYS 326 and 331; or permission of the instructor.

PHYS 431-4 Advanced Physics Laboratory I
Advanced experiments in Physics. May include special projects. (0-0-6) Prerequisite: PHYS 331 and 385. Recommended: PHYS 332.

PHYS 432-5 Undergraduate Honors Thesis
Undergraduate research and preparation of an honors thesis. The research project may be in experimental or theoretical physics. Prospective students must obtain agreement of a faculty member willing to supervise the project, and submit the project to the physics department for approval at least two months prior to registering for the course. The research must be done during the semester in which the student is registered for the course, and may not be part of a co-op practicum. The course will be graded on the basis of the honors thesis, which must be submitted before the end of the semester. (0-0-10) Prerequisite: all students interested in taking this course must consult with their faculty supervisor regarding prerequisites; normally requires PHYS 431.

PHYS 435-0 Practicum III
This is the third semester of work experience in a co-operative education program available to students who are studying physics or related areas, such as biophysics, chemistry physics or mathematical physics. Prerequisite: PHYS 336 and 60 hours of credit with a minimum cumulative GPA of 2.75. Students should apply to the department at least one semester in advance. A course fee is required. This course is evaluated on a P/W basis.

PHYS 437-0 Practicum V
This is an optional fifth semester of work experience in a co-operative education program available to students who are studying physics or related areas such as biophysics, chemistry physics or mathematical physics. Prerequisite: PHYS 346 and a minimum cumulative GPA of 2.75. Students should apply to the department at least one semester in advance. A course fee is required. This course is evaluated on a pass/withdrawal basis.

PHYS 445-3 Statistical Physics
Postulates of statistical mechanics, partition functions, applications to gases, paramagnetism and equilibrium. Quantum statistics and applications. (3-1-0) Prerequisite: PHYS 344 or CHEM 360. Recommended: PHYS 385.

PHYS 455-3 Applied Optics
Interaction between light and matter, population inversion, stimulated emission, optical resonators, temporal and spatial coherence, gain and power output of laser oscillators. Selected topics in applied optics such as the crystal optics, light modulation, fibre optics, non-linear optics and opto-electronic devices and components. Applications of lasers. (3-1-0) Prerequisite: PHYS 355 and 385.

PHYS 465-3 Solid State Physics
Crystal structure, lattice vibrations and thermal properties of solids, free electron model, band theory, applications. (3-1-0) Prerequisite: PHYS 385.

PHYS 484-3 Nonlinear Physics
Nonlinear mechanics, nonlinear lattice dynamics, competition phenomena, applications in optics and chemistry, forced oscillations, chaos. (3-1-0) Prerequisite: PHYS 384 or permission of the department.

PHYS 490-3 General Relativity and Gravitation
Gravity and space-time, Einstein’s equations and their solution, tests of relativity, black holes, stellar equilibrium and collapse, cosmological models. (3-1-0) Prerequisite: PHYS 285 or MATH 471; PHYS 384.

PHYS 492-3 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 POL
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) Prerequisite: POL 100 or 151 or permission of department. 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 or permission of department.

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) Prerequisite: six lower division credits in political science or permission of the department.

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, and the role of federal-provincial relations. (lecture/tutorial) Prerequisite: POL 100 or 151 or permission of department.

POL 222-3 Introduction to Canadian Politics
An introduction to the social and participatory basis of Canadian politics, covering topics such as political culture, regionalism and other political divisions, political parties, elections, interest groups and new social movements. (lecture/tutorial) Prerequisite: POL 100 or 151 or permission of department.

POL 223-3 Canadian Political Economy
An introductory study of Canada's political economy, stressing the interrelated nature of Canada's economic and political life. The course focuses on current economic problems and policies, taking into account the general historical and political environments. Topics include the resource and industrial structures, research and development, the public sector, fiscal and monetary policy, the role of the state, trade and foreign ownership, energy, regional disparity, corporate concentration and the political economy of federalism. This course is identical to CNS 280 and students cannot take both courses for credit. Recommended: POL 100.

POL 231-3 Introduction to Comparative Government and Politics
An introduction to political processes and structures in comparative perspective. (lecture/tutorial) Prerequisite: POL 100 or permission of department.

POL 232-3 US Politics
An examination of the American political system, including the presidency, the congress, the courts, the bureaucracy and the party system. (lecture/tutorial) Prerequisite: POL 100 or permission of the department. Students who have credit for POL 322 may not take POL 232 for further credit.

POL 241-3 Introduction to International Politics
Theory and practice of international politics, diplomacy, hot war, cold war, alliances and the role of leaders. (lecture/tutorial) Prerequisite: POL 100 or permission of department.

POL 251-3 Introduction to Canadian Public Administration
An introduction to the basic elements of public administration in the government of Canada, including the organization of the public service, planning and financial administration, personnel administration, collective bargaining and administrative regulation. (lecture/tutorial) Prerequisite: POL 100 or 151 or permission of department.

POL 252-3 Local Democracy and Governance
The political process in the urban municipality from a comparative perspective. (lecture/tutorial) Prerequisite: POL 100 or 151 or permission of department.

POL 290-0 Political Science Practicum I
First semester of work experience in the Political Science Co-operative Education Program. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the preceding semester. Prerequisite: 30 credit hours with a CGPA of 3.0. Transfer students must complete at least 15 credit hours at Simon Fraser University.

POL 291-0 Political Science Practicum II
Second semester of work experience in the Political Science Co-operative Education Program. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the preceding semester. Prerequisite: POL 290; 45 credit hours with a CGPA of 3.0.

POL 301-0 Political Science Practicum III
Third semester of work experience in the Political Science Co-operative Education Program. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the preceding semester. Prerequisite: POL 291, 60 credit hours, and a minimum CGPA of 3.0.

POL 312-4 History of Political Thought II
A discussion of political thought from the French revolution to the Chinese revolution. (lecture/seminar) Prerequisite: six lower division credits in political science or permission of the department.

POL 313-4 Political Ideologies
A discussion of the major political ideologies which provide support for and legitimation for regimes and movements in the contemporary world. Liberalism, Socialism, Communism, Fascism, Ethnocentrism, Anarchism, participatory democracy, Third World ideologies, etc., are emphasized. (seminar) Prerequisite: six lower division credits in political science or permission of the department.

POL 314-4 Theory and Explanation in Political Science
A discussion of issues in the philosophy of the social sciences which are relevant to the study of politics and a critical evaluation of contemporary approaches to political inquiry, including empirical theory, rational choice theory and hermeneutics. (lecture/seminar) Prerequisite: six lower division credits in political science or permission of the department.

POL 315-4 Quantitative Methods in Political Science
An examination of the principal methods of empirical research in political science. This course is equivalent to SA 355. (lecture/tutorial) Prerequisite: six lower division credits in political science or permission of the department.

POL 319-4 Selected Topics in Political Theory
(lecture) Prerequisite: six lower division credits in political science or permission of the department.

POL 321-4 The Canadian Federal System
Development of the federal system including topics such as the division of powers, parties, federal-provincial relations and theories of federalism. (lecture/seminar/lab) Prerequisite: six lower division credits in political science or permission of the department.

POL 322-4 Canadian Political Parties
Development of the Canadian party system. Party ideologies, organization, campaigns and elections. (lecture/seminar) Prerequisite: six lower division credits in political science or permission of the department.

POL 323-4 Provincial Government and Politics
An examination of the historical development of the provinces and the role they have played in Confederation. The course surveys the evolution of provincial economies, societies and governments in order to understand the contemporary issues and problems faced by Canada's provincial states. (seminar) Prerequisite: six lower division credits in political science or permission of the department.

POL 324-4 The Canadian Constitution
An analysis of the Canadian constitution from a theoretical and comparative perspective. Amendment, entrenchment, civil rights. (lecture/seminar/lab) Prerequisite: six lower division credits in political science or permission of the department.

POL 327-4 Globalization and the Canadian State
In an era of globalization, what scope remains for national politics? Does globalization lead to a deficit of democracy? This course examines the challenge that globalization poses for the Canadian political system. Emphasis is placed on globalization's impact on the organization, activities and role of Canadian State. (lecture/seminar) Prerequisite: six lower division credits in political science or permission of the department.

POL 329-4 Selected Topics in Canadian Government and Politics
(lecture) Prerequisite: six lower division credits in political science or permission of the department.

POL 333-4 Soviet and Post-Soviet Political Systems
A comprehensive introduction to the 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: six lower division credits in political science or permission of the department.

POL 334-4 East European Political Systems
A comprehensive introduction to the political organization and political dynamics of the east European states including an examination of the various contemporary issues and problems which have influenced the political development of those countries. (lecture/seminar) Prerequisite: six lower division credits in political science or permission of the department.

POL 335-4 Government and Politics: People's Republic of China I
An examination of the political development of China in modern times with special emphasis on political culture and its relationship to political institutions, political processes and political behavior. (lecture/seminar/lab) Prerequisite: six lower division credits in political science or permission of the department.

POL 336-4 Government and Politics: People's Republic of China II
An analysis of China's current constitutional structure, modernization program, post cultural revolution period, and development in both domestic and international affairs. Emphasis will be placed on explanations of political change and perspectives for future development. (lecture/seminar/lab)
interactions since 1945, with special attention to the theory and practice of international organization advanced by the principal Western countries, the Soviet Union and Soviet bloc, the People’s Republic of China and leading Third World countries. (lecture/seminar) Prerequisite: six lower division credits in political science or permission of the department.

POL 347-4 Introduction to Canadian Foreign Policy
An overview of Canadian foreign policy post World War II. Various perspectives are discussed including realism, economic nationalism, liberal internationalism and political economy/dependency analysis. A variety of analytical perspectives are used to examine issue-areas such as foreign trade including the role of NAFTA, defense 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: six lower division credits in political science or permission of the department.

POL 348-4 International Conflict Resolution
The course concentrates on negotiation, preventive diplomacy, crisis management and conflict resolution. Methods of peaceful and coercive diplomatic resolution of international conflicts will be explored, with emphasis on investigation of the various contributions that have been made by United Nations peacekeeping, peacemaking and peace enforcement operations. Course simulation work, when used, will focus on problems of containing the proliferation of weapons of mass destruction. (lecture/seminar/lab) Prerequisite: six lower division credits in political science or permission of the department.

POL 349-4 Selected Topics in International Relations
(lecture) Prerequisite: six lower division credits in political science or permission of the department.

POL 350-4 Latin American 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. Prerequisite: six lower division credits in political science or LAS 200 or permission of department. This course is identical to LAS 311 and students cannot take both courses for credit.

POL 351-4 Latin American International Relations
Theo-eretical and empirical analysis of selected regional associations, historical and contemporary. Imperialism, federation, association. (lecture/seminars/lab) Prerequisite: six lower division credits in political science or permission of the department.

POL 352-4 Urban and Local Governance in Canada
A comparative study of local government in Vancouver, Winnipeg and Toronto. The non-partisan tradition and interest groups. Relations with other levels of government. (seminar) Prerequisite: six lower division credits in political science or permission of the department.

POL 353-4 Public Sector Management
A detailed analysis of administrative planning in the public sector, particularly as it relates to the Canadian government. The significance of financial management and personnel management to the overall planning will be emphasized. (seminar) Prerequisite: six lower division credits in political science or permission of the department.

POL 354-4 Comparative Metropolitan Governance
A comparative analysis of regional metropolitan governance in Canada and selected other jurisdictions (such as the USA, UK, etc.). The course involves an examination of major policy dilemmas in urban development, and of the local, regional and senior intergovernmental relations within which much of the public policy making in metropolitan settings takes place. (seminar) Prerequisite: six lower division credits in political science or permission of the department.

POL 355-4 Governing Instruments
Examines and compares the various means at the disposal of government for implementing policy options, including regulation, the creation or privatising of public enterprises, the delivery or contracting out of services, taxation and tax expenditures, and any other administrative or legislative processes that governments in Canada and/or in similar countries have used to manage the economy or effect social change. (seminar) Prerequisite: six lower division credits in political science or permission of the department.

POL 356-4 The Political Economy of Labor
Examines the ways in which economic and political forces are constantly changing the nature of work. The focus will be on both paid and unpaid labor; the problems of inequality; and the ways in which workers have organized to protect their interests. The course material will deal mainly, although not exclusively, with the political economy of labor in contemporary Canada. (0-4-0) Prerequisite: six lower division credits in political science or permission of the department.

POL 357-4 Selected Topics in Governance
(lecture) Prerequisite: six lower division credits in political science or permission of the department.

POL 358-4 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: six lower division credits in political science or permission of the department.

POL 359-4 Political Economy of Latin American Development
This is a survey course which introduces students to the various theoretical approaches which have been used since the 1950s to understand the political economy of Latin American development. It deals with some of the classic theories of modernization, dependency, world systems, and modes of production analysis. The last unit of the course is devoted to the most contemporary issues of Latin American development, such as the agrarian question, women and development, problems of urbanization and the informal sector. Prerequisite: six lower division credits in political science or LAS 200 or permission of department. This course is identical to LAS 316 and SA 328 and students cannot take more than one of these courses for credit.

POL 360-0 Political Science Practicum IV
Fourth semester of work experience in the Political Science Co-operative Education Program. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the preceding semester. Prerequisite: POL 301, 75 credit hours, and a minimum CGPA of 3.0.

POL 361-4 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 362-4 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, Apter, Friedrich and Gurr. (seminar) Prerequisite: eight upper division credits in political science or permission of the department.
POL 415-4 The Liberal Tradition
A critical examination of the development of liberalism from classical liberalism (e.g. John Locke) to contemporary conflict between revisionist and neo-classical or libertarian currents. (seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 416-4 Feminist Social and Political Thought
This course will examine the works of major feminist thinkers and the problems of developing feminist theory. (seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 417-4 Human Rights Theories
This course introduces students to the problems involved in the assertion of universal moral standards across political and cultural divides. These issues will be explored at a theoretical level, and in the context of specific human rights controversies. (seminar) Prerequisite: eight upper division credits in political science or permission of the department. Recommended: PHIL 220 or 320.

POL 418-4 Selected Topics in Political Theory I
(seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 419-4 Selected Topics in Political Theory II
(seminar) Prerequisite: eight upper division credits in political science or permission of the department.

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 testings, NORAD, and nuclear non-proliferation will also be explored in detail. (seminar/lab) Prerequisite: eight upper division credits in political science or permission of the department.

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: eight upper division credits in political science or permission of the department.

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: eight upper division credits in political science or permission of the department.

POL 425-4 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: eight upper division credits in political science or permission of the department.

POL 428-4 Selected Topics in Comparative Government and Politics I
(seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 429-4 Selected Topics in Comparative Government and Politics II
(seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 431-4 Comparative Western European Systems
An advanced examination of the political life of Western European democratic systems, with special attention to issues of comparative and theoretical import, such as the causes and consequences of various types of party systems and the determinants of democratic stability. (seminar/lab) Prerequisite: eight upper division credits in political science or permission of the department.

POL 432-4 Comparative Communist and Post-Communist Political Systems
A comparative examination of the emergence and development of communist political systems and also the impact of that experience on the various post-communist successor states undergoing the process of regime transition in Eurasia and eastern Europe. The course will focus on theoretical issues pertaining to the topics considered, and case studies of specific countries. (seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 433-4 Comparative Developing Systems
A survey of political problems in selected Third World countries. Topics covered will include: the preconditions for democracy, the role of military governments, possibilities of revolution, and the meaning of economic dependency influences on the political systems of developing nations. (seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 435-4 Comparative Federal Systems
Comparative analysis of federations such as the Canadian, American, West German, Yugoslavian, Soviet, Indian and Swiss. (seminar/lab) Prerequisite: eight upper division credits in political science or permission of the department.

POL 436-4 Elections, Parties and Governments in Comparative Perspective
An examination of the processes by which governments are created, maintained, and destroyed in democratic systems. The effects of different regime types, electoral arrangements, and party systems will be highlighted. (lecture/seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 438-4 Selected Topics in Comparative Government and Politics I
(seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 439-4 Selected Topics in Comparative Government and Politics II
(seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 441-4 Comparative Foreign Relations: Selected Political Systems
A comparison of the foreign policies of selected political systems. Subjects treated include the domestic and foreign determinants of foreign policy decisions, the mobilization and application of resources to influence international politics, and the consequences of foreign policy decisions and strategies. (seminar/lab) Prerequisite: eight upper division credits in political science or permission of the department.

POL 442-4 The Politics of International Trade
Focuses on the economic policy of international trade relations. Subjects of interest may include the evolution of the global trade regime from the GATT to the WTO, regional trade groupings such as the European Union and NAFTA, the special trade problems of less developed countries and transition economies, and the growing role of civil society in international trade. (0-4-0) Prerequisite: eight upper division credit hours in political science or permission of the department.

POL 443-4 Comparative Foreign Relations: Emerging World Order
An examination of the major theories of international economic relations. (seminar/lab) Prerequisite: eight upper division credits in political science or permission of the department.

POL 444-4 Politics and Foreign Policy of the European Union
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: eight upper division credits in political science or permission of the department.

POL 445-4 American Foreign Policy: Processes, Issues
Examines US foreign policy in the post World War II 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: eight upper division credits in political science or permission of the department.

POL 446-4 International Relations of East Asia
An overview and analysis of international relations in East Asia. (seminar/lab) Prerequisite: eight upper division credits in political science or permission of the department.

POL 447-4 Theories of International Political Economy
An examination of the major theories of international political economy, and their application to such issues as the politics of trade, aid, monetary relations, and transnational corporations. Prerequisite: eight upper division credits in political science or permission of the department.

POL 448-4 Selected Topics in International Relations I
(seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 449-4 Selected Topics in International Relations II
(seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 451-4 Public Policy Analysis
Examines the conceptual, philosophical and practical aspects of public policy analysis as it is conducted in government, universities, interest groups and policy research institutes. Specific attention is paid to the question of the role of policy research in the process of public policy making and the design of government programs and services. (seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 454-4 Urban Public Policy Making
This course will link differing theoretical perspectives and concepts currently used in public policy studies to an understanding of public policy making in urban governance. (seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 455-4 Issues in Economic and Social Policy
A practical analysis of the evaluation and the adjustment of public policies and programs designed and implemented to address long-standing social and economic concerns. The course will look at governmental and non-governmental actors involved in the processes of policy evaluation. (seminar) Prerequisite: eight upper division credits in political science or permission of the department.
POL 457-4 Controversies in Policy Innovation and Design
This course is intended to offer students an opportunity to reflect upon the challenges posed by the development of new technologies, the emergence of new movements and the uncertainties attendant to social and political conflicts associated with policy issues about which experts differ in significant ways. (seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 458-4 Selected Topics in Local and Urban Governance
(seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 459-4 Selected Topics in Governance
(seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 481-4 Ethnic Politics and National Identity: Comparative Perspectives
Examines the impact of ethnicity on the dynamics and organization of political systems, including the impact of ethnic diversity on modes of political representation, the formation of public policy, and the quest for political stability and national identity. (seminar) Prerequisite: eight upper division credits in political science or permission of the department.

POL 498-4 Directed Readings in Political Science
Directed readings in a selected field of study under the direction of a single faculty member. A paper will be required. Students registering in this course must have their program of readings approved by the supervising instructor and the undergraduate studies committee prior to registration. Prerequisite: permission of the department. Students may count only one readings course as credit towards their upper division political science requirements.

POL 499-5 Honors Essay
Prerequisite: permission of the department (see regulations listed in the Department of Political Science section).

Psychology PSYC

Faculty of Arts

PSYC 100-3 Introduction to Psychology I
Acquaints the student with the major issues in contemporary psychology and considers the historical antecedents. Special attention is given to questions of methodology and research design in psychology. Topics in physiological psychology, perception, learning and motivation are considered. (lecture/laboratory) Students with credit for PSYC 101 may not take PSYC 100 for further credit.

PSYC 102-3 Introduction to Psychology II
Acquaints the student with major issues in contemporary psychology and considers their historical antecedents. Topics in learning, cognition, social psychology and abnormal psychology are considered. (lecture/laboratory) Prerequisite: PSYC 100. Students with credit for PSYC 101 may not take PSYC 102 for further credit.

PSYC 106-3 Psychological Issues in Contemporary Society
Relates contemporary knowledge from psychology to current social problems. Provides relevant information from studies pertaining to problems such as attitude development, prejudice, race relations, addiction, behavior technology, and family pathology. (lecture/tutorial)

PSYC 201-4 Introduction to Research Methods in Psychology
An introduction to the procedures used in psychological research, and to the logic underlying them. Topics include the strengths and weaknesses of different approaches to research, the formulation of testable questions, the control of extraneous influences, the measurement of effects, and the drawing of valid conclusions from empirical evidence. Provides a background 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 206-3 Introduction to Psychological Assessment
A survey of selected techniques for assessment of individual and group differences in aptitudes, abilities, achievement, attitudes, interests, and personality. Emphasis is placed on evaluating the effectiveness of various techniques, including performance tests, self-report questionnaires, inventories and projective approaches. This course provides a suitable introduction for students considering graduate training in clinical psychology. (lecture/tutorial) Prerequisite: PSYC 201 and one of PSYC 241 (or 340) or 270 (or 370). Students with credit for PSYC 306 may not take PSYC 206 for further credit.

PSYC 207-3 Introduction to the History of Psychology
Examines the development of modern psychology from the founding of the first laboratories in the late 19th century to the present. The development and revisions of the major theoretical systems of psychology are examined from a comparative and critical perspective. (lecture/tutorial) Prerequisite: PSYC 202. Students with credit for PSYC 308 may not take PSYC 207 for further credit.

PSYC 210-4 Introduction to Data Analysis in Psychology
Covers basic descriptive and inferential techniques most appropriately applied to the various forms of data from psychological research. Should be completed by majors and honors before the end of semester 4. (lecture/laboratory) Prerequisite: PSYC 201 and BC high school math 12 or MATH 100 or MATH 110 or equivalent. Students without BC high school math 12 should enrol in MATH 110, rather than MATH 100. See the Letters of Permission section within the undergraduate Department of Psychology.

PSYC 221-3 Introduction to Cognitive Psychology
Introduction to the study of cognitive and perceptual processes. Topics include memory, perception, attention, language, mental imagery, creativity, judgment and decision-making, and an introduction to cognitive disorders such as Alzheimer's disease, dyslexia, aphasia and attention-deficit disorder. (lecture/laboratory) Prerequisite: PSYC 100 and 102 or (PSYC 101). Students with credit for PSYC 320 may not take PSYC 221 for further credit.

PSYC 241-3 Introduction to Abnormal Psychology
Introduces students to the area of abnormal psychology. Topics include the definition and classification of pathological behavior, factors involved in the development of pathology, and evaluation of therapy outcome. (lecture/tutorial) Prerequisite: PSYC 100 and 102 or (PSYC 101). Students with credit for PSYC 340 may not take PSYC 241 for further credit.

PSYC 250-3 Introduction to Developmental Psychology
Considers the psychological and physical aspects of human development from conception through middle childhood. Topics include social, emotional, language, cognitive, perceptual and physical development. (lecture/tutorial) Prerequisite: PSYC 100 and 102 or (PSYC 101). Students with credit for PSYC 350 or 351 may not take PSYC 250 for further credit.

PSYC 260-3 Introduction to Social Psychology
Examines methodology and content in social psychology. Topics include: attitudes and values; social perception and cognition; group behavior; social inclusion and exclusion; obedience; aggression; altruism; interpersonal attraction and interpersonal relationships. (lecture/tutorial) Prerequisite: PSYC 100 and 102 or (PSYC 101). Students with credit for PSYC 360 may not take PSYC 260 for further credit.

PSYC 270-3 Introduction to Theories of Personality
Introduces students to classic and contemporary theories, conceptual debates, and empirical research in the area of personality. (lecture/tutorial) Prerequisite: PSYC 100 and 102 or (PSYC 101).

PSYC 280-3 Introduction to Biological Psychology
Surveys the major areas in biological psychology. Topics include the basics of neuroanatomy and nerve cell function, the behavioural and physiological effects of drugs and hormones in the nervous system, evolutionary perspectives on the brain and behaviour, and the biopsychology of vision, the chemical senses, hearing, movement, biological rhythms, sex, and cognitive processes. (lecture/laboratory) Prerequisite: PSYC 100 and 102 or (PSYC 101). Recommended: BISC 101.

PSYC 301-4 Intermediate Research Methods and Data Analysis
A continuation of PSYC 201 and 210. Provides extensions of the basic theory and methods of 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 303-4 Perception
An introduction to the study of perceptual processes with an emphasis on seeing and hearing. Topics include the perception of features, objects, motion, depth, time, visual illusions, and individual differences in perceptual ability. (lecture/laboratory) Prerequisite: PSYC 201 and one of 221 (or 320) or 335.

PSYC 307-3 History of Psychology in Western Scholarship
Examines the development of psychological thought through theories of ontology, epistemology and ethics that laid the foundations for modern psychology. Provides a background for psychology courses by analysing how various viewpoints on the mind-body relationship, empiricism, rationalism and the nature of science contributed to the development of modern psychology. (lecture/tutorial) Prerequisite: PSYC 201 and 207 (or 308).

PSYC 311-4 Psychological Measurement
Deals with basic problems in the development of psychological measures. Treatment of the concepts of reliability and validity and the application of these concepts in experimental and observational research. Implications of measurement principles for the design of experiments and studies. Introduction to classical and contemporary methods in different content areas. (lecture/laboratory) Prerequisite: PSYC 201, 206 (or 306) and 301.

PSYC 321-3 Individual Differences in Cognitive Abilities
Surveys theoretical models and applied research on the nature of individual differences in cognitive abilities. Topics will include measurement, the biological and psychosocial origins of cognitive abilities, the relations between cognitive abilities and other behaviour, and the social implications of
different models of cognitive abilities. (lecture/tutorial) Prerequisite: PSYC 201 and 221 (or 320).

PSYC 325-4 Memory and Mind
Examination of the phenomena of memory and the retention and reproduction of information. Considers the conditions and principles of retention and recall in short- and long-term memory. (lecture/laboratory) Prerequisite: PSYC 201, and 221 (or 320).

PSYC 330-4 Attention
Survey the different aspects of paying attention. Topics include the effects of selective and divided attention on perceptual and cognitive function; the role of attention in human performance; attentional dysfunction and attention-deficit disorder; and the development of attentional capacity across the life span from newborns to the elderly. (lecture/laboratory) Prerequisite: PSYC 201 and 221 (or 320).

PSYC 353-5 Sensation
Examines the properties of the visual, auditory, olfactory, gustatory, and kinesthetic systems and receptor mechanisms with a strong emphasis on physiology. Topics include psychophysical measurement of sensations, cross-modal organization and computational modeling of sensory processes, and the interface between sensory and perceptual processes. (lecture/tutorial) Prerequisite: PSYC 201 and one of 280 or 303.

PSYC 342-0 Practicum I
First semester of work experience in the Psychology Co-operative Education program. Prerequisite: PSYC 201 and 210. Students should apply to the co-op co-ordinator one semester in advance.

PSYC 343-0 Practicum II
Second semester of work experience in the Psychology Co-operative Education program. Prerequisite: successful completion of PSYC 342-0 and 45 credit hours with a minimum CGPA of 3.0.

PSYC 354-3 Development of Children's Thinking
Examines research and theory concerning the origins and development of cognition in humans. Traces the development of language and children's thinking about the physical and social world from birth to adulthood, with a focus on infancy and childhood. Prerequisite: PSYC 201 and 250 (or 350 or 351).

PSYC 355-3 Adolescent Development
Considers human development from the end of childhood to the beginning of the adult stage, from a bio-social point of view. Included among the topics are psychological effects of sexual maturation, choice of vocation and marriage partner, effects of participation in the gang and youth organization, cultural variations in the patterns of growth. (lecture/tutorial) Prerequisite: PSYC 201 and 250 (or 350 or 351).

PSYC 356-3 Developmental Psychopathology
Examines theoretical approaches, research findings, and treatment outlooks concerning problems and disorders in childhood development. (lecture/tutorial) Prerequisite: PSYC 201, 241 (or 340), and 250 (or 350 or 351).

PSYC 357-3 Adulthood and Aging
Considers human development from young adulthood to old age. Included are theories of adult development and aging; environmental and biological factors in aging; and the effects of aging on sensation, perception, learning, cognition, personality, psychopathology, and social relations. (lecture/tutorial) Prerequisite: PSYC 201 and 250 (or 350 or 351) or acceptance into the diploma program in gerontology.

PSYC 361-3 Social Cognition
Examines research and theory on the cognitive basis of interpersonal perception and behaviour, with an underlying focus on basic processes of attention, memory and inference. Topics include architecture of memory, heuristics and biases, automaticity, probabilistic reasoning, co-variation detection, causal inference, trait inference. Such processes are used to understand self-perception, emotions, goal directed behaviour, impression formation, stereotyping and prejudice, and cultural differences. Prerequisite: PSYC 201 and 260 (or 360).

PSYC 362-3 Interpersonal Relations
Reviews theory and research on the psychology of interpersonal relations, with particular attention to personal relationships. Topics include theoretical perspectives on relationships; interpersonal attraction; dating, marriage, and friendship; social networks; cognitive processes and communication dynamics within relationships; and power and aggression within relationships. Prerequisite: PSYC 201 and 260 (or 360).

PSYC 365-3 Health Psychology
Examines applications of psychological principles to health and health care. The development of the field of health psychology is traced and major topics introduced. Topics include health promotion, the hospital experience, communication in medical settings, coping with serious illness, psychoneuroimmunology, and field-specific methodology. Prerequisite: PSYC 201 and 260 (or 360).

PSYC 369-3 Law and Psychology
Introduces students to the area of law and psychology. The role of psychology in the legal system will be discussed. Topics include: social; psychology and law, developmental psychology and law, juvenile justice, experimental psychology and law; mental disability and law, and the influence of psychology in the legal system. (lecture/tutorial) Prerequisite: PSYC 201.

PSYC 371-3 Intervention: Process and Outcome
Reviews the major approaches to psychological intervention in terms of theory, practice and outcome evaluation. The course will examine both the scientific and practitioner components of intervention. Prerequisite: PSYC 201 and two of 206 (or 306), 241 (or 340), or 270 (or 370). Students with credit for PSYC 375 may not take PSYC 371 for further credit.

PSYC 381-3 Behavioural Endocrinology
Examines the ways in which hormones influence the nervous system, regulating essential behaviours such as eating, drinking, parenting, sleep, emotional behaviour and cognitive processes. (lecture/tutorial) Prerequisite: PSYC 201 and 280.

PSYC 382-3 Cognitive Neuroscience
Examines the neurophysiological bases of cognitive and perceptual phenomena such as memory, attention, language, thinking, imagery, vision, audition, and sensory processes. The study of human cognitive performance with measurement techniques such as ERP, PET, and MRI is also discussed. (lecture/tutorial) Prerequisite: PSYC 201 and 280.

PSYC 383-3 Psychopharmacology
A survey of how psychoactive drugs affect brain function to alter consciousness and behaviour. Topics will include cellular effects of drugs that affect the central nervous system and discussions of the psychological and social effects of those drug-induced changes in the brain. Research on drug abuse and addictions and means of treating them will be examined. Historical, social and legal aspects of non-medical drug use will be discussed, as will the use of medications for the treatment of anxiety, depression, schizophrenia, dementias and other psychological disorders. (lecture/tutorial) Prerequisite: PSYC 201 and 280. Students with credit for PSYC 483 may not take PSYC 383 for further credit.

PSYC 384-3 Developmental Psychobiology
A survey of research on normal and abnormal brain development and its behavioral consequences, covering the fetal period through old age. Genetic, prenatal, nutritional, and experiential effects on brain and behavior will be discussed. Topics include: bio-developmental aspects of sensory-motor, social, linguistic, intellectual, and sexual behavior. Effects of head trauma, disease, abnormal environments, and aging will also be covered. (lecture/tutorial) Prerequisite: PSYC 201 and 280. Recommended: PSYC 250.

PSYC 385-3 Evolutionary Psychology
Topics such as altruism, parental care, mate choice, sex differences in behavior, aggression, dominance and territoriality are considered from an evolutionary perspective. The role of heredity and environment in the development of these behaviors is also discussed. (lecture/tutorial) Prerequisite: PSYC 201.

PSYC 386-4 Laboratory in Behavioural Neuroscience
An overview of techniques used for studying the brain-computational modelling of behaviour in humans and animals. Examines the logic and limitations of specific research methods. Provides an opportunity to master a set of techniques and to conduct supervised research projects in the laboratory. (lecture/lab) Prerequisite: PSYC 201 and 280. Students with credit for PSYC 481 may not take PSYC 386 for further credit.

PSYC 387-3 Human Neuropsychology
Examines the neural processes that underlie cognitive functioning and behaviour. Topics include neuroanatomy, neuropathology, brain damage, neurological diseases (e.g., schizophrenia, Alzheimer’s, Parkinson’s), and problems in spatial ability, memory, language, mood and anxiety. Prerequisite: PSYC 201 and 280.

PSYC 388-3 Biological Rhythms and Sleep
Behaviour and physiology are regulated by biological clocks, which function to synchronize the organism optimally with its environment. In this course we examine the adaptive role of clocks in animal behaviour, the neural and endocrine mechanisms of daily, monthly and yearly rhythms, and the relevance of clocks, rhythms and sleep to human performance and psychopathology. We will also consider the mechanisms and functions of sleep states. (lecture/tutorial) Prerequisite: PSYC 201 and 280. Students with credit for PSYC 488 may not take PSYC 388 for further credit.

PSYC 402-4 Selected Topics in History and Theoretical Psychology
Examines the basic ideas concerning the relationship between mind and body and the empirical and rational foundations of scientific thought as applied to modern psychology. Students will be expected to analyze either the historical development of contemporary approaches or theoretical issues that are relevant to their area of interest in psychology. (4-0-0) Prerequisite: PSYC 201, and one of 207 (or 308) or 307 and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 410-4 Research Design I
Reviews the basic logic of controlled experimentation, and focuses on analysis of variance designs commonly used in psychological research. Particular emphasis is given to the relative merits of the several designs when there are multiple research questions to be answered. (4-0-0) Prerequisite: PSYC 201, 210, 301 and 60 hours of credit with a CGPA of 3.0 or 90 hours of credit with a CGPA of 2.5.
PSYC 411-4 Research Design II
Focuses on multivariate regression and correlation models. Deals with ways of answering questions when direct experimental manipulation is not feasible, and demonstrates the utility of the principles involved for solving problems other than those for which they were first proposed. (4-0-0) Prerequisite: PSYC 201, 210, 301, and 60 hours of credit with a CGPA of 3.0 or 90 hours of credit with a CGPA of 2.5. Recommended: PSYC 410.

PSYC 415-4 Selected Topics in Measurement
An intensive exposure to selected topics in measurement theory and psychometrics including, e.g., advanced classical test theory, modern test theory, and factor analysis. The content will vary, offering to offering. (4-0-0) Prerequisite: PSYC 301, 311 and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5. Recommended: PSYC 410 and 411.

PSYC 430-4 Selected Topics in Cognition I
(4-0-0) Prerequisite: PSYC 201, 210, 221 (or 320), and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 432-4 Selected Topics in Cognition II
(4-0-0) Prerequisite: PSYC 201, 210, 221 (or 320) and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 441-4 Selected Topics in Clinical Psychology
An intensive examination of a selected topic in clinical psychology, varying to include offerings such as psychopathology (adult or child), individual differences in cognitive abilities, behavioural approaches to intervention, addiction, and other special topics. (4-0-0) Prerequisite: PSYC 201, 210, 371 (or 375) and 60 hours of credit and a GPA of 3.0, or 90 hours of credit and a GPA of 2.5. Students with credit for PSYC 444 may not take PSYC 441 for further credit if similar topics are covered. See department for further information.

PSYC 442-0 Practicum III
Third semester of work experience in the Psychology Co-operative Education program. Prerequisite: successful completion of PSYC 342 and 343 and 60 semester hours with a minimum CGPA of 3.0.

PSYC 443-0 Practicum IV
Fourth semester of work experience in the Psychology Co-operative Education program. Prerequisite: successful completion of PSYC 442 and 75 semester hours with a minimum CGPA of 3.0.

PSYC 450-4 Selected Topics in Developmental Psychology I
(4-0-0) Prerequisite: PSYC 201, 210, 250 (or 350 or 351) and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 451-4 Selected Topics in Developmental Psychology II
(4-0-0) Prerequisite: PSYC 201, 210, 250 (or 350 or 351) and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 452-4 Selected Topics in Developmental Psychology III
(4-0-0) Prerequisite: PSYC 201, 210, 250 (or 350 or 351) and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 461-4 Selected Topics in Social Cognition
(4-0-0) Prerequisite: PSYC 201, 210, 260 (or 360), 361 and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 462-4 Selected Topics in Interpersonal Relations
(4-0-0) Prerequisite: PSYC 201, 210, 260 (or 360), 362 and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 469-4 Selected Topics in Psychological Issues
(4-0-0) Prerequisite: PSYC 201, 210, 241 (or 340), 260 (or 360), 369 and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 480-4 Selected Topics in Biological Psychology I
(4-0-0) Prerequisite: PSYC 201, 210, 280, and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 482-4 Selected Topics in Biological Psychology II
(4-0-0) Prerequisite: PSYC 201, 210, 280 and 60 hours of credit and a CGPA of 3.0 or 90 hours of credit and a CGPA of 2.5.

PSYC 490-4 Honors Project
An in-depth investigation of a topic in psychology, culminating in a critical literature review and the formulation of a research proposal. (4-0-0) Prerequisite: PSYC 301 with a minimum grade of C.

PSYC 491-3 Selected Topics in Psychology (seminar)
Prerequisite: permission of the department.

PSYC 492-5 Selected Topics in Psychology (seminar)
Prerequisite: permission of the department.

PSYC 493-495-3 Directed Studies
Independent reading or research in topics selected in consultation with the supervising instructor. Prerequisite: Permission of the department. See the Directed Studies Courses section within the undergraduate Department of Psychology section.

PSYC 496-498-5 Directed Studies
Independent reading or research in topics selected in consultation with the supervising instructor. Prerequisite: Permission of the department. See the Directed Studies Courses section within the undergraduate Department of Psychology section.

PSYC 499-6 Honors Project
The research proposed in PSYC 490 is executed and the results are written up in thesis format. (6-0-0) Prerequisite: PSYC 490.

Quaternary Studies QUAT 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
Directed 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 REM Faculty of Applied Sciences
REM 100-3 Global Change
This course provides students with an overview of global environmental change and its causes from a social science perspective, historically and at the present time. Population growth, an increasing ecological footprint and changes in ideology, social organization, economy and technology will be critically reviewed. New ways of thinking in natural and social science will be considered in relation to specific issues such as land, soil and food; energy, raw materials and solid waste; air pollution and transportation; water; oceans and fisheries; climate change; forestry and biodiversity; urbanization, and alternative futures. (lecture/tutorial)

REM 311-3 Applied Ecology and Sustainable Environments
Students 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 or EVSC 200, BISC 204 or GEOG 215, STAT 101 or GEOG 251 or equivalent.

REM 356-3 Institutional Arrangements for Sustainable Environmental Management
This course provides an overview of some basic legislation, agencies, and policies which currently are in use to regulate the natural environment at the international, national, provincial, regional, and local levels. Its purpose is to present a basic set of evaluative questions which can be used to address the effectiveness and efficiency of the environmental regulatory and management systems currently in use. (lecture/tutorial) Prerequisite: REM 100.

REM 412-3 Environmental Modeling
Students receive hands-on experience in the construction and analysis of computer simulation models of environmental and ecological systems and problems. (lecture/tutorial) Prerequisite: BISC 204, REM 100 or EVSC 200, MATH 151 or 154 or 157, MATH 152 or 155, STAT 101 or 301 or equivalent.

REM 445-3 Environmental Risk Assessment and Management of Hazardous Substances
Students receive theory and practical experience in the control and management of hazardous substances in the environment. This includes the application of techniques used to assess toxicological, ecological and human health risks of contaminants within the current regulatory framework. (lecture) Prerequisite: BISC 312, CHEM 102, 115, REM 100, EVSC 200, MATH 151 or 154 or 157, MATH 152 or 155, STAT 101 or 301.

REM 471-3 Forest Ecosystem Management
In this course students will examine the problems of managing forest ecosystems for a variety of societal goals and objectives. The course will start with an examination of the ecological characteristics of forest ecosystems and their dynamics. The second section will focus on the objectives and tools of forest management in an ecological context. The final section of the course will focus on the institutions, economics and policies of forest management, with a focus on British Columbia's historical and current management issues. This course will involve lectures, group discussions, field trips and exercises, and computer labs. (lecture, tutorial, computer lab) Prerequisite: EVSC 200, 311 and 356.
Science SCI
Faculty of Science
SCI 010-1,2,3 Contemporary Topics in Natural Sciences
Members of all departments of the Faculty of Science discuss topics to give students an insight into modern science.

SCI 300-3 Science and its Impact on Society
The impact of science in our society. This course introduces upper level university students to all facets of science and their resulting technologies. Governmental policies often involve far-reaching scientific/technological decisions and this course attempts to provide a scientific perspective to help achieve rational and effective policies. (lecture/tutorial) Prerequisite: 60 credit hours. Not open to students in the Faculty of Science or the Schools of Computing Science, Engineering Science and Kinesiology.

Sociology and Anthropology SA
Faculty of Arts
Note: To assist the student in planning an interdisciplinary program, the discipline designates as listed are 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. Also to those who may be considering further work in sociology and anthropology. Topics to be considered include class structure, the nature of Canada's population, regional variation, gender relations, multiculturalism, native issues. (lecture/tutorial)

SA 101-4 Introduction to Anthropology (A)
An introduction to the study of human social and cultural life from an anthropological perspective. The course will explore the scope and nature of the discipline of anthropology through study of selected cases drawn from both technologically simple communities and complex modern industrial societies. (lecture/tutorial) Students with credit for SA 170 may not take SA 101 for further credit.

SA 141-0 Sociology and Anthropology Practicum (SA)
This is the first semester of work experience in the Co-operative Education Program in sociology and anthropology. It is meant to be exploratory in nature. Prerequisite: 29 semester credit hours with a minimum cumulative GPA of 2.75 including SA 101, 150, 201 or 250, 255 and one of SA 202, 203, 263. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the semester preceding the employment semester.

SA 150-4 Introduction to Sociology (S)
The study of basic concerns of sociology, such as social order, social change, social conflict and social inequality. (lecture/tutorial)

SA 201-4 Anthropology of Contemporary Life (A)
An introduction to the anthropological perspective as applied to contemporary social and cultural issues and settings. Topics may include: urban anthropology; work and leisure; belief systems; medical anthropology; and problems of policy relevant research. (lecture/tutorial) 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 commodification of leisure are explored. (lecture/tutorial) Prerequisite: SA 150. Students with credit for SA 315 may not take SA 216 for further credit.

SA 218-4 Illness, Culture and Society (SA)
The study of sociocultural factors related to health and illness. Focus will be on patterns of health seeking activity, systems of health care, causal and symbolic factors involved in physical and mental illness, and the medicalization of life in contemporary society. The disciplinary focus of the course will vary from semester to semester. (lecture/tutorial) Prerequisite: SA 101 or 201 or 150. Students with credit SA 460 when offered as Medical Anthropology may not take SA 218 for further credit.

SA 231-4 Sociology of Families (S)
An examination of families and households in social, cultural, political and economic context. This course focuses on the diversity of family forms in contemporary societies (particularly Canada) in relation to various social institutions and processes, including demographic trends, ideology, the economy, the state and social policies. (lecture) Prerequisite: SA 150.

SA 241-0 Sociology and Anthropology Practicum II (SA)
This is the second semester of work experience in the Co-operative Education Program in sociology and anthropology. Building on the experiences of the first employment semester, this semester will provide a work experience that integrates theory and practice of the social sciences. Prerequisite: successful completion of SA 141 and normally the completion of at least 45 semester credit hours with a minimum cumulative GPA of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the semester preceding the employment semester.

SA 245-4 Cultures and Images (A)
This course introduces students to the principles and practices of visual anthropology through exploring the creation, circulation, and consumption of images among and between members of diverse cultures in the contemporary world. Topics to be covered include the use of photographs, film and video as a tool in ethnographic research; the use and implications of new information technologies; the 'reading' of photographs, film and video from an anthropological perspective; the emergence and development of non-Western visual media. (lecture/tutorial) Prerequisite: SA 101.

SA 250-4 Introduction to Sociological Theory (S)
An account of sociological theory, outlining the main ideas and concepts of the principal schools of thought. (lecture/tutorial) Prerequisite: SA 150.

SA 255-4 Introduction to Social Research (SA)
An introduction to the conduct of sociological and anthropological research. Topics covered include: the relationship between theory and research, concept formation, operationalization, exploratory studies, hypothesis generation and testing, data collection techniques within both sociology and anthropology, the assessment of causality, the critical evaluation of research on both theoretical and methodological grounds, the definition of research problems, and ethical issues in social research. (lecture/tutorial) Prerequisite: SA 101 or 150. Students with credit for POL 213 may not take SA 255 for further credit.

SA 260-4 Individual and Society (S)
An examination of how self and identity (e.g., race, class, gender, sexual orientation) are socially derived within contemporary western culture, and of the ways that individuals shape their social environment. (lecture/tutorial) Prerequisite: SA 150.

SA 263-4 Peasants, Proletarians and the Global Economy (A)
An introduction to the anthropology of peoples in agrarian and newly industrializing societies. Topics may include: relations between peasants and others in agrarian societies, transformation of peasants into urban proletarians; sources of social differentiation and increasing poverty and unrest. (lecture/tutorial) Students with credit for SA 280 may not take SA 263 for further credit. Recommended: SA 101.

SA 275-4 Asian Societies (SA)
An introduction to the societies of a selected region of Asia. The course will regularly be offered with a focus on Southeast Asia, but from time to time during other semesters will also be offered with a focus on East Asia or South Asia. (seminar) Prerequisite: SA 101 or 150.

SA 286-4 Aboriginal Peoples and British Columbia: Introduction (A)
Investigates contemporary social organization, cultural expression, and political representation among Aboriginal peoples in the province of British Columbia within an ethnohistorical framework. Topics may include: land rights, law, gender relations, inter-cultural relations; policy studies in education, health, justice, social and economic development; indigenous knowledge; Aboriginal art, media and performance. Emphasis may differ from semester to semester. (lecture/tutorial) Students with credit for SA 140 may not take SA 286 for further credit. Recommended: SA 101.

SA 292-4 Special Topics in Sociology (S)
An introduction to the discipline and perspective of sociology through analysis of an issue, process or problem with topical interest or general relevance. (lecture/tutorial)

SA 293-4 Special Topics in Anthropology (A)
An introduction to the discipline and perspective of anthropology through analysis of an issue, process or problem with topical interest or general relevance. (lecture/tutorial) Recommended: SA 101.

SA 294-4 Special Topics in Sociology and Anthropology (SA)
Topical 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 social and historical development, including the agrarian question, women and development, and the relationship between society and the economy. The role of the state in these processes will be examined. (seminar) Prerequisite: SA 101 and one second year sociology (S) or sociology/anthropology (SA) course. Recommended: SA 150.

SA 301-4 Contemporary Ethnography (A)
A consideration of key themes in contemporary ethnography. This course addresses theoretical and methodological questions by examining the work of contemporary anthropologists conducting research in diverse locations around the world. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293. Students with credit for SA 370 may not take SA 301 for further credit.

SA 303-4 Ethnic Conflicts (SA)
An analysis of the origins, expression and attempted solutions of conflicts in ethnically divided societies. Depending upon the area of focus, such contentious issues as education, political representation, religious divisions, labor policies, and formal and informal mechanisms of segregation will be considered. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course. Recommended: SA 203.

SA 304-4 Social Control (S)
This course examines the social control mechanisms that interfere with the organization of control (formal and informal) in both individuals and society. It will investigate how control takes form, how it functions, the ideologies supporting it, and how the resistance it produces. We will ask the following questions: who are the agents of social control; who or what do they control; and how do they control? (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course.

SA 315-4 New Information Technology and Society (S)
Explores the new social spaces and social practices fostered by new information technology. Special attention will be paid to who is making decisions about what technologies to adopt and how, what changes are resulting, and who benefits and who loses. A significant portion of activity in this course will involve direct engagement with new information technology. (seminar) Recommended: SA 150.

SA 316-4 Tourism and Social Policy (SA)
An examination of tourism from the perspectives of sociology and anthropology, focusing primarily upon the social and cultural impacts of tourism and the social policy implications of tourism development in different societies. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course.

SA 318-4 The Anthropology of Medicine (A)
An examination of the social and ideological organization of health and healing. The role of medicine as a mediator between society and the body will be considered through an examination of the socio-cultural underpinnings of 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 sociology and medicine; gender, age, class, and ethnic identity. (seminar) Prerequisite: SA 101. Recommended: SA 218 is highly recommended.

SA 319-4 Culture, Ethnicity and Aging (SA)
An examination of the effects of culture and ethnicity on the aging process and the treatment of the aged. Although the orientation of the course is cross-cultural and comparative, particular emphasis will be placed on the social aspects of aging among various ethnic groups in contemporary Canada. (lecture/seminar) Prerequisite: SA 101 or 150 and either one second year sociology (S) or sociology/anthropology (SA) course, or acceptance into the gerontology diploma program.

SA 320-4 Population and Society (SA)
A study of the reciprocal influence of population and social structure and demographic attempts to use population variables in social explanation; a discussion of cultural and institutional influences on human populations with respect to fertility, mortality and migration. (lecture/seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course.

SA 321-4 Social Movements (S)
A study of the sources, development and effects of social movements in transitional and modernized societies. Specific types of movements will be analysed. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course.

SA 322-4 Sociology of Religion (S)
An examination of the development and social impact of religious institutions in modern industrial societies. Consideration will be given to classical theoretical approaches to the sociology of religion, and further topics which may be considered include: denominational religion in Britain and North America; the secularisation thesis; the relationship between science and religion; the organization, structure and social appeal of sectarian groups in contemporary society. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course.

SA 323-4 Symbol, Myth and Meaning (A)
An examination of mythology in a cosmological context. 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 the process of political socialization. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course.

SA 326-4 Ecology and Social Thought (S)
An examination of recent social thought that is concerned with environmental and ecological themes. It will address a selection from the following topics: technology and environment; technology and science as ideology; ecology and social inequality; the concepts of ecosystem, environment and wilderness; the self-world relationship; politics of environmental uses; environment and the economy. (seminar) Prerequisite: SA 250 or equivalent second year course in a cognate discipline.

SA 327-4 Sociology of Knowledge (S)
An examination of sociological theories concerning the interaction of social structures, and meaning and belief systems. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course.

SA 328-4 Political Economy of Latin American Development
This is a survey course which introduces students to the various theoretical approaches which have been used since the 1950's to understand the political economy of Latin American development. It deals with some of the classic theories of modernization, dependency, world systems, and modes of production analysis. The last unit of the course is devoted to the most contemporary issues of Latin American development, such as the agrarian question, women and development, problems of urbanization and the informal sector. (lecture/seminar) Prerequisite: LAS 200 and either ECON 102 or 105 or permission of the instructor. This course is identical to LAS 318 and POL 383 and students cannot take more than one of these courses for credit.

SA 331-4 Politics of the Family (S)
A sociological examination of the contested nature of contemporary domestic and intimate relations. The course will focus on debates arising from equality movements (e.g. gender, sexuality, race), and may be examined in the context of childhood and child rearing; the institutional arrangements established for children and youth and the impact that these have on children, families, and society; the social construction of child and youth cultures. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293.

SA 332-4 The Anthropology of Childhood (A)
A cross-cultural examination of the social and cultural relations that shape childhood in different settings. Topics to be considered could include: the social definition of childhood and child rearing; the institutional arrangements established for children and youth and the impact that these have on children, families, and society; the social construction of child and youth cultures. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course.

SA 333-4 Schooling and Society (S)
A sociological examination of the nature of the education system and its relationship to major social institutions in Western industrial societies, in particular Canada. Topics studied may include: the classroom, teachers, student culture, bureaucratization, inequality, employment, and social policy. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course. Students with credit for SA 292 (when offered as gender relations) or WS 308 may not take SA 335 for further credit. Recommended: WS 203.

SA 340-4 Social Issues and Social Policy Analysis (SA)
An examination of how sociological and anthropological theories and methods can be applied to the study 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 352-4 Games, Sports and Cultures (A)
An anthropological examination of games and sports in cross-cultural perspective. Particular attention will be given to the social construction of games and athletic activities as well as the cultural, political and aesthetic meanings attached to these. Topics that may be examined include: the embodiment of culture in sporting activities; the impact of inter-cultural contact and globalization on games and sport; the shaping of gender, class and ethnic identities through sport involvement; appropriate methodologies for producing sport ethnographies. (seminar) Prerequisite: one of SA 101, 150, 201 or consent of instructor.

SA 355-4 Quantitative Methods (SA)
An examination of measurement issues within sociological and anthropological research, focusing on the logical and conceptual construction and interpretation of tables, and an examination of the uses and abuses of statistics. Through an introduction to "hands on" use of the computer, this course emphasizes the applications, rather than the mathematics, of statistics. (seminar) Prerequisite: STAT 203 or equivalent and SA 255 or POL 213. Students with credit for SA 355 may not take POL 315 for further credit.

SA 356-4 Ethnography and Qualitative Methods (SA)
An examination of qualitative field methods, including participant observation, interviewing, archival research, cross-cultural research, life histories, network analysis, mapping, and ethical problems of fieldwork. (seminar) Prerequisite: SA 255 and 101 or 201.

SA 358-4 The Philosophy of the Social Sciences (SA)
An analysis of the nature of explanation in the social sciences: "mind" and action, positivist and interpretive modes of explanation, sociological and historical explanation, objectivity, forms of relativism, the concept of rationality. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course. Recommended: SA 250 and 255.

SA 360-4 Special Topics in Sociology and Anthropology (SA)
A seminar exploring a topic not regularly offered by the department. The disciplinary designation will change to reflect specific topics; refer to each semester's course outline. (seminar) Prerequisite: SA 101 and 150, plus one second year sociology (S), anthropology (A) or sociology/anthropology (SA) course.

SA 362-4 Society and the Changing Global Division of Labor (S)
An examination of the social and political implications of the global economy. Topics to be considered include the influence of neo-liberal economics, the decline of the national welfare state, transnational political agencies and public policy, the internationalization of culture, the global labor market, and the role of international organizations. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course. Recommended: SA 202.

SA 363-4 Processes of Development and Underdevelopment (SA)
An examination of sociological and anthropological theories of development and underdevelopment as applied to the Third World. The nature and consequences of world system linkages; colonialism and decolonization; patterns of social change in selected societies and regions. (seminar) Prerequisite: SA 250 or 101 and one of SA 201, 263, 286 or 293. Recommended: SA 263.

SA 364-4 Urban Communities and Cultures (SA)
Anthropological approaches to urbanization, the nature of the city as a social system, and urban cultures and lifestyles. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293. Students with credit for SA 464 may not take SA 364 for further credit.

SA 365-4 Selected Regional Areas (SA)
An examination of selected aspects of the social structure, culture and the processes of social change in varying regional areas. The focus will vary from semester to semester. (seminar) Prerequisite: SA 101 and an appropriate second year course or consent of the instructor.

SA 371-4 The Environment and Society (SA)
An examination of environmental issues in their social context. Environmental issues are on the leading edge of contemporary public concern and public policy debates. This course will examine such issues as the relationship between social organization and mode of subsistence, the politics of hunger, and the way in which human societies in their particular social, historical, and cultural contexts view and interact with the natural world. Content may differ from semester to semester. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293.

SA 374-4 South Africa: Socio-Political Development (SA)
An exploration of the socio-political transformation of South Africa and the legacy of apartheid. Inter-ethnic relations and nation-building are compared with nationalist conflicts in other divided societies; constitutional experiments with power sharing and corporatism are assessed. (seminar) Prerequisite: SA 101 or 150 and one second year sociology (S) or anthropology (A) course, or permission of instructor. Students with credit for SA 477 may not take SA 374 for further credit.

SA 386-4 Native Peoples and Public Policy (SA)
An examination of relations between Natives and non-Natives, indigenous peoples and governments in Canada. The consequences of these relations for the lives of Native peoples. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 and 293.

SA 387-4 Canadian Native Peoples (SA)
The study of traditional and contemporary Canadian Native peoples. The focus of the course will vary from semester to semester. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293.

SA 388-4 Comparative Studies of Minority Indigenous Peoples (SA)
The social and cultural patterns of aboriginal populations within and between nation-states. Their relations with majority societies and with other indigenous groups across the world. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293.

SA 392-4 Latin America (SA)
An introduction to the peoples and institutions of Latin America. 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 course is identical to LAS 392 and students cannot take both courses for credit.

SA 396-4 Selected Regional Areas (SA)
An examination of selected aspects of social structure, culture and processes of social change in a specific regional area. The focus will vary from semester to semester. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293.

SA 400-4 Canadian Ethnic Minorities (SA)
An analysis of specific Canadian ethnic minorities. The groups will be studied in the context of the wider literature of race relations and ethnicity. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course. Students with credit for SA 401 prior to the Fall of 1987 may not take this course for further credit. Recommended: SA 203 and 300.

SA 402-4 The Practice of Anthropology (A)
An examination of the ways in which anthropology and ethnography may be used to affect action in the world. Topics may include: advocacy anthropology; the development and practice of applied anthropology; the emergence of anthropology and ethnography and the arts. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293. Recommended: at least two upper division courses in anthropology.

SA 403-4 Special Topics: Latin American Economy and Society
This seminar will be taught co-operatively by LAS associated faculty or by a visiting professor. A topic will be chosen which can be examined profitably from a multidisciplinary perspective. (seminar) Prerequisite: LAS 200. This course is identical to LAS 403 and students cannot take both courses for credit.

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 (S) or sociology/anthropology (SA) course.

SA 420-4 Sociology of Aging (SA)
The structural and behavioral implications of aging. Topics included will be: demographic aspects of aging; the relationship of aging to political, economic, familial and other social institutions; the psychological significance of aging. (lecture/seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course, or acceptance into the diploma program in gerontology.

SA 435-4 Gender, Colonialism, Post-colonialism (SA)
An ethnographically grounded study of the social and cultural construction of gender, and the ways in which it is experienced and embodied in the colonial and post-colonial world. The socio-historical conjunctures affecting women and men across the world will be explored at multiple sites: health, economy, media, law, development, policy, among others. Central to these concerns is the understanding of gender as a process and identity formulated at intersecting fields of knowledge and power. Prerequisite: SA 101, 250, and one of SA 201, 263, 286 or 293. Students who have taken SA 463 prior to 1999 may not take SA 435 for further credit. Recommended: SA 363.

SA 441-0 Sociology and Anthropology Practicum IV (SA)
This is the last semester of work experience in the Co-operative Education Program in sociology and anthropology. The work experience will require a high level of expertise in both theoretical conceptions and practical endeavors. Prerequisite: successful completion of SA 341 and normally the completion of at least 77 semester credit hours with a minimum
cumulative GPA of 2.75. Students should apply to the Faculty of Arts co-op co-ordinator by the end of the third week of the semester preceding the employment semester.

SA 447-4 Selected Issues in Social Policy Analysis (SA)
An advanced seminar devoted to an in-depth examination of an issue or topic in the field of social policy analysis which is not regularly offered by the department. (seminar) Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course (or permission of the instructor). Recommended: SA 340.

SA 450-4 Advanced Sociological Theory (S)
A senior seminar on current perspectives in sociological theory. Emphasis will differ from semester to semester. (seminar) Prerequisite: SA 350, 90 credit hours, a GPA of at least 3.25 and consent of the instructor.

SA 451-4 Issues in Anthropological Theory (A)
A senior seminar on current perspectives in anthropological theory. Emphasis will differ from semester to semester. (seminar) Prerequisite: SA 301, 90 credit hours, a GPA of at least 3.25 and consent of the instructor.

SA 455-4 Special Topics in Applied Social Research (SA)
An advanced seminar devoted to special topics in applied social research. (seminar) Prerequisite: SA 255 and SA 355 or 356.

SA 460-4 Special Topics in Sociology and Anthropology I (SA)
An advanced seminar devoted to an in-depth examination of a topic not regularly offered by the department. The disciplinary designation will change to reflect specific topics; refer to each semester’s course outline. (seminar) Recommended: at least two upper division courses in sociology and/or anthropology.

SA 463-4 Special Topics in Development Studies (SA)
An examination of processes of social change in selected Third World societies. Topics will change from semester to semester, but may include: liberation movements and colonialism, the comparative study of post-revolutionary societies; the persistence, transformation and disappearance of contemporary pleasantries; directed change programs. (seminar) Prerequisite: SA 250 or 101 and one of SA 201, 263, 286 or 293. Recommended: SA 363.

SA 472-4 Anthropology and the Past (A)
Anthropologists frequently turn to historical documents (traveller’s reports, missionary archives, etc.) in order to reconstruct the nature of past societies; likewise, every society has a sense of its own past and represents it in its own way. This course examines the relation between history and anthropology. Content may include: the use of historical material in anthropological research; construction of traditional knowledge as a cultural process; history and the politics of culture; the relation between individual and collective memory. (seminar) Prerequisite: SA 301 or 350, or consent of the instructor.

SA 486-4 Aboriginal Peoples and British Columbia: Advanced Seminar (A)
An opportunity for senior undergraduates to participate in a seminar concentrating on particular subjects of interest in the fields of social and cultural research among Aboriginal peoples in British Columbia. The course will focus on special topics that will differ from semester to semester. This may include: historical ethnography; policy issues and debates; economic and social development; political and legal relations; gender and generational relations; health and healing; ethnographic film; arts, literature and popular culture; cultural performance; oral tradition; exhibition and representation; cultural property. (seminar) Prerequisite: SA 101 and one of SA 201, 263, 286 or 293. Recommended: SA 286.

SA 496-4 Directed Readings in Anthropology (A)
Directed readings in a selected field of study under the direction of a single faculty member. A paper will be required. Prerequisite: SA 101 and one of SA 201, 263, 286 or 293. Students with credit for SA 497 may not take SA 496 for further credit.

SA 497-4 Directed Readings in Sociology (S)
Directed readings in a selected field of study under the direction of a single faculty member. A paper will be required. Prerequisite: SA 150 and one second year sociology (S) or sociology/anthropology (SA) course. Students with credit for SA 496 may not take SA 497 for further credit.

SA 498-8 Field Study in Sociology and/or Anthropology
Advanced field project in a research setting. Admission dependent on availability of appropriate field placements and departmental supervisory capacity. Prerequisite: completion of all major course requirements with the exception of SA 301 for anthropology majors and SA 350 for sociology majors, which may be taken concurrently.

SA 499-8 Honors Essay (SA)
An honors essay to be written under the direction of a member of faculty, a copy of which is to be permanently lodged with the department. On completion, the essay is to be defended orally in a departmental seminar.

Spanish SPAN
Faculty of Arts
Department of Linguistics
Language Training Institute
Students with a competence in the language beyond the level of the course in which they are registered will be required to withdraw. Students who are not sure of their language level are responsible for seeing that their level of proficiency is assessed prior to registration in the course. Inquire at the Language Training Institute general office for the procedure to be followed.

SPAN 102-3 Introductory Spanish I
Acquisition of spoken fluency and elementary reading facility. This course is for all students who have not previously taken Spanish and for those whose proficiency in Spanish is not judged adequate for more advanced courses. (tutorial/laboratory)

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 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 expression. (lecture/tutorial) Prerequisite: SPAN 303 or equivalent.

SPAN 305-3 Spanish for Business
This course will provide advanced level students and professionals with the specialized and technical vocabulary needed to function in the business world. Cultural aspects involved in dealing with business in Spanish America will also be studied. (0-3-0) Prerequisite: SPAN 202.

Statistics STAT
Faculty of Science
See also courses listed under Actuarial Mathematics (ACMA) (page 223), Mathematics and Computing Science (MACM (page 283) and Mathematics (MATH) (page 281).

Open Workshop for STAT Courses
(see courses marked with ** below)
Some introductory and service courses are organized through the department’s open workshops. In addition to regularly scheduled lectures, students registered in these courses are encouraged to come to the workshops for assistance with problems and questions any time during posted working hours. At the workshop students will have the opportunity to meet with the co-ordinator, the teaching assistants and other students, and work together to understand statistics in a friendly and helpful environment.

Statistics Workshop
STAT 101, 203, 270, 201, 302
K9516 Shrum Science Centre (inside K9510)
Mr. R. Insley

Beginning Level Requirements in Statistics
Students considering registering in a statistics course who do not have BC high school mathematics 11 (or equivalent) must see the co-ordinator of the basic math workshop (as described under Mathematics in the Undergraduate Courses section). These students may take the non-credit basic math course, basic algebra, offered through the Department of Mathematics and Statistics.

Students who are unsure of their level of preparation are strongly encouraged to take the free math assessment test at the Basic Math Workshop, K9505 or Simon Fraser University at Harbour Centre. Students should make certain that they discuss the test results with the lab instructor in the Basic Math Workshop, or her designate.

Minimum Grade Requirement in Prerequisites for STAT Courses
Students enrolled in courses offered by the Department of Statistics and Actuarial Science must have obtained a grade of C- or better in prerequisite courses.

Some experience with a high level programming language is recommended by the beginning of the second year.

No student may take, for further credit, any course offered by the Department of Statistics and Actuarial Science which is a prerequisite.

STAT 100-3 Chance and Data Analysis
An introduction to chance phenomena and data analysis through simulation and examination of real world contexts including sports, investment, lotteries and environmental issues. (3-0-1) Recommended:
This course should not be taken by students who have 60 or more credits.

**STAT 101-3 Introduction to Statistics**
An introductory course in the collection, description, analysis and summary of data, including the concepts of frequency distribution, parameter estimation and hypothesis testing. (3-0-1) Students with credit for ARCH 376, 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 103), 301, MATH 101 or 102 may not take STAT 101 for further credit.

**STAT 201-3 Statistics for the Life Sciences**
An introductory course in research methodology and associated statistical analysis techniques for students with training in the life sciences. (3-1-0) Prerequisite: 30 credit hours. Students with credit for STAT 101, 102, 203 (formerly 103), 270 (formerly MATH 272) or 301 may not take STAT 201 for further credit.

**STAT 203-3 Introduction to Statistics for the Social Sciences**
An introductory course in descriptive and inferential statistics aimed at students in the social sciences. Scales of measurement. Descriptive statistics. Measures of association. Hypothesis tests and confidence intervals. (3-0-1) Students in Sociology and Anthropology are expected to take SA 255 before this course. Students with credit for ARCH 376, 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. Recommended: a research methods course such as SA 255, CRIM 120, POL 213 or equivalent is recommended.

**STAT 270-3 Introduction to Probability and Statistics**
Basic laws of probability, sample distributions. Introduction to statistical applications. (3-0-1) Prerequisite: MATH 152 or 155 or 158 must precede or be taken concurrently. Students with credit for MATH 371 or 272 may not take STAT 270 for further credit.

**STAT 280-3 Applied Probability Models**
Review of elementary probability models. Conditional probability and conditional expectation. Fitting and testing adequacy of models. Applications to production management and quality control. Introduction to simple Markov chains, Poisson processes, inventories and queues. Reliability models including lifetime analysis and circuit configuration. (3-1-0) Prerequisite: STAT 270 or MATH 272.

**STAT 290-3 Selected Topics in Probability and Statistics**
Topics in areas of probability and statistics not covered in the regular undergraduate curriculum of the department. Prerequisite: dependent on the topic covered.

**STAT* 302-3 Analysis of Experimental and Observational Data**
The standard techniques of multiple regression analysis, analysis of variance, and analysis of covariance, and their role in experimental research. (3-0-1) Prerequisite: STAT 101 (or MATH 101) or STAT 102 (or MATH 102) or STAT 203 (formerly 103) or STAT 270 (or MATH 272) or STAT 301 or ARCH 376 or BUEC 232 (formerly 332). Students with credit for MATH 302 may not take STAT 302 for further credit. Mathematics major and honors students may not use this course to satisfy the required number of 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 analyzing experimental and survey results. Statistical model building. Foundations of experimental design. (3-1-0) Prerequisite: MATH 232 and STAT 270 (MATH 272). Students with credit for MATH 372 may not take STAT 330 for further credit.

**STAT 340-3 Statistical Quality Control**
Design and implementation of control charts and alternatives, process capability analysis, acceptance sampling procedures, and related quality management principles and standards. (3-0-0) Prerequisite: STAT 330 (or MATH 372) or other course in statistics subject to instructor approval. Students with credit for the former course, STAT 440, may not take STAT 340 for further credit.

**STAT 350-3 Linear Models in Applied Statistics**

**STAT 380-3 Introduction to Stochastic Processes**

**STAT 390-3 Selected Topics in Probability and Statistics**
Topics in areas of probability and statistics not covered in the regular undergraduate curriculum of the department. (3-1-0) Prerequisite: dependent on the topic covered.

**STAT 402-3 Generalized Linear and Nonlinear Modelling**
A skills oriented unified approach to a broad array of non-linear regression modelling methods including classical regression, logistic regression, probit analysis, dilution assay, frequency count analysis, ordinal-type responses, and survival data. (3-1-0) Prerequisite: STAT 302 or STAT 350.

**STAT* 403-3 Intermediate Sampling and Experimental Design**
A practical introduction to useful sampling techniques and intermediate level experimental designs. (3-0-3) Prerequisite: STAT 302 or 330. Students with credit for STAT 410 or 430 may not take STAT 403 for further credit. Mathematics major and honors students may not use this course to satisfy the required number of semester hours of upper division elective credits. However, they may include the course to satisfy the total number of required hours of upper division credit.

**STAT 410-3 Statistical Analysis of Sample Surveys**
An introduction to the major sample survey designs and their mathematical justification. Associated statistical analyses. (3-0-3) Prerequisite: STAT 330 (or MATH 372) or permission of the instructor. Students with credit for MATH 304 may not take STAT 410 for further credit.

**STAT 420-3 Non-Parametric Statistics**
Non-parametric statistics concerns methods which do not involve special assumptions of parent distributions: tests based on the binomial distribution, contingency tables and chi-squared test; tests for two or more samples based on ranks and rank correlation statistics. (3-0-0) Prerequisite: STAT 330 (or MATH 372) or permission of the department. Students with credit for MATH 473 may not take STAT 420 for further credit.

**STAT 430-3 Statistical Design and Analysis of Experiments**
An extension of the designs discussed in STAT 330 to include more than one blocking variable, incomplete block designs, fractional factorial designs, and response surface methods. (3-1-0) Prerequisite: STAT 350 (or MATH 372). Students with credit for MATH 404 may not take STAT 430 for further credit.

**STAT 450-3 Statistical Theory**
Distribution theory, methods for constructing tests, estimators, and confidence intervals with special attention to likelihood methods. Properties of the procedures including large sample theory. (3-1-0) Prerequisite: STAT 350. Students with credit for MATH 472 may not take STAT 450 for further credit.

**STAT 460-3 Bayesian Statistics**
The Bayesian approach to statistics is an alternative and increasingly popular way of quantifying uncertainty in the presence of data. This course considers comparative statistical inference, prior distributions, Bayesian computation, and applications. (3-1-0) Prerequisite: STAT 350. Students with credit for MATH 475 may not take STAT 460 for further credit.

**STAT 490-3 Selected Topics in Probability and Statistics**
Topics in areas of probability and statistics not covered in the regular undergraduate curriculum of the department. (3-1-0) Prerequisite: dependent on the topic covered.

**STAT 495-3 Directed Studies in Probability and Statistics**
Independent reading or research on consultation with the supervising instructor. Prerequisite: written permission of the department undergraduate studies committee.

**Women’s Studies WS 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 at SFU may not take WS 101 for further credit.

**WS 102-3 Introduction to Western Feminisms**
An historical and comparative survey of feminism in the 20th century in Western Europe and North America. (lecture/tutorial) Students who have taken WS 100 at SFU 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 relation to the health care system in Canada as practitioners, users, researchers and objects of medical treatment and research. Among the topics discussed will be the medical model, the privatization of health care, the medicalization of daily life including reproduction, and feminist alternatives to the medical system. (lecture/tutorial) Prerequisite: one of WS 101 or 102 (may be taken concurrently). Students who have taken WS 001 may not take WS 206 for further credit.

WS 207-3 Introduction to Feminist Theory
A study of concepts, controversies and processes of feminist social theory. (lecture/tutorial) Prerequisite: WS 101 or 102 (may be taken concurrently).

WS 208-3 Researching Women's Issues: How Do We Do What We Do?
Introduces students to the researching of women's issues while exploring a wide range of feminist and non-feminist methodologies. In addition, the course will explain how feminist research methods differ from traditional research methods in the social and natural sciences. (lecture/tutorial) Prerequisite: WS 101 or 102 or may taken concurrently.

WS 301-303-4 Special Topics in Women's Studies
A specific topic within the field of women's studies, not otherwise covered in depth in regularly scheduled courses, will be dealt with as occasion and demand warrant. (lecture/seminar) 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/seminar) 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/seminar) 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/seminar) 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/seminar) 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. (lecture/seminar) Prerequisite: six credits in women's studies including WS 101 and/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 theories and planning practices - local, national and international. (lecture/seminar) Prerequisite: six credit hours in women's studies including WS 101 and/or 102. Students who have taken WS 301 Special Topic: Women and Development or WS 301 Special Topic: Gender and Development may not take this course for further credit.

WS 310-4 Special Topics in Women's Studies
A specific topic within the field of women's studies, not otherwise covered in depth in regularly scheduled courses, will be dealt with as occasion and demand warrant. (lecture/seminar) Prerequisite: 60 credit hours.

WS 313-4 Women and the Environment
Examines women's participation in environmentalism. Among the topics discussed will be the nature/nurture debate, the roots of environmentalism, ecofeminism and reproductive rights. (lecture/seminar) Prerequisite: six credits of women's studies including WS 101 and/or WS 102. Students who have taken this course as a women's studies special topics course may not register for WS 313.

WS 314-4 Race, Class, and Gender Relations
An examination of feminist, Marxist and anti-racist theories pertaining to the historical development, social construction, and interactive nature of race, class and gender relations. (lecture/seminar) Prerequisite: six credits in Women's Studies, including WS 101 and/or 102. Students who have taken WS 301 or 310 as Special Topics: Race, Class and Gender may not take this course for credit.

WS 320-4 Special Topics in Women's Studies
A specific topic within the field of women's studies, not otherwise covered in depth in regularly scheduled courses, will be dealt with as occasion and demand warrant. (lecture/seminar) Prerequisite: 60 credit hours.

WS 400-4 Methodological Issues in Women's Studies
A study and critique of the assumptions of existing disciplines as they refer to the study of women. This course is designed as corrective and supplemental to the various disciplines as they are currently taught. (seminar) Prerequisite: 60 credit hours including two women's studies courses, one of which must WS 101 or 102.

WS 401-5 Research Project
Individual or small group studies of community problems. The students will submit a 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 404-4 Theoretical Issues in Women's Studies
A study and critique of feminist theories as they apply to the study of women. Each offering of the course will focus on a particular subset of feminist theories and applications. (seminar) Prerequisite: 60 credit hours including two Women's Studies courses, one of which must be WS 101 or 102. Students who have taken WS 311 or 411 may not take this course for further credit when it is subtitled Feminist Psychoanalytic Theories.

WS 412-5 Women and Film
An examination of film theory and practice from a feminist perspective. (seminar) Prerequisite: 60 credit hours including two women's studies courses, one of which must be WS 101 or 102.

WS 421-0 Practicum I
First semester of work experience in the Women's Studies Co-operative Education Program. Prerequisite: 30 credit hours with a CGPA of 3.0; WS 101, 102 and two 200 division women's studies courses. Students should apply to the Faculty of Arts co-operative education co-ordinator by the end of the third week of the semester preceding the employment semester.

WS 422-2 Practicum 2
Second semester of work experience in the Women's Studies Co-operative Education Program. Prerequisite: 45 credit hours with a CGPA of 3.0; WS 101, 102 and two 200 division women's studies courses. Students should apply to the Faculty of Arts co-operative education co-ordinator by the end of the third week of the semester preceding the employment semester.

WS 423-3 Practicum 3
Third semester of work experience in the Women's Studies Co-operative Education Program. Prerequisite: 60 credit hours with a CGPA of 3.0; WS 101, 102 and two 200 division women's studies courses. Students should apply to the Faculty of Arts co-operative education co-ordinator by the end of the third week of the semester preceding the employment semester.

WS 424-4 Practicum 4
Fourth semester of work experience in the Women's Studies Co-operative Education Program. Prerequisite: 90 credit hours with a CGPA of 3.0; WS 101, 102 and two 200 division women's studies courses. Students should apply to the Faculty of Arts co-operative education co-ordinator by the end of the third week of the semester preceding the employment semester.
Graduate Studies

Dean J.C. Driver, MA (Camb), PhD (Cal)
Tel (604) 291-4255
Fax (604) 291-3080
Calendar Changes and Corrections
The Board of Governors and the Senate of Simon Fraser University reserve the right to make changes in this Calendar without prior notice. This Calendar is printed to provide students and others with information about Simon Fraser University. The University considers this Calendar to be accurate at the time of printing. In the event of errors, the actual courses, curricula, policies, procedures, regulations and requirements in effect will prevail over the provisions printed in the Calendar. In addition, the policies, procedures, programs, regulations and requirements are constantly being reviewed and revised. Any such revision may be made by Simon Fraser University without notice and shall take effect at the time of the revision unless a later date is specified when the revision is adopted. Simon Fraser University will endeavor to give the University community as much notice of the revision as it considers the circumstances permit, and will endeavor to incorporate the revision in the next printing of the Calendar. Revisions include additions, cancellations and deletions as well as changes.
Graduate General Regulations

Academic Honesty
All members of the University community share the responsibility for the academic standards and reputation of the University. Academic honesty is a cornerstone of the development and acquisition of knowledge. Academic honesty is a condition of continued membership in the university community. Academic dishonesty, like other forms of dishonesty, is misrepresentation with intent to deceive or without regard to the source or the accuracy of statements or findings. Academic dishonesty, in whatever form, is ultimately destructive of the values of the University; it is, furthermore, unfair and discouraging to the majority of students who pursue their studies honestly. Scholarly integrity is required of all members of the University.

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

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

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

1.1 Degrees Offered
Listed under each faculty.

1.2 Administration of Graduate Studies

Dean of Graduate Studies
The dean is responsible for the general supervision of graduate work at the University and chairs the senate graduate studies committee.

Assistant Director, Graduate Studies
The assistant director, graduate studies is responsible for registration of students, assessment of fees, maintenance of records, and other administrative duties.

Supervisory Committee (see 1.6.4)
The student's supervisory committee helps the student define and develop a program of studies and reports on the student's progress to the graduate program committee. The supervisory committee forms part of the student's final examination committee.

Graduate Program Committee
The graduate program committee is responsible for recommending admission, reviewing the student's progress and arranging for the supervision and examination of the student. For most graduate programs, the graduate program committee is the departmental graduate studies committee. In the Faculty 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 committee on such matters as awarding of degrees, examining committees for doctoral candidates, changes to established programs and establishment of new programs.

Senate Graduate Studies Committee
This committee has the final authority on admissions and the administration of senate regulations which concern graduate work. This committee serves as the graduate program committee for students enrolled under special arrangements.

The administrative officers of the University who are responsible for the supervision of graduate students are the assistant director, graduate studies and the dean of graduate studies. They and the chairs of graduate program committees are available to students for consultation.

Graduate Studies Information
A wide range of additional information on graduate studies at Simon Fraser University may be found in the Graduate Studies Handbook. This is available in Simon Fraser University’s libraries, on the University's World Wide Web site (www.sfu.ca/dean-graduatestudies/gradhandbk) and in most department offices. In addition, most departments offer publications describing their graduate programs. These are available directly from the departments and are usually posted on the department's web sites.

1.3 Admission

1.3.1 General
A student may seek admission to a graduate diploma, master’s or doctoral program. A student who is not qualified to enter a specific program may seek admission to the University as a qualifying student under the provisions of paragraph 1.3.6.

For admission to post baccalaureate programs, refer to the undergraduate section of this Calendar.

Before applying for admission, the student should obtain information about admission requirements and procedures. This information can be obtained from the websites of departments and faculties, or by contacting the appropriate program's graduate secretary. Application forms are also available on the Dean of Graduates Studies website.

Applicants meeting the minimum University requirements for admission given below are not assured admission into any graduate program. Most graduate programs have admission requirements in addition to the minimum. Furthermore, programs must restrict admission to students whose interests are compatible with available resources and faculty expertise.

1.3.2 Admission to a Graduate Diploma Program
The minimum University requirements for admission to a graduate diploma program are as follows:

a) a bachelor's degree from a recognized university, or the equivalent;

b) submitted evidence, references from qualified referees, of the student's ability to undertake advanced work in the area of interest.

In exceptional circumstances, a student may be admitted with lower formal qualification than in (a) when there is significant professional experience relevant to the proposed area of study.

Students must satisfy any further requirements set by the graduate program committee. Students whose native language is not English may be required to satisfy the University and the graduate program committee as to their capability in English. (See also 1.3.12.)

1.3.3 Admission to a Master's Program
The minimum University requirements for admission to a master's program are as follows:

a) a bachelor's degree with a cumulative grade point average of at least 3.0 from a recognized university, or the equivalent;
1.3.4 Admission to a Doctoral Program

The minimum University requirements for admission to a doctoral program are as follows.

a) either
i) a master's degree from a recognized university, or the equivalent, or
ii) a bachelor's degree, with a cumulative grade point average of at least 3.5, from a recognized university, or the equivalent, or
iii) completion of at least 75% of the course work credits required for the relevant department's Master's program, with a cumulative grade point average of at least 3.5. All graduate courses, whether taken at this University 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.

Students must satisfy any further requirements set by the graduate program committee. Students whose native language is not English may be required to satisfy the University and the graduate program committee as to their capability in English. (See also 1.3.12.)

1.3.5 Admission Under Special Arrangements

Exceptionally able applicants who wish to work for a master's or doctoral degree outside or between existing programs at Simon Fraser University may apply to work under special arrangements. A student applying for special arrangements must have a well-developed plan of studies in an area that can be shown to have internal coherence and academic merit, and in which the university has appropriate expertise and interest among its faculty members.

Graduate students applying or working under special arrangements are required to conform to Senate regulations for graduate students. However, there are additional regulations which concern only those applying or working under special arrangements. Enquiries about these regulations should be directed to the Dean of Graduate Studies by January 1st of each year for admission to the fall semester.

Students working under special arrangements may be required to take a selection of courses from existing programs. Other courses open to special arrangements students are:

- SAR 891-3 Special Topics – to be selected by the student and the supervisory committee.
- SAR 892-3 Special Topics – to be selected by the student and the supervisory committee.
- SAR 893-3 Special Topics – to be selected by the student and the supervisory committee.
- SAR 894-3 Special Topics – to be selected by the student and the supervisory committee.

SAR 895-3 Special Topics – to be selected by the student and the supervisory committee.
SAR 896-3 Special Topics – to be selected by the student and the supervisory committee.
SAR 897-3 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

1.3.5.a Cohort Special Arrangements

Cohort-based special arrangements programs are designed to meet the educational needs of specific student groups in fulfilling the requirements for a master's degree where these needs cannot be met within existing programs. Each program will integrate study from across two or more departments, schools or faculties and will involve a curriculum and requirements recommended by each program's graduate program committee and approved by the Senate graduate studies committee. Students may undertake this degree program only through specific admission to the cohort program. Admission criteria, degree requirements and any other special conditions for a particular cohort special arrangements program must be approved in advance by the Senate graduate studies committee; these may not be below the minimum admission and degree requirements of regular graduate programs. In some instances, tuition fees may differ from the regular graduate fee schedule published in the Calendar, and will be announced separately.

1.3.6 Admission as a Qualifying Student

Normally, qualifying students will be working either to improve cumulative grade point averages in order to meet the minimum University requirement, or to make up deficiencies in their backgrounds to satisfy the graduate program committee in their area of interest. An applicant may be recommended for admission as a qualifying student when it is expected that the admission requirements for a master's or a doctoral program can be met through the satisfactory completion of no more than 30 credit hours of specified courses. A qualifying student who has completed the make-up work may then apply under 1.3.3 or 1.3.4 for admission to a master's or doctoral program.

The minimum University requirements for admission as a qualifying student are as follows:

a) a bachelor's degree, or the equivalent
b) submitted evidence of academic ability, usually in the form of references from qualified referees

Admission as a qualifying student does not guarantee future admission to a master's or doctoral program unless the offer of admission states that satisfying specific requirements within a specific period of time will result in automatic admission to the program.

Normally a student will be admitted with qualifying status for a maximum of one year (three consecutive semesters).

1.3.7 Admission as a Non-degree Student

Normally, a non-degree student at the graduate level has at least a bachelor's degree, or the equivalent, is admitted in order to take specified courses, but is not seeking a degree from this University. A non-degree student will not be permitted to enrol in undergraduate courses.

Application is through the graduate program committee in the department in which the student wishes to work; applicants are advised to contact the department before submitting an application (see 1.3.1). Transcripts of previous university work (or proof of obtaining a degree) will be required at the time of application, but letters of reference will not necessarily be required.

No credit will be given towards any degree offered by the University for courses taken as a non-degree student except, under unusual circumstances, on petition to the Senate graduate studies committee.

1.3.8 Conditional Admission

Conditional admission may be offered to an applicant who is substantially ready to undertake a program but who has not completed all admission requirements at the time of application. An offer of conditional admission will specify the remaining requirements to be met and a limited time period within which the requirements must be met. Normally, the requirements must be fulfilled either prior to registering in the program, or within the first semester of registration.

1.3.9 Admission as an Exchange Student

Bona fide graduate students at other universities who wish to take courses at Simon Fraser University, not leading to a degree at this University, will be admitted to take specific graduate courses on the recommendation of the chair of the department (or equivalent officer) and the dean of graduate studies at the other university, and with the permission of the appropriate graduate program committee and the dean of graduate studies at Simon Fraser University.

1.3.10 Application for Admission

Application forms may be obtained from the Office of the Registrar, from the Dean of Graduate Studies website, or from any department. Completed forms and accompanying materials must be submitted to the department before the deadline specified by the department. Applicants are advised to check with the appropriate department as to the prevailing application procedures and deadlines for the graduate program in which they are interested.

Applicants are advised that deadlines for applications for awards and teaching assistantships may be earlier than the deadlines for application to a graduate program.

All decisions on graduate admissions are made by the Senate graduate studies committee. Decisions on admissions shall be final. Final approval of admission for non-degree students or exchange graduate students is by the dean of graduate studies.

1.3.11 Application to Take a Second Master's or Doctoral Degree

Students who have a master's or a doctoral degree (either from Simon Fraser University or another university) can apply to take a second master's or doctoral degree under the following constraints:

a) no course work taken for the first degree shall count towards the second.

b) none of the research done for the first degree shall be used for the second.

c) none of the time spent in residence for the first degree shall count towards the residence for the second degree.

1.3.12 English Language Competence

English is the language of instruction and communication in the University. Accordingly, an applicant whose primary language is not English or whose previous education has been conducted in another language must demonstrate command of English sufficient to pursue graduate studies in the chosen field. Applicants normally will be required to achieve a satisfactory score on a standardized
English test acceptable to the University. This test must include a writing component. The Test of English as a Foreign Language (TOEFL) combined with the Test of Written English (TWE) are acceptable for this purpose. The IELTS (International English Language Testing System) is also acceptable. The minimum University requirements for test scores is TOEFL 570 (computer based score is 230), TWE 5 and IELTS overall band score of 7.0; some graduate programs have higher requirements, as described elsewhere in this Calendar.

Further details about the above tests may be obtained from the following.

TOEFL and TWE – Education Testing Service, CN 6151, Princeton, NJ, 08541-6151 USA

Other acceptable English tests – Director of Admissions, Office of the Registrar, Simon Fraser University

1.4 Registration

1.4.1 Date of Entry

University regulations permit graduate students to enter programs at the beginning of any semester, unless a program requires students to start in a specific semester.

1.4.2 Registration

Registration begins two months before the start of each semester and must be completed by the Friday preceding the start of classes; see “Academic Calendar of Events” on page 7. New students are allowed an additional two weeks to finalize their registration, without financial penalty. The course or research-related work for which the student registers must have the approval of the chair of the graduate program committee and of his/her senior supervisor, once the senior supervisor is appointed. In addition, Registration for courses taken outside the student’s department must have the approval of the course instructor. Students going on leave are required to register (see “1.8.4 Application to go on Leave” on page 303).

1.4.3 Continuity of Registration

With the exception of students in discontinuous programs, all are required to register in every semester until all requirements for the degree have been fulfilled. This includes students registered on leave. A student who does not register is considered to have withdrawn from the University. (See 1.8.4 for regulations on student leave.)

1.4.4 Registration in Discontinuous Programs

Students who are enrolled in programs which are designed to be discontinuous are not required to register on leave during the semester or sessions in which the program does not run, nor to register during those semesters. However, if they have to miss one or more of the semesters in which they are expected to register, the normal leave regulations apply (see 1.8.4). Programs currently designated as discontinuous are MA (Liberal Studies), MEng, and MRM.

1.4.5 Part Time Study

A number of graduate programs have been approved, by the relevant graduate program committee, for part time study. They are listed below.

- archaeology (MA; PhD)
- biological sciences (MPM; MET)
- business administration (Executive MBA, MBA (MOT))
- communication (MA; PhD)
- economics (MA; PhD)
- education (MA; MSc; MEd)
- engineering science (MEng)
- English (MA; PhD)
- French (MA)
- history (MA)
- Latin American studies (MA)
- liberal studies (MA)
- mathematics (MSc, PhD)
- physics (MSc, PhD)
- political science (MA, PhD)
- publishing (MPub)
- resource and environmental management (MRM)
- statistics and actuarial science (MSc, PhD)
- special arrangements (MA; PhD)
- women’s studies (MA)

The list of approved programs is subject to change. A student in a graduate program may enrol part time if all the following requirements are satisfied in that semester:

a) that program has been approved by senate for part time study or Co-operative Education (see 1.4.7) respectively, and
b) the student enrols in one course only or Co-operative Education, and
c) the student is not working on his or her thesis, project, or extended essays, and
d) the student is not working on his or her thesis, project, or extended essays

The application to enrol part time 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). Registration as a part-time student may affect the total fee paid for a graduate program (see “Graduate Fees” on page 306).

1.4.6 Course Audit

Graduate students may audit graduate courses, with permission of the instructor, senior supervisor and graduate program chair of the student's department. Such audits are recorded as AU on the student's transcript.

Prior to registration, the student and instructor must agree on the requirements for auditing the class. These requirements must include 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.

- business administration (specialist MBA)
- chemistry (MSc)
- economics (MA)
- environmental toxicology (MET)
- mathematics (MSc)
- resource and environmental management (MRM)
- statistics and actuarial science (MSc)

The list of approved programs is subject to change. In addition, some faculties may permit co-op work terms for individual students on a case-by-case basis.

Interested students should consult the co-op co-ordinator.

The application to enrol in co-op is subject to departmental approval. Each department has a specific course for the co-op work term or practicum. If the co-op work term is the only course in which the student is registered and if the student is not working on his or her thesis, projects, etc., the registration status can be ‘part-time’ or ‘full time,’ at the student's option. Otherwise, the student would be required to register full time. The co-op registration fee is listed in the Graduate Fee Schedule and is counted as one half a fee unit toward the fee units required for the degree. If registered co-op, the only other fees payable would be the student activity fee and, if applicable, the graduation fee.

Students who choose to register ‘part-time’ while on a co-op semester should be aware that part-time registration may affect the total fees paid for their graduate program (see “Graduate Fees” on page 306).

1.5 Academic Standing

1.5.1 Normal Grading System

The following grades are used at the graduate level in the University.

- A++ = 4.33 point (in use since 2002-3)
- A+ = 4.00 points
- A = 3.67 points
- B+ = 3.33 points
- B = 3.00 points
- B- = 2.33 points
- C = 2.00 points
- F = 0 points

A student in a master's or doctoral program must maintain a cumulative grade point average (CGPA) of 3.0 in courses taken at Simon Fraser University.

A student in a diploma program must maintain a cumulative grade point average (CGPA) of 2.5 in courses taken at Simon Fraser University. Courses graded on a satisfactory/unsatisfactory basis are not included in the grade point average.

When a student is working on a thesis, extended essay or project as part of the requirements for the degree, the notation IP (in progress) shall be entered on the transcript. IP is not a grade and is not used in calculating the student's CGPA.

In exceptional circumstances, the grade for a course may be deferred for a specified period determined by the course instructor. This shall be entered as DE in the student’s record. If the grade is not received by the assistant director, graduate studies by the last day of the first month of the next semester, the DE grade will automatically be converted to an F. When the grade for a course is not deferred and no grade is received by the assistant director, graduate studies, the notation N will be placed in the student's record. For the purposes of calculating the CGPA, N counts for 0 points.

1.5.2 GN Notation

The notation GN (grade not reported) may be used if circumstances beyond the control of the University make it impossible for grades to be assigned for a course. The notation has no numerical equivalent and does not affect either the semester grade point average or cumulative grade point average.

1.5.3 Satisfactory/Unsatisfactory Grading (S/U)

With the approval of senate graduate studies committee, a department may require that a
designated course be graded satisfactory/unsatisfactory (S/U) for all students in the course. An individual student may request to take a course on an S/U basis by applying to the supervisory committee. If that committee consents, the request will be submitted to the graduate program committee for final approval. If the course is outside the student's department, the approval of the other graduate program committee must also be obtained. Having registered in a course on any grading basis, a student may not change to another grading basis for that course. None of the student's minimum course work requirement under 1.7.3 may be taken S/U. Neither an S nor a U will count in the CGPA, but the grade received shall be recorded on the transcript.

1.5.4 CGPA Required For Continuation and Graduation
A student in a master's or doctoral program is required to maintain a CGPA of at least 3.0. A student in a graduate diploma program is required to maintain a CGPA of at least 2.5. Failure to meet the minimum CGPA is evidence of unsatisfactory progress and the matter will be considered by the graduate program committee as required under the Procedure for the Review of Unsatisfactory Progress in regulation 1.8.2. Under no circumstances will a student, whose CGPA is below 3.0, be awarded a graduate degree. Under no circumstances will a student with a CGPA below 2.5 be awarded a graduate diploma.

1.5.5 Graduate Students Retaking a Course
A graduate student may retake a course under the following conditions.

a) when the same numbered course covers different material in different semesters (many special topics and directed readings courses are of this nature).

b) when the student wishes to improve the grade earned in the course. Permission of the graduate program committee is required.

Under a), both grades are recorded on the student's transcript, and the grade and the credit hours for both iterations of the course are used for the calculation of the CGPA and towards the credit hours required for the degree. Under b), both grades are recorded on the student's transcript with the notation that the course was retaken to improve the grade. However, only the better grade is used in calculating the CGPA and the credit hours for the course are used only once towards the requirements for the degree.

A student must indicate at the time of registration under which of the two conditions the course is being retaken. The correctness of this indication must be certified by the chair of the graduate program committee.

1.6 Supervision

1.6.1 General
When a graduate student has been admitted, the graduate program committee will exercise general supervision and counselling for the student through the chair of the graduate program committee or a faculty member designated by the chair, until a senior supervisor has been appointed.

1.6.2 Supervision of a Qualifying Student
A qualifying student comes under the general supervision of the graduate program committee, exercised through the chair of that committee or a faculty member designated by the chair.

1.6.3 Senior Supervisor
In consultation with the student, the graduate program committee will appoint a senior supervisor as soon as possible after admission to the graduate program. Normally, this appointment shall be made no later than the beginning of the second semester of full time equivalent enrolment after the student's admission, although with the permission of the senate graduate studies committee, departments may define a later date. The senior supervisor is the person principally responsible for supervising the student throughout the degree program. A senior supervisor must hold the rank of assistant professor or above at Simon Fraser University.

A senior supervisor who is planning to be off campus for more than three months shall arrange for proper supervision of the student during this absence. The graduate program committee and the dean of graduate studies shall be informed in writing of the arrangement.

A senior supervisor is not required for students in a graduate diploma program. The director of a diploma program is responsible for roles normally assigned to the senior supervisor (e.g. advising students, signing forms).

1.6.4 Supervisory Committee
A supervisory committee is not required for students in graduate diploma programs.

In degree programs in which there is a requirement for a thesis, a project or extended essays, a supervisory committee, constituted as described below, must be established. For students in master's degree programs that culminate in a field or comprehensive examination, the senior supervisor alone may comprise the supervisory committee. Where a supervisory committee requires members in addition to the senior supervisor, the senior supervisor, in consultation with the student, shall recommend the composition of the supervisory committee. The supervisory committee consists of the senior supervisor and at least one other person. Normally, this recommendation shall be made during the same semester in which the senior supervisor is appointed.

For degrees designated by senate as professional degrees, the other member(s) of the committee may be other suitably qualified person(s). For other graduate degrees, at least one member of the committee (in addition to the senior supervisor) must be a faculty member or an adjunct professor or a research associate at Simon Fraser University. Other member(s) of the supervisory committee may be other suitably qualified person(s). A recommendation for a supervisory committee that includes a person who is not a faculty member at Simon Fraser University should be accompanied by a curriculum vitae of that person.

The composition of the supervisory committee, for which the senior supervisor is chair, shall be approved by the graduate program committee and sent to the dean of graduate studies for final approval. It shall be sent to the faculty graduate studies committee for information.

The supervisory committee is responsible for helping the student develop a program of study leading to a degree and for reporting to the graduate program committee at least once a year on the student's progress towards completing the degree requirements. The supervisory committee shall be available to the student for consultation on a regular basis.

1.6.5 Change in the Supervisory Committee
Continuity of supervision is important in all graduate work. As a consequence, a change in supervisory committee, especially a change in senior supervisor, may be made only on the basis of strong reasons. A request for a change in the supervisory committee may come from the student or any member of the supervisory committee. It shall be sent to the graduate program committee accompanied by the reasons, in writing, for the proposed change. If the graduate program committee concurs in the request, it shall be sent to the dean of graduate studies for final approval.

1.6.6 Human Subjects Ethics Review
All research plans involving human subjects must receive ethics approval. Copies of the policy (R20.01), procedures and forms for this review may be obtained from the Office of Research Services or from the University web site (www.sfu.ca/policies/research/index.htm).

1.7 Residence and Course Requirements
Minimum course work requirements are defined in 1.7.1, 1.7.2 and 1.7.4. See 1.7.6 for regulations concerning courses taken at other institutions. There is a residence requirement for all doctoral programs (see 1.7.3).

1.7.1 Requirements for the Graduate Diploma
There is no residence requirement for the graduate diploma. Candidates must complete the minimum requirement of 22 credit hours of graduate course work. A graduate program committee may require graduate or undergraduate work in addition to the minimum requirements, either on an individual basis or, with Senate ratification, for all students in the program.

1.7.2 Residence Requirement for the Master's Degree
Master's candidates must complete the University minimum requirement of 22 credit hours of graduate course work. A graduate program committee may require graduate or undergraduate work in addition to the minimum requirements. Not all of these options are available for every program. A graduate program committee may require work in addition to the minimum requirements either on an individual basis or, with Senate ratification, for all students in its program.

1.7.3 Residence Requirement for the Doctoral Degree
The aim of the residence requirement is that the student spend a period of time in contact with faculty members and other students. Doctoral students must register for a minimum of five semesters. On leave semesters will not count toward this minimum.

1.7.4 Course Requirements for the Doctoral Degree
There are no University course requirements for the doctoral degree. However, a student's supervisory committee, graduate program committee or the faculty graduate studies committee, may require a
student to take specified courses or credit hours as part of the degree program.

1.7.5 Doctoral Thesis
All doctoral programs require a doctoral thesis based on substantial original research.

1.7.6 Courses in Master’s and Doctoral Programs
The following rules apply to the minimum course work requirement.

One half of the minimum course work of the University or departmental degree requirements must be taken at this University.

None of the University minimum may be courses taken in order to qualify for admission.

None of the University minimum may be undergraduate courses.

A graduate student may apply to take one or more courses at another university for credit towards a degree at Simon Fraser University under the following conditions.

a) 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 Dean of Graduate Studies for final approval.

b) While taking a course/courses at another university under these provisions, the student shall maintain normal registration at this University, not registration on leave.

A graduate student may apply to have credit for graduate courses taken prior to admission applied to the requirements for the degree, under the following conditions.

a) Courses must have been taken within two years of starting the SFU program.

b) Courses may not have been used to earn another credential and may not have been taken as part of a qualifying year.

c) application for advance credit must be made at the time of application for admission, and must be approved by the graduate program committee and the dean of graduate studies.

1.8 Progress, Withdrawal and Leave

1.8.1 Progress Evaluation
For master’s and doctoral students, the supervisory committee shall report on the student's progress at least once each year. A report will be sent, in writing, to the graduate program committee with a copy to the student. The evaluation of student progress in coursework will rely in part on their maintenance of a CGPA of 3.0, as required by graduate regulation 1.5.4.

For graduate diploma students, a progress review will be initiated if the CGPA drops below 2.5.

1.8.2 Review of Unsatisfactory Progress
If a student's progress appears to be unsatisfactory, the supervisory committee or the chair of the graduate program committee shall make a written report to the graduate program committee, and provide a copy to the student. That committee shall consult with the supervisory committee, if one has been appointed, may:

a) require the student to withdraw, or

b) inform the student of the unsatisfactory progress and require the student to improve in specific ways in a specific period of time.

The student concerned has the right to appear before the graduate program committee when the case is considered, and may submit any materials relevant to the case. A student who is required to withdraw shall be informed, in writing, with copies to the dean of graduate studies and the assistant director, graduate studies. If required to improve within a specific period of time, the student shall be informed in writing as to what precisely is required, with copies to the dean of graduate studies and the assistant director, graduate studies.

Any decision of the graduate program committee under the provisions of this section may be appealed to the senate graduate studies committee through the dean of graduate studies. The student has the right to appear before the senate graduate studies committee when the case is heard. The decision of that committee shall be final.

1.8.3 Withdrawal from Courses and from the University
Permission of the senior supervisor and the chair of the graduate program committee is required to withdraw from a course. If the senior supervisor is not yet appointed, or if the student is in a graduate diploma program, permission of the chair of the graduate program committee is required. If such permission is granted, a student may withdraw from a course without academic penalty up to the end of the ninth week of classes in any semester.

Under extenuating circumstances, a student may withdraw from a course without academic penalty during the tenth to the 12th week of classes. Such circumstances must be beyond the control of the student (e.g., medical or financial crisis); under such circumstances, therefore, 898 (Master's Thesis Research), 899 (Master's Thesis Research), or a similar course may be added, as appropriate. Permission of the senior supervisor and the chair of the graduate program committee is required.

A student may withdraw from the University at any time by notifying the chair of the graduate program committee and the assistant director, graduate studies.

A student who has withdrawn from the University and who wishes to re-enter shall apply for permission under the same conditions as any other applicant.

1.8.4 Application to go on Leave
It is desirable that a graduate degree or diploma involve several consecutive semesters of uninterrupted research. However, a student may apply to go on leave if both of the following conditions are satisfied.

a) a situation arises which makes it necessary or desirable to interrupt the work, and

b) 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. Permission to register during the normal registration period for each semester by indicating on leave status when registering.

Students who wish to register on leave for more than three sequential semesters must submit a written explanation for all subsequent on-leave registrations. Such applications require approval from the Dean of Graduate Studies.

1.8.5 Failure to Register
A student who does not register is considered to have withdrawn from the University.

1.9 Preparation for Examinations

Master’s Students

1.9.1 Examining Committee for a Master’s Degree Candidate
Each candidate for a master’s degree shall be examined on the thesis, extended essays or project. Under these provisions, the student shall maintain normal registration at this University, not registration on leave.

A student who does not register is considered to have withdrawn from the University.

Such applications require approval from the Dean of Graduate Studies.

Students who wish to register on leave for more than three sequential semesters must submit a written application to the Dean of Graduate Studies for final approval.

b) all members of the student’s supervisory committee,

c) a member of faculty at the university, or a person otherwise suitably qualified, who is not a member of the student's supervisory committee.

For those seeking a degree under special arrangements, this person shall be from outside the University.

1.9.2 Preparation for Examination of Master’s Thesis
Preparation for the examination of a master’s thesis shall not take place until the thesis is substantially complete and in the format laid down in Preparation of Thesis, Extended Essays and Project: Regulations and Guidelines (revised February 1997).

The candidate’s supervisory committee shall make a recommendation to the chair of the graduate program committee concerning the date, place and time of the thesis examination and the composition of the examining committee in conformity with 1.9.1.

Upon approval of the chair of the graduate program committee, this recommendation, with the thesis title and an abstract, shall be sent to the assistant director, graduate studies in the Office of the Registrar for entry into the University's records. The examining committee composition shall reach the assistant director, graduate studies at least four weeks before the examination date. At this time, the chair of the graduate program committee will notify the University community of the intended time and place of the examination.

At least two weeks before the date of the thesis examination, unbound copies of the completed thesis shall be distributed to the examining committee by the chair of the graduate program committee, and one copy shall be made generally available for inspection by interested members of faculty and students.

Department rules may require earlier submission of the completed thesis.

If the date or place has been changed, the chair of the graduate program committee will notify the University community.

The examination of the thesis shall take place under the regulations for thesis examination given in 1.10.1.

Doctoral Students

1.9.3 Examining Committee for Doctoral Thesis
Each candidate for a doctoral degree shall be examined on the thesis. Each examining committee shall have the following minimum composition:

a) the chair of the graduate program committee, or designate, who shall be a non-voting chair of the
1.9.4 Preparation for Examination of Doctoral Thesis

Preparation for the examination of a doctoral thesis shall not take place until the thesis is substantially complete and in the format laid down in *Preparation of Thesis, Extended Essays and Project: Regulations and Guidelines* (revised February 1997).

The candidate’s supervisory committee shall make a recommendation to the chair of the graduate program committee concerning the composition of the examining committee (in conformity with 1.9.3) and the date, place and time of the thesis examination. Upon approval of the chair of the graduate program committee, this recommendation, with the thesis title, abstract, and curriculum vitae of the external examiner, shall be sent to the Dean of Graduate Studies for final approval. The examining committee composition shall reach the Dean of Graduate Studies at least six weeks before the examination date. At this time, the chair of the graduate program committee will notify the University community of the intended time and place of the examination.

After the recommendation is approved, the Dean of Graduate Studies shall formally invite the external examiner. Unbound copies of the completed thesis shall be distributed to the examining committee by the chair of the graduate program committee after approval of the examining committee and thesis examination arrangements by the dean and at least four weeks before the date of examination. The chair of the examining committee shall inform the Dean of Graduate Studies in writing when the thesis has been distributed. Department rules may require earlier submission of the completed thesis.

The examination of the thesis shall take place under the regulations for thesis examination given in 1.10.1.

1.9.5 The Role of the External Examiner

The external examiner should be 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. If the report states that the thesis is ready for defence, a copy 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. The contents of the report will not be communicated to the student. If the report recommends that the examination be postponed, the dean shall send a copy to the chair of the examining committee, the senior supervisor and the chair of the graduate program committee. The chair of the graduate program committee and the senior supervisor will inform the student of the content of the report. Following discussions with the student and the supervisory committee, the chair of the graduate program committee shall report to the dean whether the examination will take place as scheduled or be postponed.

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 the thesis ought to pass, fail, or be subject to revision as under 1.10.2. The report may contain specific questions the external examiner would like posed to the candidate. 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 by members of the examining committee selected by the chair of the examining committee.

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

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.

After the chair of the examining committee is satisfied that all relevant questions have been answered, the examining committee shall meet in camera to classify the thesis.

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 revisions be completed to the satisfaction of the senior supervisor
3) the examining committee may defer making judgement if it judges that the thesis could pass after additional work by the candidate. A thesis upon which judgement is deferred shall come forward for re-examination within a period specified by the examining committee. The examining committee may require formal re-examination under section 1.10.1 or may reach its decision by examination of the revised thesis. The examining committee may not defer judgement a second time.

4) the thesis may be failed. In this case, the candidate is required to withdraw from the University.

The decision of the examining committee is by simple majority vote except that, in the cases of doctoral candidates or candidates enrolled under special arrangements, the classification of the thesis may not be at a higher level than that of the external examiner. A decision to pass the thesis or to defer making judgement may not be reached on a tie vote of the examining committee. If at first a majority vote to pass the thesis cannot be reached, and subsequently, if a majority vote to defer judgement cannot be reached, the thesis will be failed.

1.10.3 Recommendation for the Award of the Degree

When a student has successfully defended the thesis and made any minor revisions required, the supervisory committee shall recommend award of degree. This recommendation goes for approval respectively to the graduate program committee, the faculty graduate studies committee, the senate graduate studies committee and senate, which has the final authority to award the degree.

The title of the thesis, extended essays, professional paper and projects will be recorded on the student's transcript.

1.10.4 Submission of the Thesis to the Library

If the examining committee has required minor revisions to a thesis, these will be completed as soon as possible after the examination and checked by the senior supervisor. Two unbound copies of the final draft of the completed thesis shall be sent to the library together with a memorandum from the senior supervisor certifying that all required revisions have been made. These two copies will be bound, catalogued and retained by the library, one for the general collection and one for the University archives. Graduate program committees may also require not more than two bound copies for departmental files and these should be submitted for binding at the same time.

When the library representative of the dean of graduate studies has checked the thesis and accepted the format, the representative will notify the registrar. No degree will be approved by senate until the registrar has been so notified.

Master’s Students

1.10.5 Examination of Extended Essays submitted in Partial Fulfillment of Degree Requirements

Examination for an extended essay shall be as for the examination of a master’s thesis. The extended essay of a successful candidate shall be deposited in the library in the same format as for a thesis.

1.10.6 Examination of Projects Submitted in Partial Fulfillment of Degree Requirements

For degrees designated ‘professional degrees’ by senate (presently executive MBA, day MBA, MED, MPM, MRM, MEng, MPub) the project will be examined in ways designated by the appropriate faculty graduate studies committee and the dean of graduate studies.
Examination of projects for all other graduate programs shall be as for the examination of theses with the following exceptions: when the project is either live, taped or filmed, only one presentation is required for examination, and only one recording is required for deposition in the library. The one copy deposited in the library shall be the property of the University. The student shall have the right to copy the original, and the right to borrow it for external showing at the discretion of the librarian.

1.11 Publication of Thesis
When the thesis is submitted to the library, the student shall authorize the copying and publication of the thesis as follows.

1.11.1 Partial Copyright License
Except as noted in 1.11.3, the student shall sign a partial copyright license which grants to the University the right to lend the thesis to users of the library, and to make partial or single copies for such users. Multiple copying is not permitted without written permission from the author except that, if the author is unobtainable, the dean of graduate studies may give this permission.

1.11.2 Reproduction
Except as noted in 1.11.3, the student shall sign an agreement form authorizing the National Library of Canada to reproduce the thesis and to sell microfilm copies on request.

1.11.3 Postponement of Publication
The results of research of research conducted at Simon Fraser University should be available freely to the public, and it is expected that these will be placed in the library immediately following final revisions. It is the responsibility of graduate students to ensure that this policy is communicated clearly to relevant individuals and organizations outside the university prior to the initiation of any research project.

A thesis may be withheld from circulation and from copying for a period of 12 months from the date of defence of the thesis, in order to protect confidential commercial information, patentable material, pending application, or where immediate commercial publication is anticipated. No extensions to this time limit will be permitted. At the time of the thesis 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 of Canada during the restricted period but the abstract of the doctoral thesis shall be sent to Dissertation Abstracts International with the period of restriction duly noted.

Under exceptional circumstances, portions of a thesis may be withheld from the reference copy of the thesis that is made available to faculty members and students (see 1.9.2 and 1.9.4). This procedure must be authorized by the dean of graduate studies well before the distribution of the thesis. The dean must ensure that only the most confidential material is withheld from the thesis, and that the overall content of the thesis is not lost.

1.11.4 Publication of the Thesis by the Student
None of the clauses above preclude the student from publishing the thesis in any form at any time.

1.12 Maximum Time for Completion of the Requirements for the Degree

1.12.1 General
The maximum times for completion given below are not intended to be the normal times for completion. They are intended to take into account a wide variety of extraordinary circumstances and events that may delay completion. Individual departments may specify their expectations of normal degree completion times as a guide to determining whether a student’s progress is satisfactory.

1.12.2 Master’s Degree
A student shall complete all of the requirements for a master’s degree within twelve semesters of full-time equivalent (FTE) enrolment. In addition, all requirements of the master’s degree must be completed within six calendar years of initial enrolment as a master’s student.

1.12.3 Doctoral Degree
A student shall complete all the requirements for a doctoral degree within eight calendar years of initial enrolment as a doctoral student or, in the case of a student who has transferred from a master’s program into the doctoral program without completing the master’s degree, within eight calendar years of initial enrolment as a master’s student.

1.12.4 Readmission
Under exceptional circumstances and with the recommendation of the chair of the graduate program committee, 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 “Graduate Fees” on page 306.

1.14 Convocation Ceremony
Convocation is held twice annually. Graduates from the previous fall and spring semesters convocate in early June, while graduates from the summer semester convocate in October.

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

1.16 Graduate Student Appeals
Graduate students are advised to seek informal resolution of problems through discussions with their supervisor, graduate program chair, department chair or faculty dean, and the dean of graduate studies.

1.16.1 Grades
May be appealed to the instructor, department chair and, in some cases, faculty dean in accordance with academic policy T 20.01.

1.16.2 Progress Evaluations
May be appealed to the senate graduate studies committee (see 1.8.2).

1.16.3 Admission
Applicants who meet or exceed minimum requirements for admission are not assured of admission to any graduate program (see 1.3.1). Normally, admission decisions may not be appealed (see 1.3.10). In exceptional circumstances, unsuccessful applicants may appeal to the committee to review university admissions. This committee will only review the fairness of admissions procedures and will not review an applicant’s credentials.

1.16.4 Other Appeals
Appeals of decisions on registration, graduation, entry/re-entry to a program or any matter relating to academic standing (other than review of unsatisfactory progress) are referred to the senate appeals board.
## Graduate Fees

### Special Notice Regarding Fees, Fall 2002-3 and 2003-1

The following fees are proposed at the time of printing of this Calendar and were subject to approval by the Board of Governors on May 23, 2002. The final approved fee schedule will be available on this website immediately following that meeting. www.reg.sfu.ca

### Tuition Fee Schedule

<table>
<thead>
<tr>
<th>Program</th>
<th>Basic tuition fee 1</th>
<th>Differential tuition fee for international students 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Time Fee Unit</td>
<td>$948.35</td>
<td>$948.35</td>
</tr>
<tr>
<td>Graduate Diploma in Business Administration</td>
<td>$463.15</td>
<td>$463.15</td>
</tr>
<tr>
<td>Graduate Diploma in Education</td>
<td>$189.70</td>
<td>$189.70</td>
</tr>
<tr>
<td>Off Campus MEd Program (per semester)</td>
<td>$2161.25</td>
<td>$2161.25</td>
</tr>
<tr>
<td>EdD Program (per semester)</td>
<td>$3334.50</td>
<td>$3334.50</td>
</tr>
<tr>
<td>Graduate Diploma in Urban Studies</td>
<td>$162.50</td>
<td>$162.50</td>
</tr>
<tr>
<td>Executive MBA Program (weeknight program)</td>
<td>$4322.50</td>
<td>$4322.50</td>
</tr>
<tr>
<td>Executive MBA Program (weekend program)</td>
<td>$5471.05</td>
<td>$5471.05</td>
</tr>
<tr>
<td>MBA Program (day program) (per semester)</td>
<td>$4200.00</td>
<td>$4200.00</td>
</tr>
<tr>
<td>MBA Program (Global Asset and Wealth Management) (per credit hour)</td>
<td>$625.00</td>
<td>$625.00</td>
</tr>
<tr>
<td>MBA Program (Management of Technology) (per credit hour)</td>
<td>$514.55</td>
<td>$514.55</td>
</tr>
<tr>
<td>MPub Program (per course)</td>
<td>$617.50</td>
<td>$617.50</td>
</tr>
<tr>
<td>MPub Program internship (per semester)</td>
<td>$1235.00</td>
<td>$1235.00</td>
</tr>
<tr>
<td>MEng Program (per semester)</td>
<td>$1640.00</td>
<td>$1640.00</td>
</tr>
</tbody>
</table>

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

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

- Part time fee is equal to one half of the full time fee unit.
- Co-op fee is equal to one half of the full time fee unit.
- The minimum fee for a master’s degree is set at six full time fee units, unless the degree is completed in no more than 24 consecutive months of full time enrolment, in which case the student is liable only for the fee units payable until the date of completion of all degree requirements.
- The minimum fee for a doctoral degree is set at eight full time fee units, unless the degree is completed in no more than 32 consecutive months of full time enrolment, in which case the student is liable only for the fee units payable until the date of completion of all degree requirements.
- 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 and affected semesters are:
  - Program Semesters
  - MALS first and second summers
  - MEng every summer
  - MRM first and second summers, only for students who have registered part-time exclusively.
  - Students registered on a time extension beyond the maximum given in Graduate General Regulation 1.12 (page 305) are required to pay a registration fee equal to one full time fee unit for each such registration.
  - Students registered for one semester to complete degree requirements as described in Graduate General Regulation 1.12.3 (page 305) are required to pay a registration fee equal to one and a half full time fee units.

### Fees for Special, Exchange, and Qualifying Students

Basic tuition fee per credit hour: $95.10
courses at the 200 level and above in BUS, CMPT, ENSC: tuition fee per credit hour: $126.80

**Note:** No tuition fees will be charged to an exchange student who is a bona fide graduate student paying regular fees at another Western Canadian university which extends a like privilege to graduate students registered at Simon Fraser University.

### Other Fees

All fees are payable per semester.

#### Student Services and Recreation-Athletics Fees

The Student Services Fee (SSF) and Recreation-Athletics Fee (RAF) are assessed to all students registered for credit courses that are offered at the Burnaby Mountain, Harbour Centre and Surrey campuses according to the table below. These fees are not assessed to students on co-operative education work terms, on leave, or in the off-campus MEd program.

<table>
<thead>
<tr>
<th>Fee Description</th>
<th>SSF</th>
<th>RAF</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>part-time students</td>
<td>$23.40</td>
<td>$19.50</td>
<td>$42.90</td>
</tr>
<tr>
<td>full time students</td>
<td>$23.40</td>
<td>$39.00</td>
<td>$62.40</td>
</tr>
</tbody>
</table>

#### Student Activity Fee

Students registered full time: $55.81
Students registered part time: $27.91

**Note:** Students who register part-time are assessed fees at the part-time rate.

Students registered on leave do not pay this fee.

#### Special Fees

- Application fee: $55.00
- Late registration fee: $50.00
- Reinstatement fee: $100.00
- Official transcript of academic record: $3.25

Normally, students are required to submit the transcript fee before the transcript will be released. Only at the discretion of the registrar will the student be billed for a transcript after its release.

#### Penalty for Late Fee Payment

A penalty of 2% of outstanding fees after the last day of the fourth week of classes is payable, plus 2% of outstanding fees for each four week period thereafter, for a minimum charge of $10.

#### Mandatory Supplementary Course Fees

In addition to credit course fees, mandatory supplementary course fees may be assessed for individual courses in addition to basic tuition. Mandatory supplementary course fees cover additional costs associated with photocopied materials, prepared computer disks and/or audio visual tapes that may replace or enhance the use of a...
required text as a means of instruction. This material may be distributed by the bookstore or individual departments.

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

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

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

### Biological Sciences

- BISC 600 ................................................. $189
- BISC 812 .................................................. $225

### Earth Sciences

- BISC 600 ................................................. $189
- EASC 611 ................................................ up to $150
- EASC 613 ................................................ up to $30
- EASC 617 ................................................ up to $50
- EASC 619 ................................................ up to $100
- EASC 623 ................................................ up to $40
- EASC 812 ................................................ $225

### Geography

- GEOG 728 .................................................. $65

### 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.

See “Payment of Fees” on page 48 for a description of various payment methods.

### Refunds

#### Withdrawal from Program

If a student withdraws from the graduate program without completing the degree before the end of the semester, refunds will be calculated from the date the student officially notifies the registrar in writing of his/her withdrawal from the University. Withdrawal in the first month of the semester will result in a refund of 50% of the tuition fees payable. No other refund will be made.

#### Change of Fee Status

Students whose registration status changes during a semester and within the first four weeks of classes, may be eligible for partial refund of the applicable fees and should consult the Office of the Registrar for further information. No other refund will be made.

#### Qualifying and Special Students

Fees and fee refunds for qualifying and special students are in accordance with the undergraduate fee schedule.

### Overdue Accounts

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

### Completion of Program

If a student completes all requirements for the degree during the semester, the following refund schedule for total tuition fees payable will apply:

- **Completion in the first month of the semester**: refund of 75% of fees payable for the semester
- **Completion in the second month of the semester**: refund of 50% of fees payable for the semester
- **Completion in the third month of the semester**: refund of 25% of fees payable for the semester

Refunds are applicable to the time extension surcharge, but not to the readmission, reinstatement or late registration fees. Refunds will be made only if the required minimum fee has been paid prior to the semester in which the degree requirements are completed.

#### Fee Waiver

The on-leave fee may be waived in exceptional circumstances, for example, from accident, illness or parenting, on the basis of medical documentation.

### Late Submission Fee

The fee for submission to the library of thesis, project or extended essays after the deadline for submission, but prior to the first day of classes of the next semester, shall be one eighth of a full time fee unit.

The late submission fee applies to all degree completion requirements, including the master's final examinations.

### Fees for Courses at Another Institution

A student registered at Simon Fraser University who takes a course at another institution of higher learning and has had this course approved in advance for credit toward 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.

### Tuition Fee Certificates (T2202A)

The official tuition fee certificates will be produced by the Cashiers’ Office in January of the following year. They will be available for personal pick up at the Cashiers’ Office during the month of February in the following year.
Financial Aid for Graduate Students

Graduate students are eligible for a variety of financial assistance programs including entrance or continuing scholarships, graduate fellowships, awards, bursaries and loans.

Scholarships and fellowships recognize outstanding academic achievements; awards generally acknowledge outstanding achievements or contributions to the community. Bursaries are awarded on the basis of financial need. Government student loans are awarded on the basis of financial need by the student’s province of residence. Emergency loans are available from the Academic Resources Office, to students in short term financial crisis.

Other sources of income are teaching assistantships (TAs) and research assistantships (RAs) which are available in most departments. Applications should be directed to the chair of the appropriate graduate program committee in the department of intended enrolment.

All graduate scholarship and financial assistance programs are administered by one of two units in the University. Merit based graduate scholarships and awards (cumulative grade point average of 3.50 or better) are administered by the Dean of Graduate Studies Office. Room 1100, Maggie Benston Student Services Centre, Tel: (604) 291-5411, Fax: (604) 291-3080.

Generally, the financial needs-based graduate scholarships, bursaries and loans, including Government student loans and emergency loans, are administered by the Financial Assistance Office, Student Academic Resources, Maggie Benston Student Services Centre, Tel: (604) 291-4356. They include the Canada Student Loan Program, the Work Study Program and graduate bursaries.

Categories of Graduate Scholarships, Awards, Bursaries and Stipends

The following information is intended as a guide only. Further information may be found in the Graduate Awards Guide which is available for loan in the reserve section of the W.A.C. Bennett Library. Every attempt has been made to provide up-to-date information. However, it remains the prerogative of the award-granting agencies to change deadline dates, discontinue awards, etc. without prior notice. The electronic version of the Graduate Awards Guide is on the World Wide Web and is located at http://ias.sfu.ca/projects/GradAwards.

Award Categories

Awards that are administered by the Dean of Graduate Studies Office:

- Simon Fraser University Entrance Scholarships (page 308)
- Awards for New and Continuing students (page 309)
- Private Awards (page 309)
- University Administered External Awards (page 314)
- Externally Administered Programs (page 314)

Awards, Bursaries and Loans that are administered by the Financial Assistance Office, Academic Resources, Registrar’s Office:

- Bursaries Administered by the University (page 315)
- Bursaries for All Students (page 316)
- Bursaries for Applied Sciences Students (page 317)
- Bursaries for Arts Students (page 317)

- Bursaries for Business Administration students (page 318)
- Bursaries for Education Students (page 318)
- Bursaries for Science Students (page 318)

International Students

Students who are not Canadian citizens and who would require financial assistance to attend Simon Fraser University must seek such assistance in their country of origin before arrival in Canada. Many of the outside awards are restricted to Canadian citizens or permanent residents. However, foreign students are eligible for most awards granted by the University.

General Information and Regulations

The following regulations apply generally to all financial assistance administered by the University.

- Plan and apply well in advance as many scholarship deadlines occur between 4 and 12 months before the granting of the award. Application deadlines are listed for each award on the following pages. Please note that the published deadlines are approximate dates only, and are subject to change by the awarding agency.
- All scholarships and awards are given on the recommendations of the Senate Graduate Awards Adjudication Committees. Committee decisions, when announced, are final.
- The University does not guarantee the payment of any scholarships, awards or bursaries listed in the Calendar other than those provided directly from funds of the University. If invested funds do not provide the necessary income for an endowed scholarship, award or bursary, payment of the award may be reduced or the award withheld. The University reserves the right to withhold awards donated by individuals or organizations where the funds required have not actually been received.
- The University reserves the right to refrain from making an award if, in its opinion, none of the applicants meets the terms specified.
- The individual graduate student is responsible for knowing the deadlines, proper completion of the application forms and supplying all appropriate documentation for the various scholarships, awards and bursaries. Incomplete applications may be rejected.

The following awards are contingent upon the availability of funds. Detailed information is available from the Dean of Graduate Studies Office, MBC 1100. Completed application forms and all required documentation should be submitted to the Graduate Secretary in the applicant’s department of enrolment by the indicated deadlines, unless specified otherwise.

Special Awards

Academic and Service Awards

Terms of reference: Graduate students are eligible for many of the University Service Awards listed in the undergraduate Financial Assistance and Awards section of the Calendar. Please refer to this section for detailed information.

Athletic Awards

Terms of reference: Graduate students who compete on a Simon Fraser University varsity team may be eligible for Athletic Awards. Please refer to the undergraduate Financial Assistance and Awards section of the Calendar for more information. See “Financial Assistance and Awards” on page 50.

Dean of Graduate Studies Convocation Medals

Application deadline: April 25

Terms of reference: A silver medal has been established for a graduating graduate student from each faculty. The dean of the respective faculty will recommend a student who has achieved the highest level of academic excellence in his/her graduate program.

The criteria for selection of special awards are quality of work, cumulative GPA, and timeliness of completion of the degree. All recommendations are to be forwarded to the Dean of Graduate Studies by April 25.

Governor-General's Gold Medal

Application deadline: April 25

Terms of reference: A gold medal, presented by His Excellency, the Governor General of Canada, will be awarded to the graduate student who achieves the highest academic standing in his/her master's or doctoral degree program.

Entrance Scholarships

Arthur Andersen & Company Graduate Entrance Scholarship

Value: $5,000

Application deadline: March 15

Tenable: Any semester

Terms of reference: For a student entering a graduate program in the field of accounting.

ASI Graduate Student Awards

Value: $10,000 each

Application deadline: September 1 (by nomination)

Tenable: Fall semester

Terms of reference: Five awards to outstanding Canadian students entering a new graduate program in an advanced systems discipline such as information technology, micro electronics, robotics and/or telecommunications. Students must be nominated by their intended department of enrolment to the Director of the Centre for Systems Science.

Contents

Categories of Graduate Scholarships, Awards, Bursaries and Stipends 308

Award Categories 308

International Students 308

General Information and Regulations 308

Special Awards 308

Entrance Scholarships 308

Awards for New or Continuing Students 309

Private Awards 310

University Administered External Awards 314

Externally Administered Programs 314

Bursaries and Loans 315

University Administered Loans 318

Government Administered Programs 319

Government Loans 319

International Student Loans 319

Government Part-time Grants/Loans 319

Work-study Program 319

For More Information 319
Financial Aid for Graduate Students 309

Wm. F. and Ruth Baldwin Graduate Scholarship in History
Value: $8,000
Application deadline: March 15
Tenable: Two consecutive semesters
Terms of reference: A two semester award to a student entering a graduate program in the Department of English.

C.D. Nelson Memorial Graduate Scholarships
Value: $17,000
Application deadline: March 15
Tenable: Three consecutive semesters
Terms of reference: Recipients are outstanding scholars entering any graduate program. Twelve or more awards are made. Tenure is for one year and may commence in any semester.

Master of Pest Management Graduate Entrance Scholarship
Value: $500
Application deadline: March 15
Tenable: Fall semester
Terms of reference: One award for a student entering a graduate degree program leading to Master of Pest Management degree in the Centre for Environmental Biology.

DuPont Graduate Entrance Scholarship in Chemistry
Value: $1,500
Application deadline: March 15 (by nomination)
Tenable: Any semester
Terms of reference: Two scholarships will be awarded to the top entering graduate students in the Department of Chemistry. Candidates will be judged on their scholastic and research achievements and potential. Students must be nominated by their intended department.

Robert Hancock Dunham Memorial Scholarship in English
Value: $2,700
Application deadline: March 15
Tenable: Any semester
Terms of reference: One award for a student entering a graduate degree program in the Department of English.

DuPont Graduate Entrance Scholarship in Political Science
Value: $700
Application deadline: March 15 (by nomination)
Tenable: Any semester
Terms of reference: One award for a student entering an MA or PhD program in political science.

Faculty of Science Graduate Entrance Scholarship
Value: $1,700
Application deadline: March 15 (by nomination)
Tenable: Fall semester
Terms of reference: One award for a student from the University College of the Fraser Valley entering the MSc program in a department in the Faculty of Science at Simon Fraser University.

Scott Paper Limited Bicultural Graduate Entrance Fellowship
Value: $15,000
Application deadline: March 15
Tenable: Three consecutive semesters
Terms of reference: The recipient is an outstanding student 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 is made. Tenure is for one year and may commence in any semester.

Wm. F. and Ruth Baldwin Graduate Entrance Award in Paying Service
Value: $3,000
Application deadline: March 15
Tenable: Any semester
Terms of reference: One award for a student entering the Master of Publishing Program.

Grace Woodsworth MacInnis Graduate Award
Value: $17,000
Application deadline: March 15
Tenable: Any semester
Terms of reference: The recipient is an outstanding woman scholar entering any PhD program at Simon Fraser University. The recipient must show potential for significant contribution to society through achievement in her chosen field. One award is made. Tenure is for one year and may commence in any semester.

Special Graduate Entrance Scholarship
Value: $2,000-$7,000
Application deadline: Any semester, by nomination
Tenable: Three consecutive semesters
Terms of reference: One semester awards between $2,000 and $7,000 to students entering a new graduate program at Simon Fraser University. To be eligible, a student must show academic excellence and proof that he/she is being actively recruited by another university. Students must be nominated by their graduate program chair in their intended department to the dean of graduate studies.

O.H. Sorila Memorial Graduate Scholarships
Value: $500
Application deadline: March 15
Tenable: Fall semester
Terms of reference: One or more, two-semester awards. Preferentially to an incoming student pursuing a graduate degree in British history.

Graduate Entrance Scholarship in Business Administration
Value: $1,200
Application deadline: March 15
Tenable: Any semester
Terms of reference: An award for a student entering a graduate degree program in business administration in the Faculty of Business Administration.

Douglas Cole Memorial Graduate Entrance Scholarship in Cultural History
Value: $600
Application deadline: March 15
Tenable: Fall semester
Terms of reference: One award will be awarded to a student entering the graduate program in history whose focus will be on cultural history.

Robert Hancock Dunham Memorial Scholarship in English
Value: $2,700
Application deadline: March 15
Tenable: Any semester
Terms of reference: One award for a student entering a graduate degree program in the Department of English.

DuPont Graduate Entrance Scholarship in Chemistry
Value: $1,500
Application deadline: March 15 (by nomination)
Tenable: Any semester
Terms of reference: Two scholarships will be awarded to the top entering graduate students in the Department of Chemistry. Candidates will be judged on their scholastic and research achievements and potential. Students must be nominated by their intended department.

Arthur and Ancie Fouks Graduate Entrance Award in Public Service
Value: $4,000
Application deadline: March 15 (by nomination)
Tenable: Any semester
Terms of reference: One award 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.

Graduate Entrance Scholarship in Geography
Value: $1,500
Application deadline: March 15
Tenable: Any semester
Terms of reference: One award for a student entering a graduate program in geography.

Bert Henry Memorial Graduate Scholarship
Value: $18,000 (subject to funding)
Application deadline: March 15
Tenable: Three consecutive semesters
Terms of reference: The recipient is an outstanding student who has obtained a master's degree and is entering any PhD program. The recipient must show high academic performance and potential for significant contribution to the chosen field of study. Tenure is for one year and may commence in any semester.

Special Graduate Entrance Scholarship
Value: $2,000-$7,000
Application deadline: Any semester, by nomination
Tenable: Three consecutive semesters
Terms of reference: One semester awards between $2,000 and $7,000 to students entering a new graduate program at Simon Fraser University. To be eligible, a student must show academic excellence and proof that he/she is being actively recruited by another university. Students must be nominated by their graduate program chair in their intended department to the dean of graduate studies.

William and Ada Isabelle Steel Memorial Graduate Scholarship
Value: $17,000
Application deadline: March 15
Tenable: Three consecutive semesters
Terms of reference: 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 (of which $2,000 of the award value is targeted for travel, accommodation and related research expenses). Tenure is one year and may commence in any semester.

Dorothy Middler Thomas Graduate Entrance Scholarship in Economics
Value: $1,500
Application deadline: March 15 (by nomination)
Tenable: Any semester
Terms of reference: One or more scholarships will be awarded to graduate students entering the doctoral program in Economics. The fund honors Dorothy Middler Thomas, Economics Departmental Assistant, friend and mentor to many. Students must be nominated by the department by March 15.

Grace Woodsworth MacInnis Graduate Award
Value: $200
Application deadline: March 15
Tenable: Any semester
Terms of reference: Established in honour of Grace Woodsworth MacInnis in recognition of her outstanding contribution as a Canadian parliamentarian and a pioneer woman in Canadian politics. The award supports a student entering the graduate program in women's studies.

Awards for New or Continuing Students

Graduate Fellowships
Value: $4,800 (master's); $5,200 (PhD)
Application deadline: April 15
Tenable: Any semester
Terms of reference: Recipients are full time students in any Simon Fraser University graduate program. Awards are made on the basis of academic merit; the normal minimum criterion for eligibility is a 3.5 CGPA. These are one semester awards valued at $4,800 (master's) or $5,000 (PhD). Students may apply in an annual competition for graduate fellowships tenable in one, two or three semesters.

Faculty of Applied Sciences Dean's Fund Graduate Fellowships
Value: $2,200 (master's), $2,500 (PhD)
Application deadline: April 15
Tenable: Any semester
Terms of reference: One semester awards. Recipients are full time students in a graduate program in the Faculty of Applied Sciences. Awards are made based
on academic merit (minimum of 3.50 cumulative grade point average) and good standing in research ability. Fellowship is based on matching basis: half from the Faculty of Applied Sciences and the other half from the thesis supervisor by way of a research assistantship.

President’s PhD Research Stipends
Value: $5,000
Application deadline: end of the second month of the semester preceding the semester of tenure.
Tenable: Any semester
Terms of reference: These are one semester awards available to all full time PhD students who have completed all degree requirements with the exception of the thesis. Students may receive the award only once during their doctoral program.

The following awards are contingent upon the availability of funds. Detailed information is available from the Dean of Graduate Studies Office, MBC 1100. Completed application forms and all required documentation should be submitted to the Graduate Secretary in the applicant’s department of enrolment by the indicated deadlines, unless specified otherwise.

Private Awards
The following awards are contingent upon the availability of funds.

J. Abbott/M. Fretwell Graduate Fellowship in Fisheries Biology
Value: $4,000
Application deadline: September 30
Tenable: January
Terms of reference: One fellowship to a graduate student showing academic merit in fisheries biology. Preference will be given to an applicant with a strong sports background. This fellowship was established in memory of Jeremy Abbott and Michael Fretwell after their death in a tragic helicopter accident in September 1988.

M.D. Angus & Associates Graduate Fellowship in Psychology
Value: $300
Application deadline: September 30
Tenable: January
Terms of reference: One award to assist a graduate student in psychology with the development of a publishable standardized test.

Archaeometry Prize
Value: $200
Application deadline: April 15
Tenable: summer
Terms of reference: A prize will be awarded annually in the summer semester. The prize will be available to either an undergraduate or graduate student who has shown exceptional scholarship and an interest in the application of physical science to archaeology. Contact Financial Assistance and Awards, Student Academic Resources, Maggie Benston Student Services Centre.

BCAA Environmental Studies in Transportation Award
Value: $700
Application deadline: September 30
Tenable: January
Terms of reference: One award to recognize outstanding academic performance by a graduate student whose thesis research is related to the study of land-based transportation systems and their relationship to, and improvement of, the environment.

Aphra Behn Graduate Scholarship in English
Value: $20,000
Application deadline: May 30
Tenable: September and January
Terms of reference: One or more, two-semester awards for a mature (minimum age 30) female student pursuing a graduate degree program in English conducting research, preferably in pre-20th century English literature.

B.P. Beirne Prize in Pest Management
Value: $1,200
Application deadline: April 30 (by nomination)
Tenable: Any semester
Terms of reference: An annual prize with accompanying certificate will be awarded during May each year to the outstanding graduate from the Master of Pest Management program in the three semesters immediately preceding Convocation. The award is in honor of the late Dr. B.P. Beirne, founder of the Centre for Environmental Biology at Simon Fraser University. It will be made by nomination by the director of the Centre for Environmental Biology in consultation, as necessary, with faculty. The candidate will be judged equally on his or her scholastic record, professional paper and relevant professional attributes. The student must be nominated by the department by April 30.

Margaret Lowe Benston Memorial Graduate Bursary in Women’s Studies
Value: $1,300
Application deadline: May 30
Tenable: September
Terms of reference: One or more bursaries for graduate students in Women’s Studies. Preference will be given to students working in areas relating to women in science and technology.

Alan Boag Scholarship
Value: $2,000
Application deadline: September 30
Tenable: January
Terms of reference: This scholarship is the gift of the trustees of a fund established by the late Alan Boag. It is available to graduate students in business administration, economics, history, political science, sociology and anthropology who have completed two semesters of full time study at the University.

Applicants must submit a superior essay on some aspect of socialism which shows originality in analysis and treatment of the area. Students are advised to consult with faculty regarding the suitability of the proposed essay subject. No award will be made if, in the opinion of the referees, a suitably high standard has not been reached.

Boag Foundation Graduate Scholarship in Women’s Studies
Value: $2,000
Application deadline: April 30
Tenable: September
Terms of reference: One award for a graduate student in Women’s Studies. Submission of a superior report/essay on any topic concerning feminist social issues is required. Special consideration given for originality in analysis and treatment of the area.

Phyllis Carter Burr Graduate Scholarship in Developmental Biology and Cell Biology
Value: $750
Application deadline: September 30
Tenable: any semester
Terms of Reference: A one-semester award for outstanding Canadian students in their second year of a graduate studies program, master’s or doctoral, in the Faculty of Applied Sciences.

Cable Television Pioneer Graduate Scholarship
Value: $700
Application deadline: September 30
Tenable: January
Terms of reference: One scholarship for a graduate student in Communication specializing in communication policy.

Canadian Fishing Company Graduate Scholarship
Value: $1,500
Application deadline: September 30
Tenable: January
Terms of reference: One scholarship will be awarded to a graduate student working towards the degree of Master of Science or Doctor of Philosophy specializing in fish biology or aquatic ecology.

CanCopy Graduate Award in Publishing Studies
Value: $1,800
Application deadline: September 30
Tenable: January
Terms of reference: One award to a graduate student in the Master of Publishing Program, demonstrating experience within the Canadian book publishing and/or periodical and/or music publishing sector.

Canron Limited Sidney Hogg Memorial Graduate Scholarship
Value: $650
Application deadline: September 30
Tenable: January
Terms of reference: Canron Limited has established a scholarship in memory of the late Mr. Sidney Hogg, a Convocation founder of Simon Fraser University. This annual scholarship will be awarded to a worthy and deserving student in postgraduate studies in physics. The spirit of this scholarship is to assist a student who requires financial aid to continue studies and who, at the same time, qualifies in terms of character and scholarship as determined by the Physics Department and the Senate Graduate Awards Adjudication Committee.

CanWest Global Graduate Fellowship in Communications
Value: $10,500
Application deadline: September 30
Tenable: two consecutive semesters
Terms of reference: One or more scholarships awarded annually to graduate students in the School of Communication with a particular interest in issues related to broadcasting.

Centre for Systems Science/Faculty of Applied Sciences Graduate Student Award
Value: $6,000
Application deadline: by nomination
Tenable: any semester
Terms of Reference: A one-semester award for outstanding Canadian students in their second year of a graduate studies program, master’s or doctoral, in the Faculty of Applied Sciences.

Chemistry Graduate Research Award
Value: $800
Application deadline: May 30
Tenable: September
Terms of reference: One award to recognize superior performance in the first year of graduate studies in chemistry.

David and Rachelle Chertkow Healthy Families Essay Prize
Value: $300
Application deadline: January 30
Tenable: Summer semester
Terms of reference: One award for a graduate student in any Faculty who is pursuing research in the area of healthy families. The prize will consist of the cash award plus a plaque or certificate. The criteria include
demonstrated academic excellence at the undergraduate or graduate level and submission of an essay/research paper on promoting healthy families, or prevention of family violence.

Israel Chertkow Memorial Scholarship in Gerontology
Value: $150
Application deadline: September 30 (by nomination)
Tenable: January
Terms of reference: Awarded to the top graduating student in the Gerontology Diploma Program. It is made by nomination by the Director of the Gerontology Research Centre. Nomination deadline: September 30.

Dr. J.V. Christensen Graduate Scholarship
Value: $500
Application deadline: September 30
Tenable: Spring semester
Terms of reference: One award for a graduate student who is pursuing, or intends to pursue, a graduate degree in history or archaeology.

Barry Clark Memorial Graduate Scholarship in Pre-Twentieth Century English Literature
Value: $800
Application deadline: September 30
Tenable: January
Terms of reference: One award for a graduate student in English, specializing in pre-twentieth century English literature.

COGECO Graduate Scholarship in Communications
Value: $12,000
Application deadline: September 30
Tenable: January and May
Terms of reference: One two-semester award for a graduate student in Communication.

Samuel and Leatrice Cohen Prize in Environmental Physiology
Value: $600
Application deadline: September 30
Tenable: January
Terms of reference: One prize to recognize the best student paper resulting from graduate research in the field of environmental physiology.

The Graduate Prize in Computing Science
Value: $150
Application deadline: January 30 (by nomination)
Tenable: May
Terms of reference: One prize is awarded to the top graduate student in computing science from income earned from the Graduate Prize in Computing Science endowment fund.

Cook Conference Scholarship
Value: $1,500
Application deadline: January 30
Tenable: May
Terms of reference: One or more scholarships will be awarded to graduate students studying in any field of history on the basis of high academic performance.

Criminology Graduate Student Research and Education Grants
Value: maximum of $250 each
Application deadline: January 15, September 15
Tenable: May or January
Terms of reference: Travel grants for graduate students in the School of Criminology to travel to conduct research or participate at a conference, workshop or attend a course.

Isabel Dawson Memorial Scholarship in Gerontology
Value: $150
Application deadline: September 30
Tenable: January
Terms of reference: To provide financial recognition to an outstanding student engaged in research or study in gerontology.

Gordon Diewert Graduate Scholarship in Kinesiology
Value: $1,200
Application deadline: September 30
Tenable: January
Terms of reference: Awarded to a graduate student on the basis of high academic performance and study in the area of motor learning in kinesiology. This fund has been established in honor of Dr. Gordon Diewert for his contribution to the School of Kinesiology at Simon Fraser University.

Ebco/Epic Graduate Scholarships in Expert Systems
Value: $700-$1,400 each
Application deadline: September 30 (by nomination)
Tenable: January
Terms of reference: One or more scholarships valued between $700 and $1,400 each are available to graduate students in the Centre for Systems Science. These are:

- The Eppich Family Graduate Scholarship
- The Helmut Eppich Graduate Scholarship
- The Hugo Eppich Graduate Scholarship
- The Gordon, Monica, and Sonia Eppich Graduate Scholarship
- The Kaltenegger Family Graduate Scholarship
- The Ralph M. Howatt Family Graduate Scholarship
- The Century 21/Charwood Family Graduate Scholarship
- The Frieder Karl Kempe Graduate Scholarship
- The Cy and Emerald Keyes Graduate Scholarship
- The Franklin D. and Helen K. Van Pykstra Graduate Scholarship
- The Bel Construction Ltd. Graduate Scholarship
- The BC Welding Supplies Ltd. Graduate Scholarship
- The Clark, Wilson Graduate Scholarship
- The Canadian Liquid Air Ltd. Graduate Scholarship
- The Hanson Inc. Graduate Scholarship
- The Deskin Sales Graduate Scholarship
- The Jardine Rolfe Ltd. Graduate Scholarship
- The Nova-Tech Engineering Inc. Graduate Scholarship
- The Westak International Sales, Inc. Graduate Scholarship
- The Transco Tool and Equipment Ltd. Graduate Scholarship
- The ABC Recycling Ltd. Graduate Scholarship
- The Robar Industries Limited Graduate Scholarship
- The Opus Building Corporation Graduate Scholarship
- Borden Ladner Gervais Graduate Scholarship
- The Pacific Metals/Leon Lotzkar Memorial Graduate Scholarship
- The Backwater Industries/Jost Family Graduate Scholarship
- The Global (West) Wholesalers Ltd. Graduate Scholarship
- The Kreykenbohm Family Graduate Scholarship
- The Anna Kreykenbohm Graduate Scholarship
- The Wilhelm Kreykenbohm Graduate Scholarship
- The Michael and Grace Kreykenbohm Scholarship

Students are nominated for these awards by the director of the Centre for Systems Science. Application deadline: September 30.

Emergency Preparedness Conference Scholarship in Emergency Communications
Value: $2,000
Application deadline: September 30
Tenable: January
Terms of reference: An award to provide financial support for a graduate student in the School of Communication or other appropriate area in the emergency communications field, pursuing an applied research project in the area of emergency/disaster management.

Executive MBA Alumni Scholarship
Value: $500-$2,500 each
Application deadline: September 30, January 30, May 30
Tenable: January, May, September
Terms of reference: One or more scholarships awarded to graduate students in the first, second, or third years of the Executive Master of Business Administration program (EMBA).

Dr. E. A. Fattah Graduate Scholarship in Criminology
Value: $2,000
Application deadline: September 30
Tenable: January
Terms of reference: An award to a graduate student in Criminology pursuing graduate work in the area of victimology. Student should show promise of outstanding achievement at the graduate level with particular emphasis on intellectual ability, originality and ability in research.

Dr. Marguerite Fauquenoy Graduate Scholarship in French
Value: $500
Application deadline: September 30 or January 30
Tenable: January or May
Terms of reference: One award to a graduate student who has completed at least one semester of graduate work at Simon Fraser University in the area of French linguistics, varieties of French, French-based Creoles, French literature, or French studies.

Professor Thelma Finlayson Fellowship
Value: $4,000
Application deadline: September 30
Tenable: January
Terms of reference: Professor Thelma Finlayson has established a fellowship to be offered to graduate students enrolled in programs leading to the Master of Pest Management degree. Preference will be given to students working in the field of entomology.

French Memorial Graduate Scholarship
Value: $1,200
Application deadline: May 30
Tenable: September
Terms of reference: One award for a graduate student in French.

Mahatma Gandhi Memorial Scholarship in Kinesiology
Value: $700
Application deadline: January 30
Tenable: May
Terms of reference: A scholarship will be awarded to a Kinesiology graduate student whose research interests are in the areas of nutrition and/or aging. Preference may be given to students who are considered to be deserving and financially needy.

BC Council of Garden Clubs
Value: $750
Application deadline: May 30
Tenable: Fall
Terms of reference: A scholarship for a student in the Master of Pest Management Program whose course of studies emphasizes horticultural pest control. The recipient must be a Canadian citizen.

Glen Geen Graduate Scholarship in Marine Biology
Value: $500
Application deadline: September 30
Tenable: January
Terms of reference: One award for a graduate student in Biological Sciences with a concentration on marine biology.

German Canadian Benevolent Society of British Columbia Aulinger Award in Gerontology
Value: $500
Application deadline: September 30
Tenable: January
Terms of reference: The Aulinger Award in Gerontology provides financial support for a graduate student pursuing a master’s degree in Gerontology. Emphasis is on high academic performance and a research focus on aging and the built environment or on health promotion and aging.

Global Asset and Wealth Management MBA Graduate Scholarship
Value: $10,000
Application deadline: May 30 (by nomination)
Tenable: three consecutive semesters
Terms of reference: Ten scholarships per calendar year, to full-time students entering the Global Asset and Wealth Management MBA program after having spent a minimum of at least two years employed in the financial services industry in a professional capacity. Students will be nominated for these awards by the director of the program.

Harrison Graduate Scholarship in Chemistry
Value: varies
Application deadline: September 30 (by nomination)
Tenable: Spring semester
Terms of reference: Awards equal to one semester’s tuition fees will be disbursed to one or more candidates in a master’s or doctoral program in Chemistry who do not currently hold an NSERC grant or other award of equal or greater value. Candidates must be nominated for this award by the department of Chemistry Scholarship committee with the approval of the Chair of the Department.

Sidney Hogg Memorial Graduate Scholarship
Value: $750
Application deadline: September 30
Tenable: January
Terms of reference: Mrs. Sidney Hogg has established an endowment, the earned income therefrom to provide a perpetual scholarship annually. This scholarship is to be awarded to a graduate student in science who needs financial assistance in order to continue studies and who is qualified in terms of character and scholarship. The award may be held in conjunction with other awards.

Imperial Order of the Daughters of the Empire Seaman Morley Scott Memorial Graduate Scholarship
Value: $300
Application deadline: September 30
Tenable: January
Terms of reference: A graduate scholarship in memory of Dr. Seaman Morley Scott will be awarded annually to a female graduate student who is a Canadian citizen who demonstrates high meritorious performance in her academic program.

International Reading Association Scholarship
Value: $700
Application deadline: January 30
Tenable: May
Terms of reference: One scholarship awarded to a full or part time graduate student pursuing studies in literacy education.

Daniel Janzen Memorial Graduate Scholarship
Value: varies
Application deadline: September 30
Tenable: January
Terms of reference: Established in memory of Daniel Janzen by his friends and family. To provide financial support to a graduate student studying for an MA degree in economics or political science, or an MBA in business administration. Preference, when possible, will be given to a student coming to Simon Fraser University from the University College of the Fraser Valley.

Billy Jones Memorial Graduate Scholarship
Value: $2,500
Application deadline: September 30 (by nomination)
Tenable: January
Terms of reference: An award for a graduate student in physics, was established in honor of the late Dr. B.L. Jones, a faculty member in the Physics Department from 1967 to 1981.

Dr. Tai Whan Kim Memorial Graduate Scholarship in Languages and Linguistics
Value: $1,000
Application deadline: May 30
Tenable: September
Terms of reference: One award for a graduate student pursuing a master’s or PhD degree in romance languages, romance linguistics or a related field.

Leon J. Ladner Graduate Scholarship in B.C. History
Value: $500
Application deadline: January 30
Tenable: May
Terms of reference: One or more scholarships for graduate students possessing high academic standing and a special aptitude for research and wishing to undertake postgraduate work in the field of British Columbian history.

Frank A. Linville Graduate Scholarship in Oil Action
Value: $17,000
Application deadline: May 30
Tenable: three consecutive semesters
Terms of reference: One or more awards for students pursuing a graduate degree whose research is on oil action. Award criteria include demonstrated academic excellence and promise of outstanding achievement at the graduate level with particular emphasis on intellectual ability, originality and ability in research.

H.R. MacCarty Graduate Bursary
Value: $6,000
Application deadline: September 30
Tenable: January
Terms of reference: The H.R. MacCarty Bursary Endowment Fund provides financial support for a graduate student in biological sciences with preference given to a student studying the biology and management of pest organisms. The award will be based on financial need, good academic standing, and promise of service to mankind through the application of science.

MacMillan Bloedel MBB Graduate Scholarship
Value: $4,400 (MSc)
Application deadline: September 30
Tenable: January
Terms of reference: One or more scholarships for Master of Science students carrying out research in the Department of Molecular Biology and Biochemistry.

MacMillan Bloedel MBB Graduate Scholarship
Value: $5,000 (PhD)
Application deadline: September 30
Tenable: January
Terms of reference: One or more scholarships for Doctor of Philosophy students carrying out research in the Department of Molecular Biology and Biochemistry.

Marie Magrega Graduate Award in Gerontology
Value: $500.00
Application deadline: September 30
Tenable: any semester
Terms of reference: Established in memory of Marie Magrega by her son, Dr. Dennis Magrega, to promote and encourage the study of Gerontology. One award will be disbursed annually to a graduate student registered in the MA program in Gerontology. The student must be nominated by the Director of the Gerontology Program.

Management of Technology MBA Graduate Scholarships
Value: $10,000
Application deadline: by nomination
Tenable: any semester
Terms of reference: Two scholarships per calendar year, to full time students entering the ‘accelerated cohort’ after a minimum of two years of employment in the high-tech industry in a professional capacity. Students must be nominated by the Academic Director of the Management of Technology Program to the Dean of Graduate Studies.

Temple Maynard Memorial Graduate Bursary in English
Value: $2,000
Application deadline: May 30
Tenable: September
Terms of reference: One bursary for a graduate student in English.

MBB Alumni Graduate Scholarship
Value: varies
Application deadline: September 30
Tenable: any semester
Terms of reference: One award for a graduate student who is in the first nine semesters of a master’s program or in the first 15 semesters of a doctoral program and who is conducting research in molecular biology and biochemistry.

Colin McPhee Graduate Scholarship in Fine Arts
Value: $4,400 for a master’s student, $5,000 for a doctoral student
Application deadline: April 15
Tenable: September
Terms of reference: A one-semester award for a student pursuing a graduate degree in any art discipline in the School for the Contemporary Arts, A student who applies for a Graduate Fellowship will automatically be considered for this scholarship.

Alan Mekler Memorial Graduate Scholarship
Value: $1,000
Application deadline: May 30
Tenable: September
Terms of reference: One award for a graduate student in mathematics specializing in pure mathematics with preference given to students in logic.

Methanex Corporation Graduate Scholarship
Value: $5,500 per year
Application deadline: by nomination
Tenable: any semester
Terms of reference: The award is for a two year period representing the corporate sponsorship portion of an NSERC Industrial Postgraduate Scholarship (IPGS). To be eligible, the NSERC IPGS recipients must spend 20% of their time working for Methanex Corporation. The NSERC IPGS holder must be nominated for the Methanex award by the graduate program chair (in the department that the NSERC IPGS is held) to the Dean of Graduate Studies.

National Council of Jewish Women (Vancouver Section) Graduate Scholarship in Women’s Studies
Value: $700
Application deadline: September 30
Tenable: January
Terms of reference: One scholarship of approximately $700 for a graduate student in the first, second or third semester of women’s studies.

Hemingway Nelson Architects Graduate Scholarship
Value: $1,500
Application deadline: September 30
Tenable: January
Terms of reference: One award for a graduate student carrying out research in the Department of Molecular Biology and Biochemistry.
Marshall Noble Memorial Graduate Bursary in Chemical Ecology
Value: $1,000
Application deadline: September 30
Tenable: January
Terms of reference: One bursary for a graduate student in the Chemical Ecology Research Group in the Faculty of Science.

NSERC Graduate Student Conference Travel Grants
Value: up to a maximum of $700
Application deadline: one month prior to proposed travel date
Tenable: any semester
Terms of reference: Applicants must be registered full-time in a master's or doctoral program in a field supported by NSERC in the natural sciences, life sciences and engineering and who are presenting a paper or chairing a session at a national or international meeting of a professional association or equivalent group. Awards are valued up to a maximum of $700 towards the air fare and registration fees only.

Dr. M. Sheila O’Connell Graduate Scholarship in Children’s Literature
Value: $1,500
Application deadline: September 30 (by nomination)
Tenable: January
Terms of reference: One scholarship will be awarded in the spring semester to a graduate student majoring in the field of children's literature within the Faculty of Education or the Department of English. Students will be nominated by the Faculty of Education and the Department of English.

Dr. M. Sheila O’Connell Graduate Publication Scholarship
Value: $1,000
Application deadline: September 30
Tenable: January
Terms of reference: For a student pursuing a graduate degree with a concentration on children's literature within the Faculty of Education or the Department of English. The scholarship is intended to assist candidates in writing and publishing children's story.

Anne Peters Pinto Graduate Scholarship in Women’s Studies
Value: $1,500
Application deadline: September 30
Tenable: January
Terms of reference: One award for a graduate student in Women’s Studies.

Petro-Canada Graduate Scholarship in Earth Sciences
Value: $3,000
Application deadline: September 30
Tenable: January
Terms of reference: One scholarship to a student pursuing a graduate degree in earth sciences in the Faculty of Science.

Dr. L. B. Peter Rae Memorial Award in Business Ethics
Value: $1,000
Application deadline: September 30
Tenable: January
Terms of reference: One award to recognize a student pursuing an MBA or EMBA and whose thesis or MBA project addresses issues in business ethics.

Rogers Communications Inc. Graduate Scholarship in Communication
Value: $4,000
Application deadline: September 30
Tenable: January
Terms of reference: One or more scholarship(s) awarded annually to graduate students in the School of Communication with a particular interest in issues related to broadcasting or cable.

Rotary Club of Burnaby Scholarship
Value: $1,000
Application deadline: September 30
Tenable: January
Terms of reference: A scholarship of $1,000 has been established by the Rotary Club of Burnaby for a graduate student in the Faculty of Education in recognition of scholarly merit and the advancement of education practice.

Phillip Rutherford/Harper Collins Memorial Bookstore Internship
Value: $1,000
Application deadline: September 30
Tenable: January
Terms of reference: This award provides a bookstore internship for a student in the Master of Publishing Program, normally in BC for three to four weeks.

William and Jane Saywell Graduate Scholarship in History
Value: $1,000
Application deadline: January 30
Tenable: May
Terms of reference: One or more awards for graduate students in History.

ScotiaBank Graduate Scholarship for Women Entrepreneurs
Value: $5,000
Application deadline: May 30
Tenable: Fall semester
Terms of reference: One award for a female graduate student in a master's program in Business Administration with demonstrated entrepreneurial experience or a well-developed plan for a new business. One or more awards will be granted as funds become available.

Fung Chan Yee Shan Memorial Scholarship in Gerontology
Value: $1,000
Application deadline: September 30
Tenable: January
Terms of reference: An annual scholarship for a student pursuing an MA degree in Gerontology.

Stevenson Graduate Scholarship in Political Science
Value: $1,250
Application deadline: May 30 (by nomination)
Tenable: Fall semester
Terms of reference: One award for a student pursuing a master's or doctoral degree in Political Science, Promise of outstanding achievement at the graduate level with particular emphasis on intellectual ability, originality and ability in research. The student must be nominated by the Political Science Department for the award.

The Sulzer Bingham Pumps Inc. Graduate Scholarship
Value: $1,000
Application deadline: September 30
Tenable: January
Terms of reference: One award for a student pursuing a graduate degree in the Faculty of Science or the Faculty of Applied Sciences.

TCG International Graduate Scholarship in Business Administration
Value: $8,000
Application deadline: September 30
Tenable: January and May
Terms of reference: A two semester award for a graduate student in the Master of Business Administration Program specialising in marketing, international business or policy analysis.

Ethel Barbara Tuck Graduate Scholarship in Education
Value: $1,000
Application deadline: September 30
Tenable: Spring semester
Terms of reference: One award for a graduate student in the Faculty of Education in recognition of scholarly merit and the advancement of education practice.

VanCity Environmental Graduate Scholarship
Value: $5,000
Application deadline: May 30
Tenable: September and January
Terms of reference: A two-semester scholarship for a graduate student enrolled in the Natural Resources Management Program who is researching environmental and resource management problems in British Columbia.

Vancouver A.M. Tourist Services Association Graduate Scholarship in Tourism in Memory of Bob Chambers
Value: $750
Application deadline: May 30
Tenable: September
Terms of reference: A scholarship awarded in memory of Simon Fraser University alumnus Bob Chambers for a graduate student in the School of Resource and Environmental Management with a concentration on tourism.

Viswanathan-Delord Graduate Endowment Fund
Value: $2,000
Application deadline: May 30
Tenable: September
Terms of reference: Sponsored by Penguin Canada for a student pursuing a master's degree in Publishing Studies.

Linda Waddell Memorial Scholarship in Publishing Studies
Value: $2,800
Application deadline: September 30
Tenable: two consecutive semesters
Terms of reference: For a master's or PhD student in the Faculty of Education. Preference will be given to a Canadian citizen or landed immigrant.

Garfield Weston Foundation/BC Packers Limited Graduate Fellowship in Marine Sciences
Value: $16,000
Application deadline: May 30
Tenable: September, January and May
Terms of reference: A one year award for a graduate student pursuing science-based educational, research and/or development activities that support or enhance the aquaculture and/or commercial wild fishing industries in Canada.

Madame Justice Bertha Wilson Graduate Bursary
Value: $250
Application deadline: September 30
Tenable: January
Terms of reference: One bursary is available to a graduate student pursuing research that has a focus on the feminist analysis of law and society. Academic excellence and financial need will be considered.

Lang Wong Memorial Endowment Scholarship in Economics
Value: $1,000
Application deadline: January 30
Tenable: May
Terms of reference: One scholarship to a graduate student in Economics who has completed one
Terms of reference: Four scholarships are available for study in the fields of international or industrial relations (including the international or industrial aspects of law, history, politics and economics).

Eligibility: Graduates of any Canadian university who propose to engage in postgraduate study of international relations or industrial relations in the United States or the United Kingdom.

Deadline: February 1 to Dean of Graduate Studies.

Natural Sciences and Engineering Research
Council Awards
Value: varies (see below)
Tenable: annual
Terms of reference: NSERC offers postgraduate awards and post doctoral fellowships in science including interdisciplinary research, physical geography and experimental psychology, and engineering. Canadian citizens and permanent residents who at the time of application are residing in Canada are eligible. Two categories of postgraduate awards are available:

NSERC PGSA
Value: $17,300 year
Deadline: October 15
Tenable: annual
Terms of reference: Tenable during the third and fourth or fourth and fifth year of doctoral study. Wire: www.nserc.ca Further information is available from the Office of the Dean of Graduate Studies.

NSERC PGSB
Value: $19,100 year
Deadline: October 15
Tenable: annual
Terms of reference: Tenable for study in Canada, $15,000 for study in the United States or the United Kingdom.

Eligibility: Graduates of any Canadian university who propose to engage in postgraduate study of international relations or industrial relations in the United States or the United Kingdom.

Deadline: February 1 to Dean of Graduate Studies.

Research/travel allowance: $4,000 per year
Tenable: Initially for two years, with the possibility of an additional one year extension.

Terms of reference: To enable highly qualified post graduates to prepare for careers in health research as independent investigators in biomedical research, clinical research, research respecting health systems and health services, research on societal, cultural and environmental influences on health and the health of populations.

Information and application forms are available through the Office of the Dean of Graduate Studies, MBC 1100. Applications, guidelines and information regarding eligibility are also available for download from the MSFHR website located at www.msfhr.org

Social Sciences and Humanities Research Council Awards
Value: $17,700
Application deadline: October 15
Tenable: Any semester
Terms of reference: SSHRC offers doctoral fellowships in the humanities and social sciences.

Applicants must be Canadian citizens or permanent residents of Canada, living in Canada at the time of application. Applicants must have completed a master's degree or at least one year of doctoral study, and will be pursuing full or part-time studies leading to a PhD or its equivalent. The deadline for applications to the appropriate SFU department is approximately October 15. Website: www.sshrc.ca Further information is available from the Office of the Dean of Graduate Studies.

Externally Administered Programs
The following programs are not administered by Simon Fraser University. The information is intended for general reference only; it may be subject to change. The student is responsible for enquiring and applying through the appropriate agency as indicated in the description.

Applications can be obtained from the Office of the Dean of Graduate Studies.

Awards Administered by the International Council for Canadian Studies
Value: varies
Application deadline: October
Tenable:
Terms of reference: The ICCS administers a number of research and international programs on behalf of Canadian and foreign donors. A brief description of some of the awards is given below. A comprehensive list of awards, including those offered for study abroad, is available from International Council for Canadian Studies, 800 – 325 Dalhousie Street, Ottawa, Ontario, K1N 7G2. Deadlines for application are normally in October of each year. Website: www.iccs-ciec.ca.

BC Medical Services Foundation Predoctoral Fellowships
Value: $17,000
Application deadline: April 26
Tenable: three consecutive semesters
Terms of reference: For outstanding new research scientists in the first or second year of doctoral studies in any discipline in the health sciences (gerontology, kinesiology, psychology, education).

BC Medical Services Foundation Summer Fellowships
Value: $5,000
Application deadline: January 11
Tenable: Summer semester
Terms of reference: 15 awards for outstanding graduate students in the health sciences (gerontology, kinesiology, psychology, education) to
conduct summer research in any discipline in the health sciences.

**Canadian Federation of University Women Fellowships**
A candidate for any of the following awards must be a Canadian citizen or must have held Landed Immigrant status for one year prior to submitting application. Information and application forms are available from: The CFUW, 600 – 251 Bank Street, Ottawa, Ontario, K2P 1X3, and the Dean of Graduate Studies Office.

**Margaret McWilliams Pre-doctoral Fellowship**
Value: $10,000
Deadline: November 15.
Tenable: one year
Terms of reference: This award of $10,000 is open to any woman who has completed a bachelor’s degree from a Canadian university and who is enrolled in graduate study in any field of study. (master’s degree or equivalent); at least one year into doctoral program; may be studying abroad.

**Professional Fellowship**
Value: $5,000
Deadline: November 15.
Tenable: one year
Terms of reference: This fellowship of $5,000 is open to any woman who holds a bachelor’s degree from a Canadian university who wishes to work abroad. One Professional Fellowship is awarded. The student may be studying abroad.

**Alice E. Wilson Grants**
Value: $1,000
Deadline: November 15.
Tenable: one year
Terms of reference: This award of $1,000 is open to any woman scholar who holds a bachelor’s degree from a Canadian university 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.

**International Federation of University Women Scholarships**
Value: varies
Deadline: November 15.
Tenable: one year
Terms of reference: Research fellowships, grants and bursaries. Applicants must be members of CFUW. Deadlines: approximately November 15. For detailed information contact: International Federation of University Women, 37, Quai Wilson, CH 1201, Geneva, Switzerland.

**Commonwealth Scholarship Plan**
Value: varies
Application deadline: October
Tenable: two years
Terms of reference: The Commonwealth Scholarship and Fellowship Plan offers awards to graduate students in Commonwealth countries to pursue advanced degrees. They are normally tenable for two years in any of the following countries: Australia, Ghana, Hong Kong, India, Jamaica, Malaysia, New Zealand, Nigeria, Sri Lanka, Trinidad and Tobago, Uganda, United Kingdom.

**J. Armand Bombardier Internationalist Fellowships (formerly Celanese Canada Internationalist Fellowships)**
Value: $10,000
Application deadline: March 1
Tenable: one academic year
Terms of reference: Fellowships to Canadians and permanent residents of Canada who wish to pursue studies, conduct research, or work abroad to develop their international awareness. A key objective is to further Canada’s participation in the world economy. Targeted at outstanding university graduates of proven academic merit in any discipline and demonstrated personal suitability. Applicants must hold at least one university degree (no longer than five years from the date of application), or are currently in the final year of a degree program. Fellowships are non-renewable. Information and application forms are available through the Office of the Dean of Graduate Studies, MBC 1100. For full information about these awards, visit the J. Armand Bombardier Internationalist Fellowships website at www.cbie.ca/canstu.

**International Development Research Centre Scholarship**
Value: $20,000
Application deadline: unknown
Terms of reference: IDRC offers a number of awards to graduate students in Canadian universities to facilitate their involvement in Third World issues.

**Margaret Dale Philip Award**
Value: $1,000
Deadline: November 15.
Tenable: one year
Terms of reference: This award of $1,000 is open to any woman who has completed a bachelor’s degree from a Canadian university 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.

**Queen Elizabeth II British Columbia Centennial Scholarship**
Value: $20,000
Application deadline: March 31
Tenable: Any semester
Terms of reference: The purpose of this scholarship is to enable selected British Columbians who have graduated from a public university in BC to take further studies at approved universities in the British Commonwealth, except Canada. Eligibility: a graduate of the University of British Columbia, the University of Victoria, Simon Fraser University or the University of Northern British Columbia a) who has attended any British Columbia public university for a minimum of two years; b) whose ordinary domicile, home or residence is in BC; c) who is a Canadian citizen.

**Rhodes Scholarships**
Value: $12,000
Application deadline: September 30
Terms of reference: The Rhodes Trustees offer annually in the Province of British Columbia one Rhodes Scholarship, which is tenable at Oxford University for two years, and renewable for a third year. Eligibility: Canadian citizens or British subjects who have been ordinarily resident in Canada for at least five years by October 1st in the year of application; from 19 to 25 years of age on October 1st in the year of election, with at least three years of university study completed at time of tenure. Distinction of character and intellect are given most consideration in selection. Further information and application forms are available from the Rhodes Scholarship Trust at the Bursary and Awards office and the Office of the Dean of Graduate Studies.

**Soroptimist Foundation of Canada**
Value: $5,000
Application deadline: January 31
Tenable: May
Terms of reference: These are grants to assist female students with university studies which will qualify them for careers serving other women by improving the quality of their lives.

**J.H. Stewart Reid Memorial Fellowship**
Value: $5,000
Application deadline: April 30
Terms of reference: The J.H. Stewart Reid Memorial fellowship is open to doctoral students in any field at any Canadian university. Eligibility: a) Canadian citizen or landed immigrant; b) completion of at least one full academic year of graduate work by June 1; c) a first class academic record. Application forms are available from the Office of the Dean of Graduate Studies, Web: stewartreid.caut.ca

**Carl H. Westcott Memorial Fellowship**
Value: $5,500
Application deadline: June 26
Terms of reference: One scholarship is awarded annually to a student whose research work is being carried out at TRIUMF or on TRIUMF related projects. For further information contact the Dean of Graduate Studies Office.

**International Federation of University Women**
Value: varies
Application deadline: November 15
Terms of reference: Research fellowships, grants and bursaries. Applicants must be members of CFUW. For detailed information contact: International Federation of University Women, 37, Quai Wilson, CH 1201, Geneva, Switzerland.

**Bursaries and Loans**

**Bursaries Administered by the University**
The following regulations govern all bursaries over which the University has jurisdiction. The deadline to apply for bursaries is the end of the second week of classes each semester.

**Regulations**
- Bursaries are a supplemental source of funding for students in high financial need. Students are expected to find their primary funding through other sources such as government student loan or grant programs, part time work, savings, family, etc.
- Students must have a demonstrated financial need.
- Students must have a minimum CGPA of 2.00 to be eligible for bursaries.
- Graduate students must be registered for residence credit in an approved full time program for the semester of application. Students who do not register or subsequently change to on-leave or part time status may have their awards cancelled.
- The student must apply on the Simon Fraser University Bursary application form. It is the student’s responsibility to meet applicable deadlines.
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, Confratellanza Italo-Canadese and friends. Mr. J. Diamond, Mr. J. Segal, Mr. Ben Wosk.

Burrard Charitable Foundation Bursary
Program code: GBO-554
Value: $750
Awarded: Fall
Terms of reference: A student with any physical disability. Adjudication will occur in consultation with the Physically Challenged Students’ Co-ordinator.

Father Della-Torre Bursary 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: $400
Awarded: Spring

Lois M. Fisher Bursary
Program code: GBO-597
Value: $400
Awarded: Spring

Government of BC Women’s Equality Bursary
Program code: GBO-677
Value: $500
Awarded: Fall
Terms of reference: To support women enrolled in full or part-time programs in Women’s Studies or related coursework in the Faculty of Arts. Preference will be given to mature female students beginning or returning to University.

Minerva Foundation Bursaries
Program code: GBO-606
Value: $500
Awarded: Fall
Terms of reference: Granted on the basis of demonstrated financial need and satisfactory academic performance to women who are full-time graduate students in any faculty with preference given to single mothers.

Nikitman/Chan Bursary
Program code: GBO-737
Value: $1000
Awarded: Fall, Spring, Summer
Terms of reference: The bursary will substantially pay tuition and fees for two semesters and will be disbursed over two semesters. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance to students in any faculty of discipline. The recipient will be a single parent with preference given to entering students.

Opsiinath Club Bursary Endowment
Program code: GBO-603
Value: $1,000
Awarded: Fall
Terms of reference: For mature, continuing students at Simon Fraser University, who have financial need and good academic standing. The Opsiinath Club is an organization of senior (60 years) students.

Office of the Registrar Bursary for Physically Challenged Students
Program code: GBO-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. The application deadline is the end of the second semester of the academic year. Funds will be credited to the successful student’s account with the University. Outstanding debts to the University will be deducted from the bursary funds before a cheque for the credit balance is issued.

Bursaries are tenable only for the semester indicated on the notice and may not be deferred. Students who do not register in the semester for which the bursary is granted forfeit the award. To be considered for bursaries in future semesters of registration, students must reapply.

Bursaries for All Students
Alumni Scholarship and Bursary Endowment Fund
Program code: GBO-584
Value: $500
Awarded: Fall Spring Summer
Terms of reference: Undergraduate and graduate students. The awards are based on financial need and satisfactory academic standing.

Laura (Pat) Band and Richard W. Band Bursary for First Nations Students
Program code: UEO-540
Value: $500
Awarded: Fall Spring Summer
Terms of reference: The bursary is granted in any semester based on financial need and community service to a student who is a member of the Squamish, Fort Langley, or Cheam First Nations and who have demonstrated volunteer involvement in service to the university or the community at large. The bursary may be granted to graduate or undergraduate students in all disciplines and fields of study. The successful student will have completed a minimum of 30 credits and will have achieved a minimum cumulative GPA of 2.33. The application should include a discussion of the student’s volunteer involvement in community activities and confirmation of the student’s status in Squamish, Fort Langley or Cheam First Nations.

Birks Family Foundation Bursaries
Program code: GBO-551
Value: $500
Awarded: Fall Spring Summer
Terms of reference: The Birks Family Foundation has established a plan of annual contributions to the Student Aid Fund of recognized Canadian universities and colleges for the creation of these bursaries. The bursaries are awarded by the Foundation on the recommendation of the University Scholarship Committee, are not restricted by faculty or year, and may be renewed. The number and amount of such awards may vary annually depending upon the funds available from the Foundation.

Blayne and Sharon Johnson Bursary
Program code: GEBO-598
Value: $1000
Awarded: Fall Spring Summer
Terms of reference: The bursary will substantially pay tuition and fees for two semesters. Bursaries will be disbursed over two semesters. Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance to students in any faculty of discipline. The recipient will be a single parent with preference given to entering students.
students holding satisfactory academic records and who are experiencing financial need in the pursuit of studies.

**Rotary Club of Vancouver Community Service Bursary**
Program code: GEBO-568
Value: $500
Awarded: Fall
Terms of reference: Students in financial need with satisfactory academic standing.

**William and Jane Saywell Bursary**
Program code: GUBO-582
Value: $1,500
Awarded: Fall
Terms of reference: A student who is a single parent and who has demonstrated a deep commitment to any field of study at Simon Fraser University and has financial need. A letter is required that outlines and discusses their extracurricular activities and interests that would demonstrate commitment to the chosen field of study.

**Mrs. Rosalie Segal Endowment Fund for Students With Special Needs**
Program code: GEBO-604
Value: $1,000
Awarded: Fall Spring Summer
Terms of reference: Applications for daycare bursaries are available at the Daycare Centre. Eligible students may qualify for a bursary provided that financial need can be demonstrated by a completed Canada Student Loan assessment or an Open Bursary assessment. Daycare bursaries are available to both graduate and undergraduate students.

**Simon Fraser University Daycare Bursaries**
Program code: GUBO-700
Value: $100
Awarded: Fall Spring Summer
Terms of reference: An award of $2,000 per semester for one year may be made by the University to a disabled graduate student. The applicant must be a full time registered graduate student in good standing whose disability substantially increases the cost of study and who can demonstrate financial need.

**SFU International Students’ Bursary Fund**
Program code: GUBO-600
Value: $500
Awarded: Fall Spring Summer
Terms of reference: This fund has been established to assist undergraduate visa students who have critical financial need. Students applying for this bursary must be registered in a minimum of 9 credit hours and have satisfactory academic standing.

**Simon Fraser University Open Bursaries**
Program code: GUBO-500
Value: $500
Awarded: Fall Spring Summer
Terms of reference: Must be registered in a minimum of nine credit hours and have satisfactory academic standing.

**Jennifer Allen Simons Bursary**
Program code: GEBO-669
Value: $1,000
Awarded: Fall Spring Summer
Terms of reference: An undergraduate or graduate woman student in any faculty. The bursary will be granted to a student who is a single parent supporting a child, and who is in financial need and who has satisfactory academic performance. Applicants must have completed one semester at Simon Fraser University as a full-time student.

**Harry and Dora Annie Smeee Bursary**
Program code: GEBO-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: GUBO-572
Value: $525
Awarded: Summer
Terms of reference: A physically challenged student in any faculty who is beyond first year studies. Initial preference will be given to wheelchair users.

**Squamish Nation Bursary**
Program code: GUBO-738
Value: $250
Awarded: Summer
Terms of reference: Valued at a portion of the earned interest, is granted in any semester based on financial need and community service to a student who is a member of the Squamish Nation. The bursary may be granted to graduate or undergraduate students in all disciplines. The successful student will have completed a minimum of 24 credits and will have achieved a minimum CGPA of 2.00. The application should include a discussion of the student’s involvement in SFU or Squamish Nation community activities and confirmation of the student’s status with the Squamish Nation.

**TSSU Member Child Care Bursary**
Program code: GUBO-550
Value: variable
Awarded: Fall Spring Summer
Terms of reference: TSSU employees are eligible to apply to the TSSU Member Child Care Bursary for each semester in which they hold an appointment and are registered as students at SFU and in which they receive child care services from a paid child care provider. All applications are subject to verification. The applicant must identify him/herself as an employee in the bargaining unit on the bursary application.

**University Women’s Club of Vancouver Bursary**
Program code: GEBO-705
Value: $800
Awarded: Fall
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-706
Value: $1,000
Awarded: Fall
Terms of reference: A full or part-time student who is either entering the University for the first time or returning after an absence. Preference will be given to a mature female student. The bursary will be based on satisfactory academic performance and demonstrated financial need. The award will include a one-year’s membership in the Western Businesswomen’s Association as well as the opportunity to engage in the Association’s mentorship program.

**Bursaries for Applied Sciences Students**

**Delcan Corporation Bursaries**
Program code: GPBO-677
Value: $1,000
Awarded: Spring
Terms of reference: Undergraduate students registered full time at Simon Fraser University, in the faculties of Science or Applied Sciences. It is the intention of the Delcan Corporation to promote socio-environmental research and studies relative to major civil engineering projects; to support opportunities for women to enter careers at the management level in engineering; to increase high technological input into civil engineering, and to promote superior written and oral communication skills. Students will apply for these bursaries through Financial Assistance and Awards, and must include a letter of recommendation from the Office of the Dean of the major program.

**Olga and Richard Murray Bursary in Applied Sciences**
Program code: GEBO-725
Value: $1,000
Awarded: Fall Spring Summer
Terms of reference: Granted to graduate or undergraduate students in the Applied Sciences Faculty on the basis of demonstrated financial need and satisfactory academic performance. To the extent feasible, preference will be given to a student, or the spouse or child of a person, who is a member of the Telecommunication Workers Union or of Van-Tel Credit Union.

**Dr. Tom Richardson Memorial Graduate Entrance Bursary**
Program code: GEBO-726
Value: $300
Awarded: Fall Spring
Terms of reference: To a graduate student entering Kinesiology or in the first semester of Kinesiology or for a student pursuing graduate studies in other Departments with a focus on biomedical engineering. The criteria for this award are: financial need; demonstrated academic excellence at the undergraduate level and, if applicable, at the graduate level; intention to enroll in the graduate program in Kinesiology or completion of the first semester in a graduate program in Kinesiology or intention to pursue research in biomedical engineering as a graduate student in another department.

**Vancouver Foundation Health Science Bursaries**
Program code: GPBO-578
Value: $500
Awarded: Fall Spring
Terms of reference: Full-time undergraduate and graduate students who have completed two years of post-secondary education. Areas of study include any of the following: pre-med program, clinical psychology, kinesiology, bio-medical engineering, and gerontology. Awards are based upon financial need and good academic standing.

**Bursaries for Arts Students**

**Adaline May Clark Bursary Permanent Endowment**
Program code: GEBO-590
Value: $400
Awarded: Fall
Terms of reference: The late Mrs. Clark has provided for the endowment of funds, for bursaries to enable students to attend, or continue to attend university. Students must be registered in the School for the Contemporary Arts, and must demonstrate financial need and a high level of achievement in the Arts.

**Aird Dundas Flavelle Memorial Bursary**
Program code: GEBO-659
Value: $2,500
Awarded: Fall
### Terms of reference:
A student who has completed at least 15 hours at Simon Fraser University with a satisfactory academic standing and whose course of study is in the following areas: political science, economics and/or business administration.

### Ancie and Arthur Fouks Bursary in Publishing Studies
**Program code:** GEBO-526  
**Value:** $1000  
**Awarded:** Fall  
**Terms of reference:** One or more bursaries will be awarded annually in the Fall semester to a student enrolled in a degree program in Publishing Studies. Awards may also be given to graduate students undertaking a Master Program in Publishing Studies. Student must have a minimum of 85 credit hours. The successful applicant should have financial need, a satisfactory academic standing and a demonstrable intent to pursue a career in the publishing industry. Applicants must submit to the Publishing Studies Program Committee a resume, including education and work history, and at least one short sample of professional, academic or business writing or portfolio piece to be considered for the award.

### Keith G. Loughlin Gerontology Bursary
**Program code:** GEBO-702  
**Value:** $700  
**Awarded:** Fall  
**Terms of reference:** A graduate student enrolled in the master of gerontology program, or to an undergraduate student enrolled in the gerontology program, a post baccalaureate diploma program. The bursary will be granted to a student demonstrating financial need and in satisfactory academic standing. Preference will be given to a student specializing in quality of life issues in intermediate care facilities for seniors. Applicants must submit with their application, a letter outlining specialization or area of interest in the gerontology field. A departmental nomination is to be submitted along with the application form.

### MATCH International Centre Bursaries in Honour of Rosemary Brown
**Program code:** GPBO-607  
**Value:** $625  
**Awarded:** Summer  
**Terms of reference:** Granted on the basis of demonstrated financial need and satisfactory academic performance to students in the Faculty of Business Administration.

### Aird Dundas Flavelle Memorial Bursary
**Program code:** GEBO-659  
**Value:** $2,500  
**Awarded:** Fall  
**Terms of reference:** A student who has completed at least 15 hours at Simon Fraser University with a satisfactory academic standing and whose course of study is in the following areas: political science, economics and/or business administration.

### J. Rose Memorial Bursary
**Program code:** GUBO-600  
**Value:** $1,400  
**Awarded:** Spring  
**Terms of reference:** An undergraduate or graduate Business Administration student who is in full time studies. The bursary will be granted on the basis of financial need and satisfactory academic performance. This bursary is provided by the Vancouver Foundation. A departmental recommendation is required.

### Bursaries for Education Students
**BC Exchange Teachers' Association Bursary**
**Program code:** GPBO-594  
**Value:** $300  
**Awarded:** Summer  
**Terms of reference:** Granted to undergraduate or graduate students in the Faculty of Education, in any semester based on demonstrated financial need and satisfactory academic performance.

### University Women's Club of Vancouver/Jean Beaty Memorial Bursary in Education
**Program code:** GEBO-519  
**Value:** $600  
**Awarded:** Summer  
**Terms of reference:** Granted on the basis of demonstrated financial need and satisfactory academic performance to a mature student in the Faculty of Education.

### Faculty of Education Alumni Bursary
**Program code:** GEBO-533  
**Value:** $500  
**Awarded:** Summer  
**Terms of reference:** Bursaries will be granted on the basis of demonstrated financial need and satisfactory academic performance to students in the Faculty of Education.

### Hildegard and Cornelius Renner Graduate Bursary in Education
**Program code:** GEBO-517  
**Value:** $250  
**Awarded:** Summer  
**Terms of reference:** Awarded annually in any semester on the basis of demonstrated financial need and satisfactory academic performance to mature graduate students in the Faculty of Education.

### Bursaries for Science Students
**Curzon-Digman Bursary**
**Program code:** GEBO-594  
**Value:** $1,000  
**Awarded:** Fall  
**Terms of reference:** Available to graduate students in physics or for majors or honours students in physics, mathematical physics, chemical physics, chemical biophysics or other joint programmes with physics. These bursaries are subject to financial need and academic ability. Nominations will be made by the chair of the physics department in consultation with Financial Assistance.

### Delcan Corporation Bursaries
**Program code:** GPBO-667  
**Value:** $1,000  
**Awarded:** Spring  
**Terms of reference:** Undergraduate students registered full time at Simon Fraser University, in the Faculties of Science or Applied Sciences. It is the intention of the Delcan Corporation to promote socio-environmental research and studies relative to major civil engineering projects; to support opportunities for women to enter careers at the management level in engineering; to increase high technological input into civil engineering, and to promote superior written and oral communication skills. Students will apply for these bursaries through Financial Assistance and Awards, and must include a letter of recommendation from the office of the dean of the major program.

### Urea Formaldehyde Foam Insulation Action Association Bursary
**Program code:** GEBO-607  
**Value:** $300  
**Awarded:** Fall  
**Terms of reference:** Students who have completed at least 80 credit hours and who are studying in the areas of toxic chemicals or pollutants and their effects on human health and functioning. Please document eligibility. The endowment has been established by the association.

### Vancouver Foundation Health Science Bursaries
**Program code:** GPBO-578  
**Value:** $500  
**Awarded:** Fall  
**Terms of reference:** Full-time undergraduate and graduate students who have completed two years of post-secondary education. Areas of study include any of the following: pre-med program, clinical psychology, kinesiology, bio-medical engineering, and gerontology. Awards are based upon financial need and good academic standing.

### Vancouver Horticulture Society Bursary
**Program code:** GEBO-590  
**Value:** $1,000  
**Awarded:** Fall  
**Terms of reference:** This award is available to students of the master of pest management program studying pest problems relating to horticulture. It is awarded to students who are in financial need and qualified in terms of character and scholarship.

### University Administered Loans

#### Student Emergency Loan Fund Regulations
The following regulations govern all loans for continuing students over which the University has jurisdiction.

- **Short term emergency funds** are available to students who urgently need money while awaiting other sources of funding.
- **Emergency loans** are interest free for 60 days.
- **Students** must have a demonstrated financial need and source of repayment.
- **Undergraduate students** must be registered in a minimum of nine credit hours of normal graded courses in the semester of application. Challenge, audit, and credit free courses will not be considered. **Graduate students** must be registered for residence credit in an approved full-time program.
- **Students** must apply on the SFU Emergency Loan application form and be interviewed by a Financial Assistance advisor. It is the student's responsibility to supply the requested documentation. Incomplete applications may be rejected.
- **SFU Emergency Loans** are tenable only at Simon Fraser University and only for the semester indicated on the notice.
Government Administered Programs

Canadian Armed Forces Subsidization Plans

Admission Requirements: An applicant must be a Canadian citizen; be physically fit for enrolment in the Canadian Forces; and be at least 16 years of age on the first day of January of the year the student commences first year studies at university.

How to Apply: Individuals interested in obtaining more information on, or wishing to make application for, any of these plans are requested to contact: Commanding Officer, Canadian Forces Recruiting Centre, 757 West Hastings Street, Vancouver, BC, V6C 1A1.

Government Loans

A loan is a sum of money borrowed by a student who proves financial need on a promise to repay at some specified time.

Canada Student Loan/BC Student Assistance

The purpose of the Canada Student Loan/BC Student Assistance Program is to assist students whose resources are insufficient to provide the cost of full time studies at the post secondary level of education. Therefore, funds under the program are granted only where the financial resources available to students from parents, summer or other employment, part time work, or other sources, are insufficient to meet their estimated educational costs. Normally, the funds provided under this program will be disbursed through a combination of the Canada Student Loan and BC Student Assistance. Students who have more than 8 months (34 weeks) of previous post-secondary study but less than 52 months (136 weeks) of undergraduate study receiving student financial assistance at a BC public post-secondary institution may be eligible for grant funding either in the form of a BC grant or Canada Millennium Scholarship grant. Some students with dependent children may qualify for Canada Study Grant funding. A detailed booklet describing the program in full is available at Financial Assistance.

Eligibility

Applicants must be Canadian citizens or permanent residents (landed immigrants) to be eligible. Assistance will be provided to eligible registered full time students taking a minimum of 60% or nine regular credit hours (40% or six for students with permanent disabilities) of a full program of study leading to a certificate, diploma or undergraduate degree, or registered full time (part time for students with permanent disabilities) graduate students. The amount of assistance awarded will be based on assessed need as determined by the provincial authority.

Currently, single full time students are eligible for a maximum of $4,675 in BCSAP each semester. The maximum for students with dependent children is $7,395 a semester. You can apply for BCSAP for either one semester or two semesters at 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 from the Student Services Branch in Victoria. After receiving this notification, the student's Canada Student Loan document will be mailed to the student from the Student Services Branch and the student will then take the loan document to a lending institution for negotiation.

If the student is also eligible for BC Student Assistance, the loan certificate and grant cheques (BC/Millennium Scholarship cheques) will be mailed to the student from the Student Services Branch, usually at the midpoint of the period of study for which assistance was awarded, and the student will then take the loan certificate to a lending institution for negotiation. Students are advised to keep in constant touch with the bank, or lending institution, from which they secure their loans.

Students should note the summary of obligations on the reverse side of the loan certificate prior to negotiating the loan. Interest on the loan is paid by the federal or provincial government as long as the student is registered as a full time student. Students should contact their lending institution (bank, credit union, service provider) for information regarding the current interest rate and repayment schedule for Student Loans. Students who have previously received Canada Student Loans or BC Student Loans, but who do not negotiate one for their immediate period of study, should submit a Schedule 2 and/or Certificate 2 to their lending institution in order to retain payment free status. Students must be undertaking a minimum of nine regular credit hours (six for students with permanent disabilities) in the current semester, be a registered full time (part time for students with permanent disabilities) graduate student, or enrolled in a co-op education work term to be considered eligible for payment free status. A copy of these forms may be obtained from the lending institution or Financial Assistance.

For appeals, reassessments or other concerns, please contact Financial Assistance.

The provincial government has a loan remission program available to some graduating students. For more information, contact: Loan Remission and Management Unit, Student Services Branch, Ministry of Advanced Education, Training and Technology.

Mailing address: PO Box 9173 Stn Prov Govt, Victoria, BC, V8W 9H7.
Location address: Second Floor, 1106 Cook Street, Victoria, BC.
In Victoria, call (250) 387-6100, in the Lower Mainland, call 660-2610, in Canada, call toll-free 1-800-561-1818, TTY (250) 952-6832. Fax (250) 356-5440, www.bcsap.bc.ca

International Student Loans

United States Students

Citizens (or eligible non-citizens) of the United States attending the university may apply for funding through the US Department of Education Student Financial Assistance Program. A Federal Application for Federal Student Aid (FAFSA) must be completed by the student and submitted to the Federal Student Aid Programs. A Student Aid Report (SAR) is then issued to the student. To receive Stafford loans, the student must submit the SAR to the Simon Fraser University Financial Assistance office, with an application and promissory note, which is available from the student’s lender or state guarantee agency. Financial Assistance calculates the student’s costs, completes the school section of the application, and then forwards the application to the appropriate agency for processing.

For more information regarding financial aid from the US Department of Education, call: 1-800-4-FED-AID (1-800-433-3243), or www.ed.gov/offices/OSFAP/Students.

Students with permanent resident status may be eligible to apply for Canada Student Loans. See section International Students.

Students from other countries

Students who are not Canadian citizens or Permanent Residents, and who will require financial assistance to attend Simon Fraser University must arrange such assistance in their country of origin before arrival in Canada.

Simon Fraser University permits non-Canadian students to compete for scholarships once they have enrolled at the University on the basis of course work undertaken at Simon Fraser University. It must be stressed that non-Canadian students should not predicate their tuition and living expense estimates upon these sources. Non-Canadian students are normally not permitted to work in Canada. Such students are expected and required by federal law to have sufficient funds guaranteed for their education prior to arrival in Canada.

Government Part-time Grants/Loans

If you are a part time student with demonstrated financial need, you may qualify for a federal study grant of up to $1,200. Grants are targeted to students with dependents and possibly other students with special circumstances who are not able to take full time studies.

Federal students loans up to $4,000 are also available to part time students with financial need. These loans supplement other financial resources such as earnings, scholarships and bursaries.

Part time students who are Canadian citizens or landed immigrants and who are not in default of previous federal student loans or grants may apply for both the grant and loan programs.

Applications and information are available from Financial Assistance. The deadline for applications is eight weeks before the end of each semester.

Grants for Students with Permanent Disabilities

A federal grant program is available to students with permanent disabilities. Check with the service co-ordinator 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

See the Financial Assistance website at www.reg.sfu.ca/fa for information.

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

Faculty of Applied Sciences – School of Communication


Dean
B.S. Lewis BA (Hamilton Coll), MA, PhD (Iowa)

Associate Deans
R.D. Cameron BASc, PhD (Br Coll)
W.S. Parkhouse BPE (Alta), MPE, PhD (Br Coll)

Director, Diversity and Recruitment
H. Matsui MSc (London School of Economics)

Graduate Degrees Offered
Master of Applied Science
Master of Arts
Master of Engineering
Master of Resource Management
Master of Science
Doctor of Philosophy

General Regulations
For admission requirements, registration, residence requirements and time limit for completion of degrees, see “Graduate General Regulations” on page 299.

School of Communication


Director
M. Laba BA (York), MA, PhD (Nfld)

Graduate Program Chair
C.A. Murray BA, MA (Wat), PhD (Qu)

Faculty and Areas of Research
For a complete list of faculty, see “School of Communication” on page 115.

P.S. Anderson – telecommunication and broadcasting policy; communication technology; communication to mitigate disasters/emergency communications
R.S. Anderson – international development; communication in conflict and intervention; community economic development; negotiation as communication; research methods in field situations
E. Balka – women and information technologies; technology assessment; participatory design of technology; information technology and work; technology and social movements
A.C.M. Beale – communication theory; history of communication; cultural policy; feminist analyses; film and video
Z. Druck – documentary film; film history and theory; technology and popular culture; narrative, semiotic and aesthetic theory; critical social and cultural theory
G.W. Fauxschou – media analysis; aesthetics and popular culture; social and political theory; economic discourse and market populism
R.S. Gruneau – popular culture, media; communications and cultural theory
D. Gutstein – journalism studies; information policy; access to information; documentary research techniques
R.A. Hackett – political communication; journalism and media studies; news analysis; press policy; media democratization
L.M. Harasim – computer mediated communication and collaboration; telelearning and telework; social network design and evaluation
J.A.D. Holbrook – measurement and quantitative analysis of innovation and S&T activities; regional systems of innovation; innovation and S&T policy analysis
P.M. Howard – communication in the computerized workplace; technology transfer; knowledge systems in development; risk communication with a focus on biotechnologies
R.W. Howard – communication in development; conflict and communication; international environmental issues; participatory research
S. Kline – advertising; children’s media and culture; audience research; public communication campaigns; non-broadcast video designs and uses
M. Laba – popular culture; media; applied communication for social issues
B.S. 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
G. McCarron – history and theory of communication; privacy and technology; film studies; advertising; interpersonal communication
C.A. Murray – strategic marketing, policy and regulation in telecommunications and broadcasting; political communication and opinion research; social marketing
W.D. Richards – communication/social network theory and network analysis methods; simulation methods; organizational communication/information networks and network analysis
R.K. Smith – management of technological innovation; innovation and cross-cultural communication; information society; the role of design in new service formulation
B.D. Truax – acoustic and electroacoustic communication; audio aspects of media and advertising; electroacoustic and computer music
Y. Zhao – political economy of international communication; relationship between communication, development and democracy; media and telecommunication industries in China

Communication is a comparatively new discipline that builds on traditional social science disciplines. It focuses on analysis of the context and means in which information in its diverse forms is created, packaged, circulated, interpreted, and controlled. As an applied science, communication is important in the creation and critical evaluation of legal and public policies in broadcasting, telecommunications, and community and international development. The study of communication has also become prominent in the professions, notably in law, education, community medicine, counselling, and mental health, and in business administration, advertising, and broadcasting.

The school draws on a variety of perspectives, but it is most readily distinguished by the fact that it treats communication as a humanistic social science with both theoretical and applied dimensions. Students are given opportunities to explore communication theory and practice and are encouraged to apply research and theory to issues and problems in contemporary societies and cultures.

The school offers graduate programs leading to an MA degree or PhD degree.

Fields of Study and Research
Faculty resources provide for graduate studies in the following general areas of interest. Students may wish to specialize in one or more of these general areas, or to select related aspects from two or more.

- theoretical foundations in communication studies
- 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, telelearning, distance education
- political communication
- communication in conflict and intervention
- crisis/emergency communication

Research and Training Facilities

Assessment of Technology in Context Design Laboratory
Graduate Resource Centre
Interactive Media Lab (network and multimedia studies)
Media Analysis Laboratory
Sonic Research Studio and Soundscape Archives
Telematics Laboratory

MA Program

Admission
Admission requires a bachelor’s degree in communication (with at least a good second-class standing) or an equivalent degree in an interdisciplinary or humanities program, in one of the social sciences, or in socially oriented information systems, or biological sciences. However, qualified students will be accepted only if the communication graduate studies committee finds a suitable senior supervisor. Besides applications from communication students, the school encourages applications from those with experience in humanities, social or biological sciences, and interdisciplinary studies.
All applications should be directed to the graduate studies committee and, in addition to general university requirements, should include the following.
- an application form along with the application fee.
- a 3-5 page succinct statement of interests and goals, together with an account of relevant academic and personal background.
- two samples of scholarly and/or other written work relevant to the applicant’s objectives and any tapes, films, etc. the applicant considers relevant.
- three references, at least two of whom should be familiar with the applicant’s academic work.

The application deadline is January 15. The Graduate Studies Committee announces decisions before the last week of April. Students enter the program in fall semester.

The school recognizes the special needs of working individuals who wish to upgrade their qualifications. The graduate program in communication has been approved for part time students; however, University regulations require all MA students to complete their studies within 12 full time equivalent semesters or six years, whichever is shorter.
As a condition of entry into the program, students with undergraduate degrees in disciplines other than
communication may be required to take up to two additional courses to complete their MA. These conditions, if applicable, will be specified in the letter of offer as determined by the admissions committee on an individual basis.

Advising and Supervision

Each new student is assigned an interim advisor upon program admission. The student selects a senior supervisor and in consultation with this faculty member selects one or two other faculty to serve on a supervisory committee by the beginning of the 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

The program may be completed through extended essay, project or thesis. Each is equivalent. Each requires the completion of the same number of courses, is research based and is subject to external examination. Students determine which option is suitable for their research in consultation with their senior supervisor and supervisory committee. The thesis represents a longer form of research and is normally between 80 to 100 pages, inclusive of all bibliographies and appendices. The extended essay requires completion of two essays of not more than 40 pages, which may be on related fields, but which may not substantively duplicate papers presented in course work.

The project does not involve a printed work but the student may present an alternative format such as a CD-ROM, website, video or audio documentary, on-line software development, or other technologically based formats.

All thesis and essay options will be bound and deposited in the University library. Procedures for the supervision and examination of extended essays and projects are the same as those for theses:

- All master's students present, discuss and defend their MA thesis, project and essay options in an exam before their supervisory committee and external examiner as required by graduate regulation 1.9.
- Extensive guidelines for each option are found on the School of Communication’s graduate website: www.sfu.ca/communication/grad/maguidelines/
- 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.

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 research programs. Group 2 contains courses in research methods and methodology that help students with research projects in the field. Group 3 contains courses in various research areas that are available in the school. In Group 4 courses students to do field work or work and study in a professional setting. In Group 5 courses students carry out research and/or reading under the direct supervision of a faculty member. Group 6 refers to the course designations for work on theses, projects, extended essays, or dissertations in process, for colloquia where students present such work, and for comprehensive examinations.

Course Requirements

At least four graduate courses (normally completed before beginning a thesis, a project, or two extended essays) which must include the following, unless otherwise stipulated as a condition for admission:

- one course from group 1
- one course from group 2
- two additional courses, at least one of which is selected from within the school. No more than one may be taken with the same instructor, except by permission of the graduate studies committee.

Group 1 Courses: Surveys of History and Theory
CMNS 800, 802, 804

Group 2 Courses: Research Design and Methods
CMNS 801, 805

Group 3 Courses: Research Area Courses
CMNS 815, 830, 840, 845, 855, 856, 859

Group 4 Courses: Research Internship and Fieldwork
CMNS 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-op program is made through the school's co-op co-ordinator and the Co-operative Education office.

PhD Program

The school will offer PhD students the opportunity to choose from the fields of study and research listed above under Faculty and Areas of Research and Fields of Study and Research.

Admission

Admission requirements for this program will normally include a master's degree or an exceptional record of undergraduate and/or graduate work in a relevant area of study. Enrolment is strictly limited by the school.

For general university admission requirements, see “Graduate General Regulations” on page 299. In addition to satisfying general requirements, applicants are asked to provide:

- an application form along with the application fee.
- a 2-3 page succinct account of their past academic experience, scholarly work, and research accomplished or in progress
- an account of the applicant's relevant previous experience including teaching and degree of responsibility for course content
- samples of scholarly writing, research reports, or other material
- references from three persons (at least two of whom should be familiar with the applicant's academic work)
- a brief outline of the applicant's research objectives, with representative bibliographical references and other source material, where applicable

Students will normally enter the program in the fall semester. The annual deadline for applications is January 15. The committee will announce its decisions to applicants before the last week of April.

Degree Requirements

All doctoral candidates complete course work, take a comprehensive exam, and submit a dissertation which demonstrates an ability to make an original contribution to the communication field. Candidates normally satisfy the following requirements.

Course Work

Students must complete course work consisting of a minimum of nine graduate level courses for those entering with a bachelor's degree (including CMNS 860) or five graduate courses for those who have completed a master's degree. The graduate studies committee may require additional courses depending on the student's background and dissertation project. These courses are normally completed before taking the comprehensive examinations, or beginning a dissertation, and will include the following:

- two courses from group 1
- one course from group 2
- a minimum of two additional five credit courses for students entering with a master's degree, at least one of which is to be selected from within the school and may include other courses from groups 1 and 2. A minimum of five additional courses will be required of PhD program students who have not first obtained a master's degree. CMNS 860, the graduate colloquium, is required for students entering with a bachelor's degree and may be included as one of the six required courses. A minimum of four of these courses must be taken from course offerings within the school. For all students, a maximum of two courses may be taken from groups 4 and 5. No more than two of group 4 or 5 courses may be taken with the same instructor, except with graduate studies committee permission.
- students will be required by the communication graduate studies committee to demonstrate adequate command of any language essential to the completion of their dissertations

Group 1 Courses: Surveys of History and Theory
CMNS 800, 802, 804

Group 2 Courses: Research Design and Methods
CMNS 801, 805

Group 3 Courses: Research Area Courses
CMNS 815, 830, 840, 845, 855, 856, 859

Group 4 Courses: Research Internship and Fieldwork
CMNS 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 exam, the student shall select at least three fields of interest related to communication. At least one field shall focus on either the theory, methodology, or history of communication. The student shall submit a short definition paper, including bibliography, on each of the fields selected in preparation for both a written and oral examination. Specific guidelines for these examinations are available from the departmental graduate secretary.
An Original Dissertation
PhD students complete a doctoral dissertation that demonstrates an ability to make an original contribution to the field of communication.

Advising and Supervision
Students are advised to read section 6 of the General Regulations and the school’s Guidelines for Supervisory Committees.

Each new student is assigned an interim advisor upon program admission. The student is expected to select a senior supervisor and in consultation with this faculty member to select two or three other faculty to serve on a supervisory committee by the beginning of the student’s third semester. Although the graduate studies committee will endeavor 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 become the student’s advisor.

Students have the right to discuss their programs and status with communication graduate students at any stage, to ask for a review of any recommendation or grade, and to appeal any committee, supervisor or faculty decision.

Graduate Courses
CMNS 800-5 Contemporary Approaches in Communication Studies
This course surveys current interdisciplinary perspectives in communication studies and theory. It is normally offered in the fall term, and expected in the first year of graduate study.

CMNS 801-5 Design and Methodology in Communication Research
A survey course which examines the problems, methods and theoretical assumptions in communication research using case studies of 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. Normal course offering in the fall term and normally expected in the second year of graduate study.

CMNS 804-5 Seminar in Advanced Communication Theory
CMNS 805-5 Communication Research Methods and Techniques
Survey of research methodology and techniques used in empirical communication studies. Includes research design, measurement, and the use of the computer in evaluation.

CMNS 815-5 Social Construction of Communication Technologies
A study of the social theory of information technologies, examining issues affecting computer-mediated communication.

CMNS 830-5 Popular Culture and Media Theory
Examines recent debates in popular culture and media theory, including post-modernism, hegemony, resistance and culture at the margin.

CMNS 840-5 Political Economy of Communications
A study of the political, economic and social process that produces the structure and policies of mass media, and of telecommunication agencies in their historical setting.

CMNS 845-5 Communication, Knowledge Systems and Development
A study of communication in development, with a special emphasis on indigenous knowledge systems, the processes of globalization and cross-cultural communication, and the sustainability of local cultures. Prerequisite: one of CMNS 800, 801, 802.

CMNS 850-5 Directed Readings and Research
Pursuance of particular areas of interest related to a student’s program.

CMNS 851-5 Directed Study
Pursuance of interest in specific areas, including field studies related to the student's program. May include work and study in supervised professional settings.

CMNS 855-5 Selected Topics in Communication Studies
Specialized one-time graduate course offerings on topics related to the current research of school faculty of visiting professors.

CMNS 856-5 Graduate Seminar
Advanced work in an area of specialization. Review and evaluation of research in progress.

CMNS 859-5 Acoustic Dimensions of Communications
Special topics in sound and communication studies with emphasis on specific problems in psycho-acoustics, theories of sound cognition and information processing, soundscape studies, acoustic design, community noise surveys, media analysis and related technology. Students will gain experience in designing and conducting research projects in one of these areas. Prerequisite: CMNS 359 or equivalent.

CMNS 860-2 Graduate Colloquium
Discussion of essentials of researching, writing, and defending a thesis. Presentation by students of thesis related research plans or results, thesis architecture, of finished chapters for critical review by faculty and students. MA students must complete this course once before proceeding to a thesis defense. S/U standing only.

CMNS 880-5 Directed Readings and Research
Supervised enquiry in concentrated areas of specialization.

CMNS 881-5 Research Internship
Work and study in an approved professional setting.

CMNS 882-5 Research Field Work
External research beyond regular contact with the University.

CMNS 891-0 Co-op Practicum I
CMNS 892-0 Co-op Practicum II
CMNS 895-0 Comprehensive Examination
Examination of three areas of which one must be on the theoretical or methodological framework/procedures indicated by the proposed dissertation. S/U standing only. The exam may be retaken once in the event of unsatisfactory performance.

CMNS 898-0 MA Thesis
CMNS 899-0 PhD Thesis

School of Computing Science


Director
Z.N. Li BSc (Chinese Sci & Technol), MSc, PhD (Wis)

Graduate Program Director
(to be announced)

Faculty and Areas of Research
For a complete list of faculty, see “School of Computing Science” on page 322.

M.S. Atkins – medical image display and analysis, medical image compression and denoising, human-computer interfaces for medical radiology workstations

P. Berenbrink – probabilistic methods, randomized algorithms, analysis of dynamic processes, ad hoc networks, load balancing, routing and scheduling

B.K. Bhattacharya – computational geometry, computer graphics, motion planning, operations research, pattern recognition, VLSI embedded systems

F.W. Burton – functional programming, parallel computing

T.W. Calvert – information processing in man and machines, biomedical applications, graphics

R.D. Cameron – internet protocols, programming languages and systems, software engineering

V. Dahl – deductive knowledge bases, internet access tools (high level), logic programming, molecular biology, natural language understanding/processing

J.P. Delgrande – knowledge representation and reasoning, computational logic, algorithms and complexity in artificial intelligence

M.S. Drew – computer graphics, color, computer vision, multimedia

M. Ester – databases, data mining, text and web mining, bioinformatics, spatial databases

B.V. Funt – computer vision, colour image analysis

Q. Gu – computer networks, parallel/distributed processing, algorithms and computation, machine learning, computational biology

A. Gupta – constructive combinatorics, parallel complexity theory

R.F. Hadley – artificial intelligence, cognitive science, learning, neural networks

L.J. Hafer – constrained optimization, mixed-integer linear programming, scheduling

J.W. Han – data mining, data warehousing, database applications, database systems, deductive and object-oriented databases

R. Harrop – medical applications, automata theory, logic

W.S. Havens – artificial intelligence, constraint programming, intelligent systems

P. Heil – computational combinatorics, algorithm graph theory

R.F. Hobson – VLSI embedded systems, advanced digital circuits, parallel computer architecture, processor design

T. Kameda – computational geometry, analysis of algorithms, computer networks, distributed computing, mobile intruders detection in a polygon, synchronization in distributed systems

A. Kirkpatrick – conceptual models, haptic interfaces, human-computer interaction, multisensory interfaces, pointing devices

R. Krishnamurti – parallel computing, approximation algorithms, combinatorial optimization

Z.N. Li – image processing, artificial intelligence, computer vision, multimedia, pattern recognition

A.L. Liestman – analysis of algorithms, graph theory, network communications

W.S. Luk – database systems, distributed processing

D. Mitchell – computational logic, automated reasoning, constraint satisfaction, propositional proof complexity

T. Möller – computer graphics, scientific visualization, signal processing, non-uniform sampling, fourier/wavelet theory

J.G. Peters – distributed processing, combinatorial approximation, parallel processing

F. Popowich – artificial intelligence, computational linguistics, natural language understanding/processing

O. Schulte – computational logic, computation decision theory and game theory, machine learning

T.C. Shermer – computer graphics, graph theory, computational geometry

T.D. Sterling – statistics and data processing applications, social applications, systems design

E. Ternovska – computational logic, complexity of reasoning, formal verification, semantics of logic programming
Requirements stated in student must satisfy the University admission and must have a bachelor's degree or the equivalent.

Grouped into three major areas: formal topics in computing science, computer systems, and artificial intelligence and robotics.

For purposes of defining the MSc and PhD breadth requirement, a set of sub-areas are identified and grouped into three major areas: formal topics in computer systems, computer systems and networks, and knowledge and information systems. Table 1 shows the standard sub-areas within each area.

Table 1

<table>
<thead>
<tr>
<th>Area I – Formal Topics in Computer Systems</th>
<th>Area II – Computing Systems</th>
<th>Area III – Knowledge and Information Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>algorithms and complexity</td>
<td>operating systems and networks</td>
<td>artificial intelligence and robotics</td>
</tr>
<tr>
<td>formal logic and language semantics</td>
<td>computer design and organization</td>
<td>database and information retrieval systems</td>
</tr>
<tr>
<td>discrete mathematics</td>
<td>programming languages and compilers</td>
<td>numerical and symbolic computing</td>
</tr>
<tr>
<td>operations research</td>
<td>computer graphics and interfaces</td>
<td>computer graphics and interfaces</td>
</tr>
</tbody>
</table>

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 specifies the 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 to satisfy 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 others (typically faculty) as appropriate. The choice of senior supervisor should be made by mutual consent of the graduate student and faculty member based on commonality of research interests. The student and senior supervisor should consult on the remainder of the committee members.

Supervisory Committee should be made by mutual consent of the graduate student and faculty member based on commonality of research interests. The student and senior supervisor should consult on the remainder of the committee members.

Graduate General Regulations 1.6 specifies that a senior supervisor be appointed normally no later than the beginning of the student’s third semester in the program, and that the remainder of the supervisory committee be chosen normally in the same semester in which the senior supervisor is appointed.

Research Topics Seminars

The research topics seminars series is presented over the course of the year by faculty and graduate students. Faculty presentations acquaint new graduate students with the research interests of the faculty. Graduate student presentations typically showcase thesis research. Students in the first year of graduate study are required to attend faculty research topics seminars to become familiar with the research interests of the faculty.

MSc Program

Students are expected to acquire breadth of knowledge through a sequence of courses and depth of knowledge through completion and defence of a thesis or a project. Under normal circumstances, an MSc program should be completed within six semesters and should not require longer than eight semesters. An MSc student must choose between thesis and project options by the end of the second semester. Any change in option thereafter must be approved by the graduate program committee.

Breadth Requirement

MSc students choosing the thesis option complete at least 15 credit hours of graduate work (typically five courses) such that at least one course is chosen from each of areas I, II and III of table 1. At least 12 of the 15 credit hours (typically 4 courses) must be taken in computing science. Course work will normally be completed by the end of the fifth semester.

MSc students choosing the project option complete at least 27 credit hours of graduate work (typically nine courses) such that at least two courses are chosen from each of areas I, II and III of Table 1. The two courses taken in each area should be from different sub-areas. At least 21 of the 27 credit hours (typically seven courses) must be taken in computing science. The project option should be roughly equivalent to five credit hours of work.

All breadth requirements are subject to approval by the student’s supervisor and the Graduate Breadth Evaluation Committee.

Depth Requirement

MSc students submit and defend a thesis or project report based on their independent work. Thesis option students consult with his/her supervisory committee, and formulate and submit a written thesis proposal for approval, normally not later than the end of the program’s third semester.

Regulations specifying the examining committee’s composition and procedures for the final thesis or project exam appear in the Graduate General Regulations 1.9 (page 303) and 1.10 (page 304). 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 defence.

PhD Program

Students in the PhD program are required to demonstrate breadth of knowledge as outlined below and demonstrate the capacity to conduct original research through the completion and defence of an original thesis. Under normal circumstances a PhD degree should be completed within 12 semesters and should not require longer than 15 semesters.

Breadth Requirement

PhD students are required to demonstrate breadth to a level equivalent to at least 21 credit hours of graduate level course credit (typically seven courses), subject to the following distribution.

- three courses chosen such that one course is drawn from each of areas I, II and III of Table 1.
- two additional courses chosen from any two of areas I, II and III and from sub-areas different from those used for the first three courses.
- two additional courses chosen by the student.

Up to two courses outside of computing science may be used in satisfying the breadth requirement, subject to approval by the student’s supervisory committee and the graduate breadth evaluation committee. A PhD student must achieve a minimum CGPA of 3.4 and passing marks in all courses.

Students submit, within two months of program entry, a proposal to satisfy breadth requirements or may request that up to four courses and any portion of the breadth distribution be waived based on previous graduate work, or by examination. A minimum of 9 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 publicdepth seminar; the oral exam follows, and then the committee evaluates the student's performance in the program to that point. The committee's evaluation is diagnostic, specifying additional work in weak areas if such exists. A second depth examination or withdrawal from the program may be recommended in extreme cases.

**Thesis Proposal**
The student, in consultation with her/his supervisory committee, formulates and submits, for approval, a written thesis proposal consisting of a research plan and preliminary results. The student gives a seminar and defends the originality and feasibility of the proposed thesis to the supervisory committee. The thesis proposal is normally presented and defended within three semesters of the depth examination.

**Thesis Defence**
Regulations specifying the examining committee composition and procedures for the final public thesis defence are in sections 1.9 and 1.10 of the Graduate General Regulations. PhD students give a seminar; typically this will be about their thesis research and is presented in the interval between distribution of the thesis to the committee and the defence.

**Graduate Courses**

**CMPT 601-5 Computing Science Education I**
This course will introduce graduate students in Education to the basics of computing science. Emphasis will be placed on the use of microcomputers. Topics will be programming microcomputer; file handling; microcomputer hardware; word processing; graphics; social, economic and legal implications. Prerequisite: graduate status in education. If the student has an adequate background in computing, this course must be replaced by other computing science undergraduate or graduate courses.

**CMPT 602-5 Computing Science Education II**
This course introduces some formal topics in Computing Science to the graduate student in education. Topics include discrete mathematical structures; models of computing; data structures; formal languages and algorithms. Also, methods will be introduced for the design and implementation of large programs using structured modular design. Prerequisite: CMPT 601 or consent of instructor(s).

**CMPT 710-3 Computational Complexity**
This course provides a broad view of theoretical computing science with an emphasis on complexity theory. Topics will include a review of formal models of computation, language classes, and basic complexity theory; design and analysis of efficient algorithms; survey of structural complexity including complexity hierarchies, NP-completeness, and oracles; approximation techniques for discrete problems.

**CMPT 720-3 Artificial Intelligence**
Artificial Intelligence brings concepts such as computation, process, sub-procedure, data structure, and debugging to bear upon questions traditionally raised by psychologists and philosophers. In this course we will study a representative sample of work in the field. This will include programs which process written English, ‘see’, play games, prove theorems, and solve problems.

**CMPT 730-3 Foundations of Programming Language**
This course will cover basic concepts in the area of programming languages. The course will be largely of a theoretical nature and will concentrate on fundamental concepts of lasting importance, rather than topics of current interest.

**CMPT 740-3 Database Systems**
Introduction to advanced database system concepts, including query processing, transaction processing, distributed and heterogeneous data, object-oriented and object-relational databases, data mining and data warehousing, spatial and multimedia systems and Internet information systems.

**CMPT 750-3 Computer Architecture**
Parallel processing: SIMD & MIMD systems, pipelining, data flow architecture, micro programming; control memory minimization, optimization and verification of micro-programs.

**CMPT 760-3 Operating Systems**
This course will discuss design issues relating to the functionality and performance of modern workstation operating systems, such as methods for sharing memory, file and data objects, and choice of communication protocols. The special needs of high performance multiprocessor systems and real time systems will also be addressed.

**CMPT 770-3 Computer Graphics**
This course covers advanced topics and techniques in computer graphics such as solid modelling, curves and surfaces, fractals, particle systems, advanced rendering techniques, animation and post-production techniques. Research topics in virtual reality, human figure animation, CAD, scientific visualization and other areas will also be discussed. Students with credit for CMPT 461 or equivalent may not take CMPT 770 for further credit.

**CMPT 813-3 Computational Geometry**
This course covers recent developments in discrete, combinatorial, and algorithmic geometry. Emphasis is placed on both developing general geometric techniques and solving specific problems. Open problems and applications will be discussed.

**CMPT 814-3 Algorithmic Graph Theory**
Algorithm design often stresses universal approaches for general problem instances. If the instances possess a special structure, more efficient algorithms are possible. This course will examine graphs and networks with special structure, such as chordal, interval, and permutation graphs, which allows the development of efficient algorithms for hard computational problems.

**CMPT 815-3 Algorithms of Optimization**
This course will cover a variety of optimization models, that naturally arise in the area of management science and operations research, which can be formulated as mathematical programming problems.

**CMPT 816-3 Theory of Communication Networks**
This course investigates the design, classification, modelling, analysis, and efficient use of communication networks such as telephone networks, interconnection networks in parallel processing systems, and special-purpose networks.

**CMPT 817-3 Knowledge Bases with Visual and Natural Language**
This course examines recent significant advances in knowledge bases, focusing in particular on knowledge representation, reasoning, and integration of knowledge bases with friendly front ends such as visual and natural language interfaces. It is expected that students who complete the course will gain sufficient background to begin research projects at the master’s or doctoral levels in the topics covered. Students from computing science, mathematics, linguistics, education, philosophy, psychology, cognitive science and engineering science are especially encouraged to register for this course.

**CMPT 820-3 Multimedia Systems**
This seminar course covers current research in the field of multimedia computing. Topics include multimedia data representation, compression, retrieval, network communications and multimedia systems. Computing science graduate student or permission of instructor.

**CMPT 821-3 Robot Vision**
This course discusses issues and research results pertinent to robot vision. Topics include depth recovery for robot navigation, three dimensional object recognition and scene analysis, model-based approaches, parallel vision machines and algorithms, and case studies of contemporary robot vision systems.

**CMPT 822-3 Computational Vision**
A seminar based on the artificial intelligence approach to vision. Computational vision has the goal of discovering the algorithms and heuristics which allow a two dimensional array of light intensities to be interpreted as a three dimensional scene. By reading and discussing research papers — starting with the original work on the analysis of line drawings, and ending with the most recent work in the field — participants begin to develop a general overview of computational vision, and an understanding of the current research problems.

**CMPT 823-3 Formal Topics in Knowledge Representation**
This course surveys current research in formal aspects of knowledge representation. Topics covered in the course will centre on various features and characteristics of encodings of knowledge, including incomplete knowledge, non monotonic reasoning, inexact and imprecise reasoning, meta-reasoning, etc. Suggested preparation: a course in formal logic and a previous course in artificial intelligence.

**CMPT 825-3 Natural Language Processing**
In this course, theoretical and applied issues related to the development of natural language processing systems and specific applications are examined. Investigations into parsing issues, different computational linguistic formalisms, natural language syntax, semantics, and discourse related phenomena will be considered and an actual natural language processor will be developed.

**CMPT 826-3 Automated Learning and Reasoning**
This course covers topics shared both by AI and cognitive science. Current AI research papers are examined from the perspective of cognitive science, and vice versa. Topics covered in a given semester will vary, depending upon the instructor, but most of the following topics will be addressed in any given semester: connectionist models of intelligence; ‘human-like’ automated deduction; reasoning by analogy; topics in natural language; automated concept learning; and computational approaches to semantics. Prerequisite: at least one graduate or undergraduate AI course, or instructor's permission.
CMPT 827-3 Intelligent Systems
Intelligent systems are knowledge-based computer programs which emulate the reasoning abilities of human experts. This introductory course will analyse the underlying artificial intelligence methodology and survey advances in rule-based systems, constraint solving, incremental reasoning, intelligent backtracking and heuristic local search methods. We will look specifically at research applications in intelligent scheduling, configuration and planning. The course is intended for graduate students with a reasonable background in symbolic programming.

CMPT 830-3 Compiler Theory
Precedence, LL(k), LR(k) grammars; SLR(k), LR(k) parsing techniques; transduction grammars; general compiler organization; code generation and optimization; memory allocation for object programs; garbage collection.

CMPT 831-3 Functional Programming
This course will cover functional programming including introduction to a functional programming language, program transformation and verification, implementation of functional programming languages, and other selected topics which may include parallel evaluation of functional programs, analysis of performance, and advanced applications.

CMPT 842-3 Concurrency Control in Database Systems
Transactions, recoverability, serializability theory, scheduling, locking, timestamping, optimistic scheduling, multiversion database systems; recovery, commit protocols, termination protocols; replicated database systems, quorum based concurrency control; distributed snapshot taking, distributed deadlock detection, reliable storage systems; concurrency control in object oriented database systems.

CMPT 843-3 Principles of Database and Knowledge Base Systems
An advanced course on database systems which focuses on data mining and data warehousing, including their principles, designs, implementations, and applications. It may cover some additional topics on data mining and pattern discovery, spatial and object-oriented databases, multimedia databases, and database-oriented Web technology.

CMPT 852-3 VLSI Systems Design
This course links two fields that traditionally have been considered two separate entities: computer architecture and integrated circuit design. The vehicle used to demonstrate the interaction of layout issues and architectural concepts is metal oxide semiconductor technology.

CMPT 853-3 Computer-Aided Design/Design Automation for Digital Systems
Algorithms for logic synthesis and physical CAD/DA. Emphasis on routing, placement, partitioning, and gate level logic synthesis.

CMPT 873-3 User Interface Design
This course provides an overview of a number of research areas in human-computer interaction. Topics may include: overview of HCI (historical/intellectual, GUI, case studies), interactive systems (design, evaluation, software development), interaction methods (vision, graphic design, touch, speech, etc.), human factors (information processing, capabilities), research frontiers (computer supported co-operative work, intelligent 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 880-3 Special Topics in Computing Science
This course aims to give students experience to emerging important areas of computing science. Prerequisite: instructor discretion.

CMPT 881-3 Special Topics in Theoretical Computing Science
CMPT 882-3 Special Topics in Artificial Intelligence
CMPT 883-3 Special Topics in Programming Languages
CMPT 884-3 Special Topics in Database Systems
CMPT 885-3 Special Topics in Computer Architecture
CMPT 886-3 Special Topics in Operating Systems
CMPT 887-3 Special Topics in Hardware Design
CMPT 888-3 Special Topics in Computer Graphics
This course introduces graduate students to specialized topics in computer graphics. In most cases, such topics will build upon those discussed in previous graphics classes, or of prime interest to faculty (such as current research topics).

CMPT 889-3 Special Topics in Interdisciplinary Computing
(3-0-0)

CMPT 891-3 Advanced Seminar
Grade given: S (satisfactory) or U (unsatisfactory).

CMPT 894-3 Directed Reading
CMPT 897-0 MSc Project
CMPT 898-0 MSc Thesis
CMPT 899-0 PhD Thesis

School of Engineering Science

Director
M. Saif BSc, MSc, PhD (Cleveland), PEng

Graduate Program Chair
G.H. Chapman BSc, MSc (Qu), PhD (McM), PEng

Faculty and Areas of Research
For a complete list of faculty, see “School of Engineering Science” on page 325.

J.S. Bird – statistical signal processing, system performance analysis, underwater acoustics and optics, radar, sonar and communications applications
C.R. Bolognesi – fabrication and characterization of advanced compound semiconductor devices such as high electron mobility and heterojunction bipolar transistors, development of new materials and processes for high speed devices, optoelectronics, heterostructure fabrication and characterization; solid state phenomena
J.K. Cavens – mobile communications, signal processing, network protocols
G.H. Chapman – microelectronics (fabrication, defect avoidance techniques, device physics), laser processing of materials, VLSI/Wafer scale integration, computer aided engineering
V. Cuperman* – signal processing, speech coding and recognition, multimedia information compression, digital communications, digital signal processing structures and hardware
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.P. Stapleton – passive radio frequency/microwave circuits, GaAs monolithic microwave integrated circuits, nonlinear radio frequency microwave devices, active radio frequency microwave circuits
M. Syrzycki – microelectronics, semiconductor devices, digital and analog VLSI design, integrated circuit technology, integrated sensors, integrated circuit fabrication defects, yield and reliability of VLSI integrated circuits
L. Trajkovic – data communications (collection, characterization and modelling of traffic in high speed networks), computer aided design tools (novel algorithms for simulation of transistor circuits); theory of nonlinear circuits and systems
J. Vaisey – image compression and processing, signal processing, digital communications

Associate Members
P.N.S. Bawa, Kinesiology
R.F. Frintt, Physics
J.A. Hoffer, Kinesiology

*emeritus

Degrees Offered
The School of Engineering Science offers two distinct master’s degrees, master of engineering (MEng), or master of applied science (MASc) and a doctor of philosophy (PhD) degree.
Master’s Program

The MEng program, for part-time study by practising engineers, is based on a set of courses normally offered in the evenings, plus a project performed in industry. The principal areas of study are electronics, communications, and signal processing; intelligent systems; and control theory. The MASC is a full-time program with primary emphasis on the thesis, rather than course work, and more exploratory than the MEng, and covers a greater range of study.

Admission

The normal admission requirement to the MEng and MASC programs is a bachelor’s degree in electrical engineering, computer engineering, engineering science or a related area, with a CGPA of at least 3.0 (B grade) from a recognized university, or equivalent. The quantity of faculty members limits the number of MASC students accepted into the programs.

Transfer from MEng Program to MASC Program

Normally transfer from MEng program to MASC program will be considered under the following conditions.

- Undergraduate GPA. Minimum undergraduate CGPA of 3.3 required.
- MEng GPA. On at least two courses, a minimum CGPA of 3.5.

Degree Requirements – MEng Program

Course Work

MEng candidates are required to complete a minimum of 21 credit hours of course work at the graduate level. All students must take ENSC 820. Students must also specialize in an area of study and take the required course or courses(s) as follows. Students specializing in communications must take ENSC 805 and 810. Those specializing in electronics must take one of ENSC 851, 852 or 853. Those specializing in intelligent systems or control theory must take ENSC 801. Elective courses from the list below normally make up the remainder of the 21 required credit hours. Additional courses may be required to correct deficiencies in the student's background.

In addition to course work, a student must complete a project, expected to take a minimum of two person months. In the event that the project is performed in the student's work place, the student will receive academic supervision from the senior supervisor, and day-to-day supervision from the student's manager, or designated associate. Industrial supervisors, who are on the supervisory committee, will be appointed by the graduate chair in consultation with the senior supervisor. Industrial supervisors will provide guidance.

In addition to submission of a technical report at the project completion, the student makes an oral presentation to the supervisory committee and the graduate chair. A grade will be assigned based on the quality of the submitted report, the presentation, and the student's understanding of the subject. A grade of 'complete' or 'in progress' will reflect the majority decision. In the case of an 'in progress' grade, the student re-submits the project report and presents it again.

MEng Fees

Students registered in the MEng program may complete their program before paying the minimum total fee for a master's degree. In such cases, an additional payment is required prior to graduation to satisfy the minimum fee requirement of six full-time fee units. "Graduate Fees" on page 306.

Degree Requirements – MASC Program

MASC candidates complete 30 credit hours consisting of a minimum of 12 credit hours of course work, plus a thesis equal to 18 credit hours. In consultation with the senior supervisor, the courses will normally be selected from the list below, except that ENSC 820 may not be used towards the course requirement of the MASC degree. Additional courses may be required to correct deficiencies in the student's background. The thesis is based on an independent project with a significant research component. The student defends the thesis at an examination, in accordance with regulations.

Research Seminar

All MASC students are required to register for ENSC 800 in the fall and spring semesters. In addition to attending the course, students are encouraged to give one or two talks during the course of their MASC program.

Graduate Research Internship

With the approval of the supervisory committee, students accepted in the MASC or PhD programs have the option of doing research internship in industry. The responsibility for finding a suitable internship rests with the student, though the senior supervisor will provide guidance.

In addition to satisfying the program's degree requirements, students who choose this option must satisfy the following conditions.

Proposal

The proposal must be approved by the supervisory committee and by the graduate committee. The proposal must include the following.

- justification for undertaking the work in industry
- agreement regarding intellectual property and publications
- funding arrangement

On-campus Presence

During the internship, the student must spend at least one day per week (or equivalent as approved by the graduate committee) on campus to meet with his/her supervisor and attend regular seminars. This is in addition to time spent on campus for course work.

Oral Presentations

A minimum of two oral presentations for the supervisory committee (not including the thesis defence) on the progress of the student's work will be given during the internship.

Duration

The duration of the internship will not exceed two semesters, in the case of a MASC student, or four semesters, in the case of a PhD student.

Failure to Comply

See "1.8 Progress, Withdrawal and Leave" on page 303.

PhD Program

Admission

To qualify for admission, a student must have a master's degree in electrical engineering, mechanical engineering, physics, computer science or a related field, have submitted evidence that he or she is capable of undertaking substantial original research in engineering science, and have identified a faculty member willing to act as senior supervisor.

See "Graduate General Regulations" on page 299 for other PhD program admission requirements.

Residence Requirement

Students will conform to the residence requirement as outlined in General Regulations 1.7.3 (page 302).

Transfer from the Master’s Program to the PhD Program

Proceeding to a PhD program without first completing a master's degree is discouraged. However, a student may be admitted after at least 12 months in the MASC program if all the requirements have been completed with a 3.67 or better CGPA, outstanding potential for research has been shown, and approval of the student's supervisory committee, graduate program committee and senate graduate studies committee been given.

Degree Requirements

Course Work

The minimum requirement is 18 credit hours beyond that of the MASC degree. Six of these hours will be for prescribed courses in the option in which the student is enrolled; alternatives can be substituted with the approval of the student's supervisory committee. At most, six hours may be senior level undergraduate courses. At most, six credit hours may be directed studies. At least, six credit hours must be within engineering science, except that ENSC 820-3 may not be used towards the course requirement of the PhD degree. Additional courses may be required to correct deficiencies in the student's background.

Research Seminar

All PhD students are required to register for ENSC 800 in the fall and spring semester. In addition, PhD students are required to present at least one research seminar per year in ENSC 800.

Qualifying Examination

To qualify the student will submit a brief written research proposal and defend it orally to his/her supervisory committee within the first 14 months of admission. The proposal defence will be judged according to the feasibility and scientific merits of the proposed research, and demonstration of a sophisticated understanding of general material in the student's major area of research. This level of understanding is associated with senior undergraduate and first year graduate course material. The possible outcomes of the qualifying examination are 'pass,' 'marginal' and 'fail' (a student with 'marginal' will be required to re-submit the research proposal and defend it for the second and final time within six months and/or to take more courses, a 'failing' grade requires withdrawal).

Thesis

Students define and undertake original research, the results of which are reported in a thesis. An examining committee is formed as defined in 1.9.3 of the Graduate General Regulations (page 303). Students conform to residence requirements as defined in 1.7.3 of the Graduate General Regulations (page 302). The senior supervisor will be an engineering science faculty member approved by the school's graduate program committee.

The student's progress will be reviewed every 12 months by a supervisory committee of three or more faculty members. At each annual review, the student presents a summary of his/her work to date, with the first review being the research proposal defence described in the section for Qualifying Examination (see above). Students not making satisfactory progress in their research topics, or failing to demonstrate satisfactory knowledge and understanding of recent publications in their general area of research, or failing to have their revised research proposal approved by the supervisory committee within 20 months of admission, may be required to withdraw as per section 1.8.2 of the Graduate General Regulations (page 302).

Research Seminar

PhD students present at least one research seminar per year as a part of regularly organized departmental...
Directed Studies and Special Topics Courses

Directed studies (ENSC 891, 892) and special topics (ENSC 894, 895) courses may be offered by the following research groups, subject to student interest and demand.

Communications Group

estimation theory
ATM network performance evaluation
optical telecommunications networks
advanced modulation techniques
spread spectrum communications
information flow and decision theory
adaptive arrays
active and passive sonar systems
synthetic aperture radar

Microelectronic group

analog VLSI signal and information processing
applied solid state electronics
CMOS compatible micromachining
embedded VLSI systems
low power, low noise, high frequency circuits
optoelectronic devices
photons 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
model-based control of robotic systems
intelligent manufacturing systems
model-based fault diagnostics in control systems
multivariable control systems
nonlinear control systems
numerical modelling of heat transfer
robotic synthesis

Graduate Courses

Note: If the subject matter of a listed course has been previously completed with graduate credit, the course may not be taken again for credit.

ENSC 800-0 Graduate Seminar in Engineering
A seminar series presented by graduate students, university researchers, government or industrial labs on recent developments in engineering science. All full time graduate students are required to register for this course in fall and spring semesters. Grading will be restricted to satisfactory/unsatisfactory (S/U), and to attain a satisfactory grade, students need to attend at least two thirds of the seminars. (0-0-0)

ENSC 801-3 Linear Systems Theory

Stability analysis and the Lyapunov’s method.
Prerequisite: graduate standing.

ENSC 802-3 Stochastic Systems
The application of theories in probability, random variables and stochastic processes, including the analysis and design of engineering systems. Topics include: a review of probability and random variables; random deviate generation; convergence of random sequences; random processes; auto correlation and power spectral-density; linear systems with stochastic inputs; mean-square calculus; AR and ARMA models; Markov chains; elementary queuing theory; an introduction to estimation theory. Areas of application include digital communications, speech and image processing, control, radar and Monte Carlo simulations. Prerequisite: graduate standing.

ENSC 805-3 Techniques of Digital Communications
This course discusses the fundamental techniques used in the physical layer of a digital communication system. The main topics are as follow: 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 algorithm; and various kinds of equalization (linear, decision feedback, and maximum likelihood sequences estimation). Sub topics of the equalization section include pulse shaping and eye diagrams. The emphasis may vary slightly in different offerings. Prerequisite: ENSC 802 or permission of instructor.

ENSC 810-3 Statistical Signal Processing
Processing techniques for continuous and discrete signals with initially unknown or time-varying characteristics. Parameter estimation; Bayes, MAP, maximum likelihood, least squares the Cramer-Rao bound. Linear estimation, prediction, power spectrum estimation, lattice filters. Adaptive filtering by LMS and recursive least squares. Kalman filtering. Eigen methods for spectral estimation. Implementation issues and numerical methods of computation are considered throughout. Prerequisite: ENSC 802 and 429 or their equivalents.

ENSC 815-3 Multirate Signal Processing
An advanced digital signal processing course. Topics include: sampling rate conversion; multirate and polyphase representations and implementations; multirate filter banks and the discrete wavelet transform; modulated filter banks. Applications are drawn from areas such as transmultiplexing, echo suppression, signal compression and modulation. Prerequisite: ENSC 429 or equivalent.

ENSC 820-3 Engineering Management for Development Projects
This course focuses on the management and reporting activities of typical engineering development projects. Through seminars and workshops it builds the student’s skills at estimating project cost and schedule, keeping a project 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. Note that ENSC 820 will not count towards the course work requirement of students enrolled in the MASc and PhD programs. Prerequisite: permission of instructor.

ENSC 832-3 Mobile and Personal Communications
Propagation phenomena, modulation techniques and system design considerations for mobile and personal networks. Topics include: fading and shadowing, noise and interference effects, analog and digital transmission, cellular designs, multiple access techniques. Prerequisite: ENSC 802 or permission of instructor.

ENSC 833-3 Network Protocols and Performance
This course covers the techniques needed to understand and analyze modern communications networks. The main topics are as follow: 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 follow: the analysis of optical transmission media, including multimode and single mode technology; bandwidth limitations imposed by dispersive behaviour of fibre; modified fibre profiles for third generation fibre communication systems; solitons; semiconductor laser diodes; external modulation; PIN photo diodes and avalanche photo detectors; bandwidth and noise limitations; optical amplifiers; semiconductor laser amplifiers; doped fibre amplifiers; optical receiver and transmitter circuits; quantum limited receiver performance; BER performance; optical communication networks.

ENSC 835-3 High-Speed Networks
Techniques needed to understand and analyze modern data communications networks. Basic architecture of packet networks and their network elements (switches, routers, bridges), and the protocols used to enable transmission of packets through the network. Techniques for collection, characterization, and modeling of traffic in packet networks. Aspects of traffic management, such as various call admission control and congestion control algorithms in high-speed packet networks and the influence of traffic on network performance. Prerequisite: ENSC 427 or permission of the instructor.

ENSC 850-3 Semiconductor Device Theory
Detailed treatment at the graduate level of semiconductor fundamentals and theory. Electronic properties and characteristics of selected semiconductor devices: pn junctions, Schottky barrier junctions, silicon-based heterojunctions and ohmic contacts; bipolar junction transistors; field effect transistors; heterostructures; charge coupled devices and microwave devices. (3-0-0) Prerequisite: PHYS 365 or permission of instructor.

ENSC 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.

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, BJTs and bipolar devices. Static and dynamic analysis of inverters. Digital gates, circuits, and circuit techniques. Speed and power dissipation. Memory systems. Gate arrays, semiconductors and microprocessors. CAD tools. Students are required to complete a project.

ENSC 854-3 Integrated Microsensors and Actuators
Microelectronic transducer principles, classification, fabrication and application areas. Silicon micromachining and its application to integrated microelectronic sensors and actuators. CMOS compatible micromachining, static, dynamic and kinematic microactuator fabrication. Integrated transducer system design and applications. Students will 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
Course will present the physical concepts required to participate in (or gain appreciation for) the field of high performance, high speed semiconductor devices used in telecommunication systems. Topics include: basic semiconductor energy band structure, low and high field transport in semiconductors, ballistic transport, the depletion approximation and beyond, heterostructures, band line-ups, lattice mismatched heterostructures – strain as design parameter, charge recombination, operating principles of modern semiconductor devices such as SiGe or III-V HBTs, MESFETs/HEMTs, photodetectors, quantum well lasers.

ENSC 856-3 Compound Semiconductor Device Technology
The course will present the necessary tools and techniques required in the fabrication of compound semiconductor devices. Because of the wide disparity between III-V and silicon semiconductor devices, the course is orthogonal to the silicon device fabrication course ENSC 851. Topics to be covered include: basics of HBTs and HEMTs, elements of III-V compound semiconductor materials science, III-V substrate preparation and properties, doping of III-V compounds and amphoteric behavior, epitaxial growth by MBE, MOCVD, characterization of epitaxial layers, lithography: optical and electron beam, Schottky and ohmic contact formation, plasma processing techniques such as RIE and PECVD.

ENSC 858-3 VLSI Systems Design
Topics of relevance to the design of very large scale integrated (VLSI) circuits in CMOS technologies are covered. Key design techniques and fundamental limitations for high-speed computer and communication circuits are discussed. Most of the material will be presented through a series of case studies. The main topics are: CMOS technology, cell library design, memory design (SRAM, DRAM, ROM, PLA), arithmetic unit design, and embedded processor design. Parallelism, pipelining, and clocking are also discussed. (3-0-0) Prerequisite: ENSC 450 or equivalent, or permission of the instructor.

ENSC 861-3 Source Coding in Digital Communications
This course presents basics of information theory and source coding with applications to speech/audio images/video and multimedia. The course first covers the topics of entropy, information, channel capacity and rate-distortion functions. Various techniques used in source coding, such as entropy coding, scalar and vector quantization, prediction, transforms, analysis by synthesis, and model based coding are then discussed. Prerequisite: ENSC 802 or equivalent.

ENSC 883-3 Optimal Control Theory
Review of finite dimensional linear systems represented in state space formulation. Bellman's principle of optimality and dynamic programming with applications to control of discrete and continuous time systems. Introduction to variational calculus, Pontryagin's maximum principle, Hamilton-Jacoby-Bellman Equation, and variational treatment of control problems. Several optimal control problems such as optimal linear quadratic regulator (LQR), optimal tracking and suboptimal output controllers will be discussed. Prerequisite: ENSC 483 or 801.

ENSC 887-3 Computational Robotics
A main goal of computational robotics is to automatically synthesize robot motions to achieve a given task. This course discusses geometric and algorithmic issues that arise in such an endeavor. For example: how can a robot plan its own collision-free motions? How does it grasp a given object? How do we account for uncertainty? The course employs a broad range of tools from computational geometry, mechanics, algorithms, and control. The material covered also finds applications in designing devices for automation and in computer animation. The course involves a substantial project which exposes students to practical and implementational issues involved in building automatic motion planning capabilities for robotic systems. Prerequisite: ENSC 438 and a basic course in data structures and algorithms, or permission of the instructor.

ENSC 888-3 Finite-Element Methods in Engineering
Overview of FEM and its use in industry mathematical foundations of FEM; Galerkin method; finite element interpretation of physical problems in one, two and three dimensions; numerical techniques for storing and solving sparse matrices; checking for convergence, error estimation; pre- and post-processing; automatic mesh generation.

ENSC 889-3 3D Object Representation and Solid Modelling
Introduction to concepts of 3D geometric modelling. Curve and surface descriptions including Bezian, B-Spline and NURBS, Polygonal representations. Regularized boolean set operations, primitive instances, sweep representations boundary, representations, sweeping, Boolean and constructive solid geometry. Discussion of geometric coverage versus modeller complexity. User interface issues for solid models. Description of existing solid modellers and discussion of applications and limitations of solid modelling. Prerequisite: ENSC 499 and CMPT 351.

ENSC 890-3 Advanced Robotics: Mechanics and Control
Robotic applications are extensively involved in various fields such as manufacturing and health care with new, efficient tools and methods having been developed for modelling and co-ordinating such devices. The main focus of this course is to introduce these tools and methods for kinematic and dynamic modelling approaches. These new approaches allow more intuitive and geometrical representation of motion and interaction in any articulated multi-body system such as robotics devices. The course offers valuable background for students involved in computer graphics (e.g. animation), human/machine interface (e.g. haptic interface), control engineers (e.g. trajectory planning, master/slave system) and robotic designers. The course involves individual projects in modelling and co-ordination of a robotic device. Prerequisite: introductory course in robotics (ENSC 488) or permission of the instructor.

ENSC 891-3 Directed Studies I*
ENSC 892-3 Directed Studies II*
ENSC 894-3 Special Topics I*
ENSC 895-3 Special Topics II*
ENSC 897-0 MEng Project
ENSC 898-0 MASc Thesis
ENSC 899-0 PhD Thesis

Courses Offered by Other Departments
Of particular interest to engineering science graduate students are these courses. Complete descriptions can be found elsewhere in this Calendar.

BUED 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 885-5 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

Graduate Program Chair
A.J. Davison BSc (Cape Town), MSc, PhD (Rutgers)

Faculty and Areas of Research
For a complete list of faculty, see “School of Kinesiology” on page 124.

M.P. Rosin – environmental carcinogenesis
A.P. Blaber – environmental and aerospace physiology
A.J. Davison – oxygen and the anti-oxidant vitamins - benefits and hazards
D. Goodman – motor control and learning
Admission
For admission requirements, see “1.3 Admission” on page 299. 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 kinesiology graduate courses. Courses will be chosen by the candidates’ supervisory committee after consultation with the candidate. See “Graduate General Regulations” on page 299.

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. The thesis proposal must precede the defence by at least four months. For further information and regulations, see “Graduate General Regulations” on page 299.

Time Required for Degree
Degree requirements can normally be completed in six semesters.

PhD Program
Degree Requirements
Students are admitted to the program in an area defined and determined prior to acceptance by the school’s graduate program committee. The program must be within the student’s and the school’s capabilities. Students must show competence in methodology relevant to proposed research.

Normally the supervisory committee will prescribe courses necessary to complete the student’s academic preparation. In exceptional circumstances, the supervisory committee may allow the student to proceed without additional course work over and above that for a master’s degree.

Study and research is designed to suit the background and research objectives of each student and may differ widely from student to student.

A student may be directed to acquire an adequate knowledge of a language which would be relevant to his/her studies.

The student will present two seminars plus a dissertation proposal on topics approved by the student’s supervisory committee. They will be presented during the regularly scheduled school seminar time, normally between the first and sixth semesters. Both the timing and subject matter of seminars will be chosen by the supervisory committee in consultation with the student.

Comprehensive Examinations
At a time set by the supervisory committee, and within six semesters of residence, the student takes written and oral comprehensive examinations. The comprehensive examination committee consists of a minimum of five people, at least three of whom must be School of Kinesiology faculty members, including the senior supervisor and the graduate program chair (or designate, who will act as the committee chair), plus one faculty member from outside the school.

Written
There will be four written examinations.

Part One
One exam paper will be devoted to the student’s field of specialization and will permit extensive exploration of the research area. This examination is typically set by the senior supervisor in consultation with the comprehensive examination committee and consists of the following format:

• an initial response, based on a four to six hour single sitting, closed book exam.
• a further three days during which the student will prepare and submit a response to the same question.

Part Two
The other three examinations are based on supplementary and related areas chosen by the comprehensive examination committee after consultation with the student. Decision of the examining committee is by simple majority.

Possible results of each written exam are pass, defer or fail. A deferral is used when the examiner wishes to defer judgment until after the oral examination. A student who fails one examination must rewrite that component. A complete rewrite of all four examinations at a subsequent sitting is required in the case of either failure of more than one or passing less than two of the written comprehensive examinations.

An unsatisfactory performance on the second trial necessitates withdrawal from the program.

Oral
Students proceed to the oral examination when a successful comprehensive evaluation has been completed. 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 exam are pass, defer or fail. A student who fails the oral exam may take it again only once. A deferral results in specific conditions of remedial work or re-testing as determined by the examining committee. A deferred evaluation will not be converted to a pass unless the committee’s conditions have been met within the established time frame. Otherwise, the deferral will lapse to a fail. The student cannot proceed to the dissertation proposal until the oral comprehensive exam has been passed.

Dissertation
Dissertation Proposal
Upon successful completion of the comprehensive examinations, the candidate prepares a dissertation proposal, which is circulated to faculty and resident graduate students, and will formally present this proposal for discussion at a school open forum. The proposal must precede the dissertation defence by at least one year.

Completed Dissertation
The completed dissertation is judged by the candidate’s examining committee. If the dissertation defence is failed, the candidate is ineligible for further candidacy in the degree program at this University. For information and regulations, refer to the Graduate General Regulations (page 299).

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 cardio-vascular and respiratory physiology in health and disease. Prerequisite: KIN 305, 306 and 407.

KIN 825-3 Seminar — Learning and Motor Development
Study selected topics from skill learning and motor performance.

KIN 826-3 Motor Control: A Behavioral Perspective
The study of selected aspects of research in motor behavior. The focus will be on delineating the problems of a viable theory of action, and on seeking solutions to the problems. Prerequisite: KIN 467, or equivalent.

KIN 835-3 Kinanthropometry and Human Development
To provide detailed insights into strategems and tactics in studying human size, shape, composition, proportion, maturation, gross function as related to normal and atypical growth, exercise, performance and nutrition.

KIN 840-3 Adaptive Control of Body Mechanics
Adaptive control of body mechanics by modifying voluntary muscle activity and reflex feedback will be examined in the context of interaction between humans and their mechanical environment. Experimental approaches and analysis methods will be presented in the laboratory. (2-1-0) Prerequisite: KIN 416.
School of Resource and Environmental Management

9677 Shrum Classroom Building, (604) 291-4659 Tel, (604) 291-4968 Fax, www.rem.sfu.ca

Director
F. Gobas BSc, MSc (Amat), PhD (Tor)

Professors Emeriti
J.C. Day BS, MSc (WOnt), PhD (Chic)
J.L. Knetisch BS, MS (Mich State), MPA, PhD (Harv)

Professors
W.K. de la Mare BAS (Aulfield), PhD (York, UK) – models for assessment, forecasting and ecosystem-based management and conservation of marine systems
A.M. Gill BA (Hull), MA (Alta), PhD (Manit) – tourism, resource communities* R.M. Peterman BSc (Calif), PhD (Br Col) – fish population dynamics and management, simulation modelling, risk assessment, decision analysis P.W. Williams BA (Ont), MA (Wat), PhD (Utah State) – policy, planning and management issues in tourism and outdoor recreation

Associate Professors
S. Cox BSc (Wisc), MSc, PhD (Br Col) – fish stock assessment, conservation and multi-species management of recreational and marine fisheries, human dynamics
F. Gobas BSc, MSc (Amat), PhD (Tor) – environmental chemistry and toxicology, environmental fate modelling
T.I. Gunton BA, MA (Wat), PhD (Br Col) – regional resource and development planning
M. Jaccard BA, MRM (S Fraser), PhD (Grenoble) – resource and environmental economics with primary research interests in the field of energy and sustainable economies
K. Lertzman BSc (Man), MSc, PhD (Br Col) – ecosystem, long term forest dynamics, landscape ecology, conservation biology, global change E. Pinkerton BA (Wellesley), MAT (Harv), MA (Middlebury), PhD (Brandeis) – maritime anthropology, community roles in management of adjacent renewable resources

Assistant Professors
W. Haider MSc (Austria), MA (Car), PhD (McG) – parks and outdoor recreation, human dimensions in resource management, choice modelling, social decision support systems
D. Knowler BA, MA (Alta) PhD (York, UK) – ecological economics, bioeconomic modelling, natural resource management in developing countries, valuation of environmental resources
K. Rothley BS (MIT), ME (C’nell), PhD (Yale) – conservation biology, behavioral ecology, design of protected areas, GIS

Associated Faculty
A.S. Harestad, Biological Sciences
M. Roseland, Geography
R.D. Routledge, Mathematics
M. Schmidt, Geography

Adjunct Professors
D. Alexander BA (Mich), MA (Trent), PhD (Wat), research consultant (regional planning, community economic development)
T. Berry BSc (Sask), MRM (S Fraser) – Principal, Compass Resource Management Ltd. (resource and environmental economics, sustainability analysis, electricity market reform, multi-criteria decision analysis)
D. Bisson BEnvStu (Wat), BLaw (Calg), MBC (S Fraser) – Senior Advisor, Environmental Health, Safety, Westcoast Energy Inc., Corporate (environmental legal and management advice, development and implementation of environmental management system EMS, environmental audit standards, ISO 14000 gap analysis and cost benefit analysis, GHG emission reduction trading pilot)
D. Boyd BComm (Alta), BLaw (Torr), MA (McG) – Senior Advisor, Faculty of Law, University of Victoria (environmental law)
M.J. Bradford BSc, MSc (S Fraser), PhD (McG) – research scientist Department of Fisheries and Oceans (water flow effects on chinook salmon)
A. Fall BSc, PhD (S Fraser) – research consultant working on landscape ecology, spatially explicit simulation, natural disturbance models and sustainable forest management

J. Fall BSc, MRM (S Fraser), Instructor, Capilano College
D. Fast BA, MSc (York), regional director general, Environment Canada
S. Hanna BSc (Vic), MRM (S Fraser), senior environmental specialist, Acres International (environmental and socioeconomic impact assessment, water resource management and environmental auditing)
H. Harker BSc (Kings Point, NY), MSc (Alaska), PhD (Wat) – Director of Planning, Regional District of Comox-Strathcona
E. Heyerdahl BSc (Ore), MSc, PhD (Wash), Research Forester, USDA Forest Service (dendochronology, fire ecology and the analysis of historical fire regimes)
R. Hoos BSc (Calg), MSc (Vic, BC) – Director of Northern Affairs, Polar Gas, Calgary (environmental impact assessment)
M. Ikonomou BSc (Trent), MSc, PhD (Alta) – research scientist, Department of Fisheries and Oceans (mass spectrometry, environmental analytical chemistry and environmental pollution as it relates to fresh water and marine ecosystems)
M. Kent BA (S Fraser), MSc (Alta) – Director, Highways Branch, BC Ministry of Transportation and Highways (impact assessment, environmental conflicts)
W. Kurz DipHolzwort (Hamburg), PhD For (Br Col) – forest ecology and management, global carbon budgets
D. Marmorek BES (Wat), MSc (Br Col) – Director and partner, Environmental and Social Systems Analysts Ltd. (ESSA), Vancouver BC (adaptive environmental assessment and management; ecological impacts of acid deposition)
J. Marr BA (Montana), PhD (Car) – Principal, Shoreland Solutions, Newport, Oregon (coastal processes, geomorphology, planning and management, hazards, public involvement, GIS)
D.W. Marshall BSc (Qu) – Program Director, Fraser Basin Management Program (environmental and social impact assessment)
J.S. MacDonald BSc (S Fraser), PhD (WOnt) – fisheries scientist, Department of Fisheries and Oceans (ecosystems processes in watersheds, topographic, ecological and habitat science)
A. MacKinnon BSc, MSc (Br Col), Manager, Forest Ecology, BC Ministry of Forests (forest ecology)
A. Murray BEnvStu (Wat), MSc Res Mgmt (Cant) – Manager, Environment, Vancouver International Airport Authority (environmental assessment at airports, impact assessment, environmental management systems, ISO 14,000 standards)
R. Newbury BSc, MSc (Manit), PhD (J Hopkins), Principal Newbury Hydraulics (watershed analysis, hydrology of streams and lakes, river basin studies and river rehabilitation)
J. Nyboer BSc (Alta), BEd (Tor), MRM, PhD (S Fraser) – Executive Director, Canadian Industry Energy End-Use Data and Analysis Centre (CIEEDAC) and Energy Research Group (ERG) (energy system modelling, industrial energy use analysis, energy efficiency analysis, technology assessment
D. O’Gorman BA (Alta), MA (Br Col) – Deputy Commissioner, Commissioner on Resources and Environment, Victoria
M. Pellatt BSc, PhD (S Fraser) – Coastal Ecologist, Parks Canada (coastal ecology, paleoecology)
P. Ross BSc (Trent), MSc (Dalh), PhD (Utrecht) – environmental contaminants in marine mammals, modelling contaminants in the eco-system
S.G. Sigurdson BA (Manit), QC – Principal, The CSE Group (development of regulatory frameworks and conflict management systems; fisheries issues to environmental assessments; forest management to
health care, resource, land use, and environmental matters, often involving First Nations.
D. Ware BSc, PhD (Br Col) – research scientist, Northwest Ecological Institute (fish population biology, dynamics and productivity)
P. Wright BS (Lakehead), MS, PhD (Ohio State) – (environmental conflict resolution, parks and outdoor recreation)

Instructor
M. Rutherford BSc, LLB (Br Col), MRM (S Fraser), MPhil (Yale) – environmental policy and planning, ecosystem-based management, policy evaluation and learning, environmental law

*joint appointment with geography
The School of Resource and Environmental Management offers two interdisciplinary graduate programs: a master's degree (MRM) in resource management and a PhD degree in resource and environmental management.

These programs are designed for recent graduates from a range of disciplines, and for individuals with experience in private organizations or public agencies dealing with natural resources and the environment. Relevant disciplines of undergraduate training or experience include fields such as biology, engineering, chemistry, forestry and geology, as well as business administration, economics, geography, planning and a variety of social sciences. The programs provide training for professional careers in private or public organizations and preparation for further training for research and academic careers.

An optional co-operative education program permits students to work in a private organization or a resource management agency to gain first-hand experience.

Co-operative Education
This program places students in a government or private resource or environmental management agency to gain professional experience in applied problem solving. This optional program can lead to work that is directly applicable to REM 699.

Centres and Institutes

Co-operative Research Management Institute
REM faculty play an active role in this institute, a unit on the Burnaby Mountain campus that houses natural resource management agencies. The institute can facilitate solutions to difficult multidisciplinary issues in resource management by providing an environment where personnel from different management agencies such as forestry, fisheries and wildlife can work side-by-side with SFU faculty, graduate students, post-doctoral fellows and research associates on a daily basis. The university benefits from greater concentration of expertise in resource management and from new opportunities for multidisciplinary, collaborative research programs.

Tourism Research
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 (page 299) for admission requirements. Contact the School of Resource and Environmental Management directly for an 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 in the school. Therefore, admission to the school might be conditional upon the completion of certain undergraduate courses.

Application deadline: February 15.

Master's Program

Requirements
Students must complete seven required courses (see below), six graduate elective courses and a research project (REM 699). A minimum of 69 credit hours is required to complete the degree, consisting of 43 required credit hours and 26 elective credit hours. In exceptional cases, if a student provides evidence of advanced education that is equivalent to one of the required courses, a waiver may be granted for that course, thereby reducing the required courses to six.

Prerequisite Courses
All students must be familiar with the material covered in an undergraduate course in parametric and nonparametric statistics.

Required Courses

Elective Courses
To fulfill the six elective courses requirement, students generally choose those that support and complement their particular research interests. Students may, in consultation with their senior supervisor, select REM courses and/or courses from other departments.

Doctoral Program

Admission
To qualify for admission, an applicant must satisfy all university admission requirements as outlined in the graduate general regulations. Applicants must have:

• the ability to carry out innovative, independent and original PhD level research in that field
• high academic standing in previous university work
• a master's degree in a related discipline

All applicants must submit the following with their application:

• all university transcripts
• a short curriculum vitae providing evidence of awards, academic performance, publications and relevant research and work experience
• a 500-1,000 word statement of interest describing how this program fits into the applicant's research and career objectives
• three letters of reference (using the form provided in the application package) from respected academics/researchers who have first-hand knowledge of the applicant's research capabilities and academic training

• results from the GRE Writing Assessment Test and official results of the TOEFL and TWE or IELTS exams (for applicants whose first language is not English and whose previous education has been conducted in another language)

Applicants must be accepted by an identified senior supervisor prior to admittance. PhD applicants are strongly advised to visit the University for an interview prior to February 15 of the year of requested admission. See "1.3.4 Admission to a Doctoral Program" on page 300.

Transfer from the Master's Program to the PhD Program
An MRM student who shows exceptional ability may apply to transfer to the PhD program only if the student has the ability to carry out innovative, independent and original PhD level research in that field, and has obtained high academic standing in previous university work. All university regulations governing transfers must be met. Transfers are only permitted when the student has been in the master's program for two but not more than four semesters.

Transfer applications must be approved by the student's supervisory committee, the REM graduate studies committee, and the senate graduate studies committee. Transfer students will be eligible to earn only the PhD degree.

Degree Requirements

Courses
All REM PhD students must complete REM 801-5 Principles of Research Methods and Design in Resource and Environmental Management REM 802-5 Institutional Design and Decision Making for Environmental Management REM 698-3 Field Resource Management Workshop and two elective graduate courses.

The selection of elective courses must be approved by the student's senior supervisor.

All courses in the school can be taken for credit toward a PhD degree except REM 601 and directed studies courses.

Elective courses, which are meant to support the student's preparation for comprehensive examinations and/or dissertation research, may be taken outside REM, if approved by the student's supervisory committee.

The student's supervisory committee may recommend that the student completes courses in addition to the three required and two elective courses in order to strengthen the student's background in areas directly related to the student's thesis research.

Students who have transferred from the REM master's program into the REM PhD program may obtain a course waiver for REM 801, 802, and 698 if they have received credit for these courses within five years of their commencement of the PhD program. Students cannot obtain course waivers for the two elective courses. If a student receives a course waiver, the student is not required to replace the course for which the waiver was received with another course.

Students who have completed the REM master's program and are accepted into the REM PhD program within a period of five years after completing the REM master's program, must substitute other suitable graduate level courses for any of the PhD program required courses (listed above) that they have taken as part of the REM master's program.
These course substitutions must be approved by the student's senior supervisor.

Comprehensive Examinations
To complete the PhD degree the student must pass the REM PhD comprehensive examination that examines the candidate’s knowledge and abilities in disciplinary areas that are different from but related to the student’s thesis research. The comprehensive examination includes three disciplinary areas, i.e.
- environmental sciences
- policy and planning in resource and environmental management
- natural resource and environmental economics

To complete the comprehensive examination, the student must prepare three written field statements. The field statements are then evaluated by the comprehensive examination committee in accordance with the policies and procedures of the School of Resource and Environmental Management.

If the candidate fails the comprehensive exam, and this assessment is approved by the graduate studies committee, the student will be required to withdraw from the PhD program.

Detailed information about the comprehensive examination procedures, dates, and deadlines are provided in the PhD Handbook of the School of Resource and Environmental Management.

Thesis Proposal
PhD candidates must submit a written thesis proposal by the end of the seventh semester of full time program enrolment. In conjunction with the supervisory committee, students develop a detailed written research proposal which must be defended before this committee. This thesis proposal is intended to demonstrate that the candidate’s research abilities are adequate for PhD level research and to determine that the proposed research is feasible and has merit. The student must pass the thesis proposal defence to remain in the program.

Thesis
A written thesis based on the candidate’s original research in resource and environmental science and management is the final PhD program requirement and must include aspects of at least two disciplinary areas (such as ecology and policy, or toxicology and law). The topic must be approved as noted above and the student’s progress will be evaluated annually in accordance with the graduate general regulations. When the thesis is essentially complete, the student must first present it to a departmental colloquium prior to proceeding to the formal thesis defence. This presentation shall form the basis of the supervisory committee’s recommendation about defence readiness. All PhD candidates must then pass the formal thesis defence, which is conducted in accordance with University regulations. All other PhD general regulations are as outlined in the graduate general regulations.

Residence Requirement
A PhD candidate must be registered and in residence at Simon Fraser University for the minimum number of semesters as described in the Graduate General Regulations (page 299).

Curriculum
All REM PhD students must complete at least four courses as follows.
REM 801-5 Principles of Research Methods and Design in Resource and Environmental Management
REM 802-5 Institutional Design and Decision Making for Environmental Management
At least one course in the student’s primary field
At least one course in the student’s secondary field

Graduate Courses

REM 601-5 The Social Science of Natural Resources Management
An introduction to the relevance of social science perspectives, data and analytical tools in resource management, especially as these complement, supplement or critique perspectives from natural science or economics. Not for credit toward a PhD in resource and environmental management.

REM 602-5 Natural Resource Management II: Advanced Seminar
A professional group workshop course focusing on specific resource and environmental problems. Prerequisite: eight REM courses or permission of instructor.

REM 610-5 Applied Environmental Toxicology and Environmental Management of Contaminants
A study of the environmental behavior and toxic effects of chemical substances in the environment and the application of methodologies for their assessment and management.

REM 611-5 Population and Community Ecology
A review of population, community, and ecosystem ecology; implications of these areas for methods of resource management and environmental assessment.

REM 612-5 Simulation Modelling in Natural Resource Management
Methods of constructing simulations models and analyzing them through sensitivity analysis. Application of simulation modelling to research and management of environmental and resource systems. Topics will include management of wildlife, forests, insect pests, fisheries, pollution problems, energy resources, and recreational land use. Prerequisite: REM 611 or permission of the instructor.

REM 613-5 Current Topics in Fisheries Management
Models of fish population dynamics, methods of data analysis, and management in the context of uncertainty. Case studies of management of various world fisheries. In-depth exploration of selected current fisheries problems including extensive data analysis. Focus will be primarily on biological aspects of fisheries management while illustrating how these interface with economic, social and institutional concerns of managers. Prerequisite: permission of instructor.

REM 621-5 Ecological Economics
Introduction to economic concepts for management of the environment and specific natural resources. Key issues are definitions of sustainability, the substitution capability between human-made and natural capital, and the appropriate application of economics to sustainable development analysis and policies.

REM 625-5 Risk Assessment and Decision Analysis for Management of Natural Resources
Use of quantitative methods of risk assessment and decision analysis to explicitly take uncertainty into account when making decisions in management of natural resources. Methods of quantifying uncertainty and the resulting risks. Examples from management of forests, wildlife, fisheries, water resources, energy, and toxic chemicals. Communicating information about uncertainties and the resulting risks to resource managers, the public, and scientists. Advantages and limitations of various quantitative methods. Includes computer laboratories. Prerequisite: REM 612 and 621, or permission of instructor.

REM 631-5 River Basin Analysis, Planning and Management
A review of geomorphic and hydrologic principles; the morphology of drainage basins and rivers; selected case studies of impact assessment and river restoration.

REM 632-5 Terrain Evaluation
The extensive classification of a landscape based on geology, geomorphology, soils, vegetation, historic and current land use, and the assessment of qualitative values as an aid to multiple land use 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, multiband photography, thermal infrared imagery, satellite imagery, orthophotography, topographic and thematic mapping, and computer cartography.

REM 641-5 Law and Resources
A study of legal interventions related to resource planning and environmental control. The course looks at several aspects of environmental and resource law including administrative and constitutional law, fisheries and forestry regulation, and native rights.

REM 642-5 Regional Planning I
Theory and techniques of regional analysis; planning models and their application to key resource sectors.

REM 643-5 Environmental Conflict and Dispute Resolution
This course examines theoretical aspects of conflict and dispute resolution in natural resource management settings and is designed to assist students in understanding the nature of environmental conflict and the role of environmental dispute resolution (EDR) techniques.

REM 644-5 Public Policy Analysis and Administration
Analysis of methods of policy-making and problem solving with particular emphasis on natural resource issues. Topics include goal setting, problem definition, program scheduling, policy evaluation, policy implementation and public administration. A practical analysis of the structure and processes surrounding major contemporary policy issues.

REM 645-5 Resource Development Communities
Examination of the impact of resource developments on communities in Canada. An overview of the social organization of resources-based communities and an analysis of the participatory process in decision making in resource management.

REM 646-5 Environmental and Social Impact Assessment and Environmental Management Systems
Evaluation and application of current methodologies for social, economic, and biophysical impact assessment and the ISO 14001 standard for environmental management systems.

REM 647-5 Parks and Outdoor Recreation Planning
The course examines a combination of both ecological and market-based resource assessment and planning techniques for conservation and use of parks, forests, and protected areas. Visitor behavior and management in recreation and protected areas settings will be examined.

REM 648-5 The Tourism System
This course will examine the social, environmental and economic components of tourism. Topics will include theoretical concepts and elements of tourism, historical evolution, spatial patterns, and case studies of tourism development in various parts of the world. Discussion of tourism planning and management will...
focus on the development of tourism as a renewable resource.

REM 649-5 Tourism Planning and Policy
The course provides frameworks and methodologies for understanding the policy and planning initiatives of public and private sector organizations. Foundations for resource assessment, market analysis, product-market matching and regional tourism strategy development are explored in detail. Prerequisite: permission of instructor.

REM 650-5 Energy and Materials Management and Policy
Management strategies and policies to achieve sustainable flows of energy and materials in the economy. Eco-efficiency strategies reduce these flows while resource substitution strategies seek more environmentally benign flows. Applies expertise from economics, ecology, thermodynamics, engineering, geology and behavioural sciences.

REM 651-5 Project Evaluation and Non-market Valuation Methods
This course extends environmental and ecological economics concepts to the field of project appraisal and non-market valuation. Includes the methods and limitations of standard cost-benefit analysis (CBA), as well as new techniques in the valuation of non-market environmental resources and ways to incorporate considerations such as the depletion of natural resources in project work. The course concludes with treatment of a number of alternatives to CBA, including multi-attribute techniques and the precautionary principle. Prerequisite: ECON 200, REM 621, or permission of instructor.

REM 652-5 Community Tourism Planning and Development
The course critically examines approaches employed by communities incorporating tourism into their development strategies. Techniques for optimizing the resource potential of communities from economic, social, cultural and environmental perspectives are explored with a view toward developing policies for 'appropriate' community tourism. Prerequisite: permission of instructor.

REM 655-5 Water Planning and Management
Evaluation of theoretical models and management experiences; federal, provincial and international institutional arrangements and jurisdictional responsibilities; emerging problems and opportunities. This is primarily a field course in which water and environmental management systems in British Columbia are compared with those in the states of Washington, Oregon, and California.

REM 658-5 Energy and Materials Sustainability Modelling
Theory, background, and practical experience in the use of a range of techniques for policy modelling of energy and materials flows in society with the aim of demonstrating how more environmentally and socially sustainable trajectories can be achieved. Techniques include: simulation modelling, optimization modelling, econometric and other forms of parameter estimation, input-output modelling, game playing models, and integrated systems models. Prerequisite: REM 621 and 650.

REM 660-663-5 Special Topics in Resource Management
Special topics in areas not currently offered within the offerings of the resource and environmental management program.

REM 664-5 Directed Studies
Special topics in areas not currently offered within the offerings of the resource and environmental management program.

REM 670-5 Introduction to Forestry
Examines the theory and practice of forest management based on an understanding of the linkages between forest ecosystem dynamics, economics, policy and social management. Principles are illustrated with reference to contemporary forestry issues. Prerequisite: REM 611 or permission of instructor.

REM 671-5 Forest Ecology
Structure, function and development of forest ecosystems. Population, community, ecosystem and landscape approaches are used to enable students to understand the biology and management of forests in terms of the processes driving spatial and temporal dynamics.

REM 672-5 Silviculture
Principles and practice of silviculture; lecture and laboratory, with added emphasis on the state of the art in British Columbia. Prerequisite: REM 671, equivalent course, or permission of instructor.

REM 690-0 Practicum I
First semester of work experience in the School of Resource and Environmental Management's Co-operative Education Program.

REM 691-0 Practicum II
Second semester of work experience in the School of Resource and Environmental Management's Co-operative Education Program. Prerequisite: students must have completed at least one semester's courses and permission of REM's co-op co-ordinator.

REM 698-3 Field Resource Management Workshop
An intensive field course introducing students to the diversity of issues and viewpoints concerning management of natural resources. Problem areas will include forestry, mining, fisheries and wildlife management, energy, recreation and land use planning.

REM 699-10 Research Project
A research project dealing with a specific interdisciplinary problem in resource management, administration or allocation. The study must result in the preparation of a formal paper and the presentation of a seminar.

REM 801-5 Principles of Research Methods and Design in Resource and Environmental Management
Students will develop skills and insight into the design, implementation and analysis of interdisciplinary research in natural resource and environmental management. This will help prepare students to carry out their own research projects. Students who entered REM during or prior to the Fall 1994 semester and who have received credit for any one of MRM 601, 611 or 621 may not take REM 801 for credit.

REM 802-5 Institutional Design and Decision Making for Environmental Management
Students will develop a sophisticated understanding of the institutional structure and methods of decision making in natural resource and environmental management. This course complements material covered in a variety of other REM master's level courses.

REM 899-0 PhD Thesis
Faculty of Arts – Department of Archaeology

6168 Academic Quadrangle, (604) 291-4414 Tel, (604) 291-3033 Fax, www.sfu.ca/archaeology

Director of Program
D.V. Burley, MA (New Br.), PhD (S Fraser)

Graduate Program Chair
D.E. Nelson, BSc (Sask.), PhD (McG.), (604) 291-3673

Faculty and Areas of Research
See “Department of Archaeology” on page 132 for a complete list of faculty.

Areas of Study
The department offers specialization in archaeometry, art, ceramic analysis, cultural resource management, ethnography, forensic anthropology, geoarchaeology, historical archaeology, lithic analysis, palaeoanthropology, palaeoethnobotany, skeletal biology, and zooarchaeology. The student is expected to gain a comprehensive understanding of the discipline. In so doing, the student should strive to acquire a general knowledge of world prehistory, physical anthropology, and archaeological theory and method, in addition to gaining knowledge and expertise in particular areas of research interest. Depending on enrollments, individual or group courses can be arranged in addition to regularly scheduled courses.

Degree Requirements
A distinction is made between those who are enrolled in the program and those who have formally advanced to degree candidacy. A candidate is a student who successfully completed the requirements for advancement to degree candidacy (defined below).

Normally, candidacy advancement happens once the Simon Fraser University residence requirement is fulfilled, but not later than the end of the ninth semester after PhD admission and not later than the end of the sixth semester for MA students.

MA Program
This program consists of these sequential steps: course requirements, thesis prospectus, colloquium presentation, advancement to candidacy, and thesis completion and defence. Students are expected to complete all MA program requirements in a maximum of nine semesters of full-time registration.

Course Requirements
In addition to the thesis, students complete a minimum of three graduate courses including ARCH 871 and 876. Students may be required by their committee to take additional courses and are also required to take ARCH 872/873 each semester the course is offered. ARCH 873 credit does not constitute part of the normal MA requirement. Grading for ARCH 872 and 873 will be restricted to satisfactory/unsatisfactory (S/U). Course requirements, thesis prospectus and colloquium presentation should be completed by students in full-time attendance by the end of the second semester.

Advancement to Candidacy
Advancement to candidacy requirements follow.
• completion of two of the minimum three graduate courses.
• preparation of thesis prospectus. The prospectus discusses the proposed research and general background relevant to the research and is submitted to the supervisory committee and approved before step 3 is undertaken.
• after approval of the thesis prospectus, and after consultation between the student and his/her supervisory committee, the student will present a colloquium, the topic of which shall be the substance of the prospectus.

The colloquium is not to be considered a defence of the prospectus, per se, but is a means whereby the student may benefit from the collective expertise of the department.

Thesis
After the above, students advance to candidacy and complete and defend the thesis. The defence topic should be the thesis itself and related matters. The thesis should be focused on problem-oriented research, involving the conceptualization of a problem, and the collection, analysis and interpretation of data. It should not normally exceed 100 pages of text. Students are expected to complete the MA thesis in a maximum of six semesters of full-time registration.

PhD Program
This program consists of these sequential steps: course requirements, comprehensive exam, thesis prospectus, colloquium presentation, advancement to candidacy, thesis completion and defence.

Course Requirements
Course requirements are determined in consultation with the supervisory committee.

Degree Requirements
A distinction is made between those who are enrolled in the program and those who have formally advanced to degree candidacy. A candidate is a student who successfully completed the requirements for advancement to degree candidacy (defined below).

Normally, candidacy advancement happens once the Simon Fraser University residence requirement is fulfilled, but not later than the end of the ninth semester after PhD admission and not later than the end of the sixth semester for MA students.

Joint Appointment with Sociology and Anthropology
R.W. Mathewes, Biological Sciences

Associate Members
Canada, particularly Northwest coast, native arts
P.M. Hobler – Northwest Coast, Southwest, field techniques, historic components at Native sites
A.D. McMillan – archaeology and ethnology of Canada, particularly Northwest coast, native arts
D. Sutton – archaeology of the South Pacific

Associate Faculty
J.M. D’Auria, Chemistry
D.J. Huntley, Physics
R.W. Mathewes, Biological Sciences

*Joint appointment with First Nations studies
**Joint appointment with sociology and anthropology

Areas of Study
The department offers specialization in archaeometry, art, ceramic analysis, cultural resource management, ethnography, forensic anthropology, geoarchaeology, historical archaeology, lithic analysis, palaeoanthropology, palaeoethnobotany, skeletal biology, and zooarchaeology. The student is expected to gain a comprehensive understanding of the discipline. In so doing, the student should strive to acquire a general knowledge of world prehistory, physical anthropology, and archaeological theory and method, in addition to gaining knowledge and expertise in particular areas of research interest. Depending on enrollments, individual or group courses can be arranged in addition to regularly scheduled courses.

Degree Requirements
A distinction is made between those who are enrolled in the program and those who have formally advanced to degree candidacy. A candidate is a
In addition to the comprehensive exam and thesis, normal course requirements consist of a minimum of three graduate courses including ARCH 871 and 876. Students may be required to take additional courses and are also required to take ARCH 872/873 each semester the course is offered. ARCH 873 credit does not constitute part of the normal course requirements. Grading for ARCH 872/873 courses will be restricted to satisfactory/unsatisfactory (S/U).

Comprehensive Exam
Students write a comprehensive examination prior to candidacy to test general knowledge in archaeology and in three regional or topical areas. Grading is on a pass/fail basis but the examination or parts thereof may be repeated once, at the department's discretion.

Advancement to Candidacy
Formal advancement to candidacy shall take place when the following have been completed:

• completion of two of the minimum three graduate courses and successful performance in the comprehensive exam
• preparation of thesis prospectus. The purpose of the prospectus shall be to discuss the proposed research and general background relevant to the research. The prospectus is expected to be submitted to the supervisory committee and approved before step 3 is taken.
• after approval of the thesis prospectus, and after consultation between the student and his/her supervisory committee, the student will present a colloquium, the topic of which shall be the substance of the prospectus.

The colloquium is not considered a defence of the prospectus, but a means whereby students may benefit from the department's collective expertise.

Thesis
After the above, students advance to candidacy and complete and defend the thesis. The defence topic should be the thesis itself and related matters. The thesis should represent original, problem-oriented research which makes a significant contribution to knowledge.

Language Requirement
A knowledge of a language other than English is desirable, but there are no prescribed language requirements. However, if knowledge of a language is necessary for the field work or reading, he/she will be required to attain the necessary language proficiency.

Graduate Courses
ARCH 871-5 Archaeological Theory
Critical evaluation of new approaches to the study of the human past.

ARCH 872-0 Graduate Seminar in Archaeology and Prehistory
A seminar on selected problems in archaeological science and prehistory. Grading will be restricted to satisfactory/unsatisfactory (S/U).

ARCH 873-2 Graduate Seminar in Archaeology and Prehistory
A seminar on selected problems in archaeological science and prehistory. Students may take ARCH 873 for credit once in the graduate program.

ARCH 875-5 Research Design
Seminar focusing on the development of thesis research design and data analysis.

ARCH 892-5 Directed Readings in Prehistory
Directed readings under the supervision of a faculty member in the prehistory of any selected region of the world.

ARCH 893-3 Directed Readings
Intensive readings under the supervision of a faculty member in an area of interest related to the student's program.

ARCH 894-3 Special Topics
This course will be offered from time to time to meet special needs of students and make use of specialization of visiting faculty members.

ARCH 895-5 Special Topics
This course will be offered from time to time to meet special needs of students and to make use of specialization of visiting faculty members.

ARCH 896-5 Directed Laboratory/Library/Field Research
Directed laboratory, library or field research under the supervision of a faculty member in an area of interest related to the student's program.

ARCH 898-0 MA Thesis
ARCH 899-0 PhD Thesis

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

Director
M.S. Gotfrit BA (C'dia), MA (McG)

Graduate Program Chair
A. Clay BFA (Nova Scotia Art & Des), MFA (Br Col)

Faculty and Areas of Research
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. Daniel – performance and new technologies
H. Hawkins – social history of 19th century visual art, women’s history, feminist, psychoanalytic and cultural theory
M. Diamond – acting, directing, dramaturgy, creative writing
A. Eisenfeld – music for dance, MIDI systems, digital signal processing
M. Eist – ballet, modern dance, body therapies, choreography, dance education, dance history
J. Garay – choreography, performance, costume design
M.S. Gotfrit – electroacoustic music, film-sound design and scoring
R. Groeneboer – film direction, editing and script writing, film production
P. Gruben – directing, scriptwriting, editing: dramatic feature films
G. Harris – lighting and scenic design
B. Hegland – lighting design, stage design, theatre technology, theatre architecture
D.D. Kugler – directing, dramaturgy
J. Levinson** – film production and theory, independent film making, feminist film criticism, ideological studies, third world film, comedy, directing, women’s studies
J.A. Macfarlane – lighting design for the stage, theatre technology
D.K. Macintyre – music composition, interdisciplinary composition and performance, collaboration
C. Prophet – choreography and performance
J. Radul – performance, video, photography, sound and text, contemporary theory
A. Smith – drumming, jazz, popular music and accompaniment
C. Snider – sculpture, installation, public art, contemporary art theory
P. Stella – acting, directing, playmaking, dramaturgy
B.D. Truax* – acoustic communication, electroacoustic music and computer music (composition and software development), world soundscape studies
O. Underhill – composition, conducting, contemporary ensembles, music theatre, interdisciplinary collaboration, 20th century theory
C. Welles – avant garde film and video making, photography and time-based gallery installations
J. Yoon – installation, photography, multimedia image and text, contemporary theoretical issues concerning representation and cultural politics
*joint appointment with communication
**joint appointment with women's studies

MFA Program
The program, leading to a master of fine arts in interdisciplinary studies, provides a advanced training in music, dance, theatre, film, and visual arts. It furthers cross-disciplinary research, technical skill and artistic creativity, and the development of critical awareness of the relatedness of the arts both in contemporary society and in an historical perspective. Courses provide flexibility to accommodate individual differences in background and artistic goals, with emphasis throughout on the production of creative work in an interdisciplinary context.

Admission Requirements
Applicants must hold a BFA, BA, BMus or BEd in one or more of the art disciplines, with a 3.0 CGPA or better. In special cases, a candidate may be admitted who does not satisfy this requirement but who either possesses comparable certification (an art school or conservatory diploma) or has exceptional experience as a practising artist.

Applicants must demonstrate creative competence with a high standing in undergraduate courses in music, dance, theatre, film, or visual art, or substantial experience in these fields outside the university. For the consideration of the admissions committee, applicants must submit a portfolio of work in the form of audio or video tapes, scores, slides, films, plays or academic papers. Performing artists may be asked to audition.

Foreign students may be required to demonstrate proficiency in the English language, attained by scoring 570 or above in the Test of English as a Foreign Language.

Degree Requirements
MFA candidates complete a minimum of 40 credit hours, including 30 of course work and a project, which is the equivalent of 10 credit hours. In most cases, this project is an art presentation accompanied by appropriate documentation with an oral defence. The project plus the required interdisciplinary seminars account for 20 hours; of the remaining 20, 15 will normally be from within the school.

Students must complete all of FPA 811-5 Interdisciplinary Graduate Seminar I
FPA 812-5 Interdisciplinary Graduate Seminar II
FPA 813-5 Interdisciplinary Graduate Studio
FPA 898-10 Master of Fine Arts Graduating Project
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*

*Work involving substantial investigation of another artistic discipline outside the area of concentration must be in the proposed work for at least one of FPA 883, 885, 887, 889. A graduate course from another...
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 Graduate Seminar II
Continuation of FPA 811. Prerequisite: FPA 811.

FPA 813-5 Interdisciplinary Graduate Studio
A selected topics studio course with an emphasis on interdisciplinary artistic projects. Prerequisite: FPA 811 or 812.

FPA 883-5 Studio in FPA I
Intensive studio work, concentrated in a particular art discipline, but with opportunity to involve interdisciplinary materials and techniques.

FPA 885-5 Studio in FPA II
Continuation of FPA 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 898-10 Master of Fine Arts Graduating Project

School of Criminology

2630 Diamond Building, (604) 291-762/3213 Tel, (604) 291-4140 Fax, crimgrad@sfu.ca E-mail, www.sfu.ca/criminology

Director
R.M. Gordon BA (Latrobe), MA (S Fraser), PhD (Br Col)

Graduate Program Director
P.J. Brantingham AB, JD (Col), DipCriminol (Camb)

Faculty and Areas of Research
See “School of Criminology” on page 143 for a complete list of faculty.

G.S. Anderson – forensic, medical and veterinary entomology
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, criminal justice planning, policy evaluation
J. Brockman – self-regulation, crimes and misconduct in the professions, white collar and corporate crime, financial crimes, criminal procedure and evidence, the use of social science research as evidence in court, feminist jurisprudence, methodology and perspectives, women in the professions
B. Burch – penology, corrections, sociology of law, social control, reproduction and law, state theory, electronic monitoring of offenders
W. Chan – critical criminology, feminist jurisprudence, homicides between partners, representations of women and violence, technology and social theory
D.E. Chunn – feminist legal theory; crimes of authorities; family, law and social policy; historical sociology of crime, law and social welfare; media representations of women in law; ‘policing’ violence against women
R.R. Corrado – comparative juvenile justice, terrorism, evaluation research, administration of justice in Canada
F.D. Cousineau – juvenile justice, deterrence, sociology of criminological research
E. Elliott – social philosophy of punishment and abolitionism, critical analysis of the prison, women in prison, fear of crime
K. Faith – feminist theory, gender/race/class relations and crime, media imagery of female criminals, philosophical/historical criminology, female incarceration, medieval to 20th century witch hunts, political economy and social problems
W.G. Glackman – research methodology, multivariate statistical techniques, forensic psychology, perceptions of crime
R.M. Gordon – adult guardianship/protection law, abuse and neglect of the elderly, health law including mental health law, young offenders and youth justice, gangs and related groups, restorative justice
C.T. Griffiths – corrections, Native American criminality, 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, restorative justice
D. Lacombe – sociology of law and deviance, gender relations, political sociology
J. Lowman – prostitution, prostitution law and law enforcement, sociology of punishment, critical theory, research ethics
N.A. Madu – correctional counseling, ethical dimensions and issues for helping professionals, rights of persons with developmental disabilities, effective communication and wellness, Zen and the art of helping, application and process of therapeutic theory, multiple dimensions of human potential
R.J. Menzies – assessment of dangerousness, sociology of law, critical 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. Polys – research methodology, evaluation and assessment, decision-making, philosophy of science/sociology of knowledge
S.N. Verdun-Jones – criminal law, procedure and evidence, comparative criminal law and procedure, jurisprudence, sociology of law, interdisciplinary criminal justice research, history of criminal justice

Associate Members
S. Duguid, Humanities
J. Whatley, Continuing Studies
C. Yerbury, Continuing Studies

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
- theories of crime
- criminal justice policy analysis
- methods
- law and social control

Centre for Restorative Justice
See “Centre for Restorative Justice” on page 391.

Criminology Research Centre
See “Criminology Research Centre” on page 390.

Feminist Institute for Studies on Law and Society
See “Feminist Institute for Studies on Law and Society” on page 390.

Institute for Studies in Criminal Justice Policy

MA Program

Admission
Students holding a baccalaureate or equivalent from a recognized institution must meet the admission requirements for graduate studies.

See “1.3.2 Admission to a Graduate Diploma Program” on page 299 and also see “1.3.8 Conditional Admission” on page 300.

Normally, an applicant should have at least one course in social science research methods and one undergraduate introductory course in statistics.

Applicants must forward original transcripts and send a short statement of interests which includes a description of previous employment, and research or other work relevant to the candidate’s proposed graduate studies. Letters of recommendation from people who know the candidates and are familiar with their work are required.

A cheque or money order for $55 (Canadian), made payable to Simon Fraser University, should be submitted with the application form.

Deadlines for completed applications, for entrance commencing fall semester, is February 1. Applicants will be informed of the outcome as soon as possible thereafter.

Degree Requirements
Candidates for an MA degree must take a minimum of eighteen (18) credit hours of course work consisting of
- Research Methods I (CRIM 860)
- one of
- Research Methods II (CRIM 861)
- Research Methods III (CRIM 862)
- or
- Research Methods IV (CRIM 863)

plus
- Theories of Crime I (3 credit hours)
- Proseminar (3 credit hours)
- at least six (6) hours selected from additional graduate curriculum offerings
- satisfactory completion and oral defence of an original MA thesis

The thesis will not normally be more than 100 pages in length, including bibliography and footnotes, but exclusive of appendices.
Satisfactory Performance
The candidate’s progress is assessed at least twice a year by the school (spring and fall). A student who performs unsatisfactorily is not permitted to continue in the program, subject to the procedure for review of unsatisfactory progress described in Graduate General Regulation 1.8.2 (page 303).

PhD Program

Admission
The minimum university requirements for admission to the doctoral program are provided in the Graduate General Regulations 1.3.3 (page 299).

Normally, an applicant should have at least one course in social science research methods and one undergraduate introductory course in statistics.

Direct admission may be approved for persons with a master's in criminology, a master's in a discipline other than criminology and, under exceptional circumstances, with an undergraduate degree or its equivalent provided that a CGPA of at least 3.5 has been maintained.

Applicants must submit a statement of research interests and at least two examples of previous academic work.

In exceptional circumstances, undergraduate degree holders (or equivalent) may be admitted if they meet University regulations for entry with a BA, have demonstrated a capacity for original research at the undergraduate level, and are recommended for direct entry by at least two criminology faculty members who are eligible to teach or supervise in the PhD program. Those who meet the GPA requirement and have demonstrated research ability through field criminal justice experience may also be considered on recommendation of at least two faculty members involved in the program. Those so admitted have their status reviewed by the end of the second semester following admission. The graduate program committee determines the candidate’s ability to complete the PhD by direct entry. The student will either be confirmed as an approved PhD candidate in criminology or directed to seek admission to the master's program.

Because many disciplines are allied to criminology, the graduate program committee reserves the right to determine equivalent courses already taken in the applicant’s master's program. At the time of admission, the graduate program committee may waive up to 15 credit hours of requirements.

A cheque or money order for $55 (Canadian), made payable to Simon Fraser University, must be submitted with the application form. The school must receive the completed application, for entrance to the fall semester, by February 1. Applicants are informed of the outcome as soon as possible 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)
- proseminar (3 credit hours)
- at least eighteen (18) credit hours selected from additional curriculum offerings
- achieve satisfactory completion and oral defence of an original PhD thesis

A maximum of nine credit hours may be taken in another department or university on approval of the student’s supervisory committee and the graduate program committee. These courses may be accepted as partially meeting the requirements for any courses in the PhD program.

All students must write comprehensive exams in two of the five graduate core areas of the curriculum. Normally, students are expected to finish courses and comprehensives within two years of entering the program.

Note: While two of the course areas are entitled ‘methods’ and ‘theory,’ methodological and theoretical issues are relevant to all core areas.

Dissertation Procedures
In the semester after comprehensive examinations are passed, each candidate develops a thesis prospectus, based on original research, which defines the proposed investigation and demonstrates the relationship between it and existing scholarship. The thesis proposal is presented to the supervisory committee and, on approval, is circulated to faculty and resident graduate students and presented at a colloquium.

The thesis is defended in oral examination by an examining committee constituted under the provisions of Graduate General Regulation 1.9.3 (page 303).

Satisfactory Performance
The progress of each candidate is assessed at least twice a year by the school (spring and fall). Students who perform unsatisfactorily may not continue in the program, subject to the procedure for review of unsatisfactory progress described in Graduate General Regulation 1.8.2 (page 303).

Graduate Courses

CRIM 800-3 Theories of Crime
A comprehensive overview of theories and the development of theoretical knowledge in criminology. This seminar will familiarize students with competing levels of understanding vis-à-vis crime and deviance phenomena. The course will emphasize the integration of historical and contemporary theory, theory construction and testing, and the impact of factors such as ideology, politics and social structure on the emergence of criminological thought.

CRIM 801-3 Theories of Crime II
Intensive exposure to the major streams of criminological theory. Topics for in-depth analysis will be selected according to the availability and interest of specific course instructors. Emphasis will be placed on the relationship between ideas and social forces, as well as the interplay of theory and practice.

CRIM 810-3 The Phenomena of Crime I
Designed for the beginning graduate student, this course covers a wide variety of topics all of which deal with what we know about the phenomena of crime historically, temporally and geographically. This course will look at the patterns of crime and victimization, and will explore crime patterns at local, provincial, national and international levels. Known characteristics of specific forms of crime will be studied.

CRIM 811-3 The Phenomena of Crime II
Topics for in-depth analysis will be selected according to the availability and interest of specific course instructors and selected from but not limited to one or more of the following topics: historical criminology; the ecology of crime; environmental criminology; the media and crime; fear of crime; victimization; organized crime; or corporate crime.

CRIM 820-3 Criminal Justice Policy Analysis I
An introduction to policy development and policy analysis in the field of criminal justice, including a general review of the function of bureaucratic agencies in the public sector and the particular role of government ministries providing criminal justice services. Major topics include: organization theory; policy planning theory; decision theory; inter-governmental analysis as it applies to the administration of justice; and comparative analyses of criminal justice policies especially related to international or trans-national crime.

CRIM 821-3 Criminal Justice Policy Analysis II
Topics for in-depth analysis will be selected according to the availability and interest of specific course instructors and may be selected from any area of criminal justice practice including: law enforcement; the judiciary; court administration; corrections; or legal services. The course will emphasize the systems approach in criminal justice policy planning. Program evaluation techniques will be applied to the major types of planning and program initiatives taken within or across criminal justice systems.

CRIM 830-3 Law and Social Control I
An examination of the social utility of legal intervention in the instance of criminal law; the relationship between law and social order; and the process of law making and the social efficacy of specific criminal sanctions.

CRIM 831-3 Law and Social Control II
Topics for in-depth analysis will be selected according to the availability and interest of specific course instructors and selected from but not limited to one or more of the following themes: theoretical perspectives on punishment and social control; theoretical perspectives on policing; law and mental health; law and the environment; and law and gender.

CRIM 840-3 Proseminar
Examination of current theory and research by faculty in the School of Criminology.

CRIM 860-3 Research Methods I
The course will cover basic research design for criminological problems and basic techniques for the conduct of research in criminology and socio-legal study. The research methods covered will comprise both quantitative and qualitative techniques. The course is intended to establish fundamental research skills to be applied in advanced research methods seminars, in other core area courses, and in the preparation of theses and dissertations.

CRIM 861-3 Research Methods II
This course covers both parametric and non-parametric statistical techniques with an emphasis on parametric analysis. Basic descriptive and inferential statistics will be covered, including univariate measures, analyses of cross classified data, correlation, t-tests, analysis of variance, regression, and related measures. Also discussed are the experimental and statistical research strategies which produce those data. The approach will be conceptual and will emphasize the strengths, weaknesses, selection and application of various statistical, experimental and quasi-experimental techniques.

CRIM 862-3 Research Methods III
This course will address a range of research techniques generally subsumed under the rubric of ‘qualitative’ research including field research, interview techniques, historical and legal research, and documentary analysis. Emphasis will be on the logic underlying such inquiry, the advantages and limitations associated with different sources of information and procedures, and the processes by which analytical rigour is achieved.

CRIM 863-3 Research Methods IV
Advanced topics, issues and techniques in criminological and socio-legal research. The subject matter of this course will vary according to instructor interests and specialization. Specific areas of concentration may include the following: advanced multivariate statistical techniques, documentary and
MA Program

Admission Requirements
See “1.3 Admission” on page 299 for University admission requirements. As well, the department requires that the applicant must hold a bachelor’s degree with honors in economics or business administration, or must complete additional work to that standard. Normally, the graduate admissions committee will specify the appropriate additional requirements at the time of admission.

Degree Requirements
The MA program has three options. Under each, ECON 796 and 835 is required in addition to other work, unless equivalent courses have been taken. These requirements can be satisfied through undergraduate courses with the approval of the graduate program committee.

thesis option – six courses including core work plus an extended essay option – six courses including core work plus two extended essays.

project option – seven courses including core work plus a research project.

Core Course Work
The core course work will normally consist of the following
• microeconomics – ECON 802
• macroeconomics – ECON 807 or 808
• quantitative economics – ECON 836 or 837

Elective Course Work
The remaining courses beyond those designated as core work will be ECON and BUEC graduate courses or, with permission of the graduate program chair, courses in graduate business administration and other subjects.

Research and Writing Ability
Evidence of research and writing ability met by the satisfactory completion of one thesis, two extended essays or one research project is required. The form of these research papers must meet the standards set out in the Graduate General Regulations (page 299).

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 (page 299).

Co-operative Education
This optional program gives MA students work experience that complements academic studies.

MA students in good standing with a minimum 3.0 GPA may apply to the co-op program after satisfactory completion of ECON 802, 807 (or 808), 835 and 836 or equivalent. The program consists of two separate work semesters. Arrangements are made through the Faculty of Arts co-op co-ordinator at least one semester in advance. For further details, see “Co-operative Education” on page 216.

PhD Program

Admission Requirements
See “1.3.4 Admission to a Doctoral Program” on page 300. Also required is an MA with graduate work in core economics plus: ECON 802, 808, 835 and 836. Any core area deficiency must be filled by taking the appropriate course(s) in addition to the course work normally required. In certain cases, students may be transferred into the PhD program from the MA program after meeting MA core and credit requirements (15 courses beyond the BA honors is required for such a PhD program).

Degree Requirements
This program allows specialization in economics, economics and business administration, or economics and a related discipline. Normally, every PhD program will include the following:

1. Successful performance in eight approved courses beyond the economics MA requirements listed above. Those specializing in economics must include ECON 803, 804 and 809; those specializing in economics and business administration must include ECON 803 and 804 or 809.

Other courses may be drawn from those normally offered at the graduate level by this or other related departments. Normally, a student must take at least five courses of regularly scheduled course work within this department; exceptions to this rule must be approved by the student’s supervisory committee and the graduate program committee.

2. Successful performance in written comprehensive examinations.

2.1 Students specializing in economics write comprehensive examinations in economic theory and one other field. In addition, students must complete a field either by successfully taking two course approved by the graduate program chair (other than readings courses) with at least an A- average, or a comprehensive examination in the field. The economic theory comprehensive exams consist of separate examinations in micro and macroeconomic theory and usually encompass the topics and readings covered by ECON 802, 803, 808 and 809. Comprehensive exams in other fields normally encompass topics and readings presented in the main courses of the thesis.

2.2 Students specializing in economics and business administration must write a comprehensive economic theory exam which covers the topics and guideline readings of either microeconomics (ECON 802 and 803), or macroeconomics (ECON 808 and 809). The student will complete three fields, subject to the following: a) at least two field requirements are satisfied by written examinations; b) at least two are drawn from accounting, finance, management science, marketing and organization behavior.

2.3 Arrangements for students specializing in Economics and a related discipline in economics and business administration and a related field will be recommended by the student’s supervisory committee and approved by the department’s graduate program committee.

2.4 Normally, full time students write micro/macro theory comprehensive examinations at the first scheduled opportunity after the exam period of their third semester.

3. An original and significant thesis completed by the candidate under supervision of faculty members of the department.

Dissertation Procedures
A thesis proposal seminar should be given by each candidate early in the research program. Each candidate produces a written prospectus, makes it available to all interested department members and presents it on a pre-announced date in the departmental seminar. The candidate’s supervisory committee should attend and arranges for others interested to also attend. That committee, along with the candidate, should decide on the future course of thesis research paying due regard to the comments that have been received.

A thesis core and a thesis seminar should be given by each candidate after the supervisory committee
agrees that the thesis is substantially complete and before it is formally approved for defence. The thesis core should be a paper that describes the major original contributions of the thesis preferably in a form appropriate for journal submission and should be made available to all interested members of the department.

The thesis defence. Procedures for this defence are described in the Graduate General Regulations (see “1.11 Publication of Thesis” on page 305).

Satisfactory Performance
Each candidate’s progress is assessed at least once a year, (fail). Any student who performs unsatisfactorily is subject to the review of unsatisfactory progress described in Graduate General Regulation 1.8.2 (page 305).

Research on Immigration and Integration in the Metropolis
RIIM is one of four Canadian research centres studying the impact of Canadian immigrants on local economies, family, educational systems and physical infrastructure of cities. RIIM concentrates only on Vancouver but has links to all other Canadian metropolitan sites and the world. This research group, based at Simon Fraser University, the University of Victoria and the University of BC, investigates immigrant impact in Vancouver.

Graduate Courses
ECON 750-0 Practicum I
First semester of work experience in the Co-operative Education Program. Prerequisite: completion of core MA degree requirements of ECON 802, 807 (or 808), 835, and 836 with a minimum GPA of 3.0.

ECON 751-0 Practicum II
Second semester of work experience in the Co-operative Education Program. Prerequisite: ECON 750.

ECON 752-0 Practicum III
Third semester of work experience in the Co-operative Education Program. Prerequisite: ECON 751 and department approval.

ECON 798-4 Introduction to Mathematical Economics
Applications of static optimization techniques, matrix algebra, differential and difference equations in economic models.

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 531. Offered once a year.

ECON 803-4 Microeconomic Theory II
The course subsequent to ECON 802 which covers advanced Microeconomic theory on a dynamic and general equilibrium basis. Prerequisite: ECON 802. Offered once a year.

ECON 804-4 Advanced Topics in Microeconomic Theory
The course following ECON 802 and 803 which covers such topics as equilibrium theory, axiomatic analysis, stability analysis, income distribution, dynamic micro models, and models of non-market economics. Prerequisite: ECON 802 and 803 or equivalent.

ECON 807-4 Macroeconomic Theory and Policy
An examination of basic macroeconomic theory, with emphasis on macroeconomic data and models, macroeconomic analysis, and application to economic developments and policy issues. Prerequisite: ECON 798 or equivalent. Offered once a year.

ECON 808-4 Macroeconomic Theory
An analysis of current theories of aggregate economic behavior. Topics covered in this course may include long-run growth, dynamic general equilibrium models, and business cycle analysis. Prerequisite: ECON 798 and 403 (or equivalent). Students who have taken ECON 805 cannot take ECON 808 for further credit. Offered once a year.

ECON 809-4 Advanced Macroeconomic Theory
This course covers advanced macroeconomic theory topics. Emphasis will be placed on current research techniques. Topics covered may include: capital and growth theory, real business cycle models, models of fiat money, asset pricing models, endogenous growth models, development traps, macroeconomic complementarities, co-ordination failures, and adaptive behavior in macroeconomic models. Prerequisite: ECON 808. Students who have taken ECON 806 cannot take 809 for further credit.

ECON 810-4 Monetary Theory
An examination of theories of the supply and demand for money in micro- and macro-contexts, from the classical analysis to the most recent developments. Emphasis will be placed upon the role of money in economic activity, the precise nature of its demand and supply conditions, and policy-implications of theoretical conclusions with regard to money.

ECON 811-4 Advanced Monetary Theory
Selected topics in monetary theory and policy.

ECON 815-4 Portfolio Theory
A study of optimum portfolio selections and diversification of financial assets including cash vis-a-vis different classes of utility functions of final wealth. Also, an examination of the behavior of speculative prices and rates of return. Prerequisite: ECON 331. Offered once a year. This is the same course as BUS 815.

ECON 817-4 Theory of Capital Markets
A study of capital market equilibrium theories, risk allocation, valuation models under perfect and imperfect markets and their empirical testing. Prerequisite: ECON 331, 835. Offered once a year. This is the same course as BUS 817.

ECON 818-4 Advanced Topics in Business Finance
Extensions of advanced topics beyond those covered in BUEC 815 and 817. Prerequisite: BUEC 815, 817. This is the same course as BUS 818.

ECON 825-4 Industrial Organization
A presentation and critical examination of the industrial organization models; includes a review of mainstream and current theoretical literature, and important empirical work in the field. Prerequisite: ECON 802.

ECON 826-4 Industrial Organization II
This course examines topics specific to the theory of the firm. Classes will focus on theories of transaction cost, principal-agency, and the theory of contracts. Particular attention will be given to the strategic interaction of the agents.

ECON 831-4 Mathematical Economics
Various equilibrium models of micro and macro theory will be examined with emphasis on their solution, stability conditions and the uniqueness of solutions. Prerequisite: ECON 331.

ECON 835-4 Quantitative Methods
An introduction to econometric theory. Application of econometric methods to both time series and cross-section data. Prerequisite: BUEC 333 and ECON 331. Offered once a year.

ECON 836-4 Applied Econometrics
A ‘hands-on’ course in implementing econometric techniques for empirical investigation of economic issues. Prerequisite: ECON 835 or equivalent.

ECON 837-4 Econometric Theory
The theory of the general linear model and the implications of basic econometric problems such as multicollinearity, autocorrelated residuals, 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.

ECON 842-4 International Monetary Economics
Balance of payments theory, foreign exchange theory, and adjustment processes. A range of applied problems will be dealt with such as the operation of exchange rates, analysis of exchange rate systems, exchange control and the processes of short and long term capital movements in international trade.

ECON 843-4 Current Problems in International Trade
Detailed studies of a limited number of international economic problems. The selection of topics will depend to some extent upon the expressed interests of the students.

ECON 850-4 Methodology and Sources in Economic History
A close examination of the work and methodology of leading economic historians. Study of methodology of selected works in economic history, with special emphasis on the identification of implicit theories and assumptions. Application of quantitative approaches and economic theory to selected problems. Independent work.

ECON 851-4 Economic History of Europe
An examination of theories and controversies from the transition of feudalism to capitalism. Comparative study of the emergence and subsequent evolution of industrialization. How economic institutions affect the character and pace of economic development. Regional disparities and economic growth in given countries. Relationship between economic growth and international expansion. Examination of declining sectors, stagnation, institutional changes in the 20th century.

ECON 853-4 Economic History of North America
Effects of the North Atlantic economy on the pace and character of Canadian and American economic development. The role of staple exports and the linkages to manufacturing and transportation developments. Canadian national policy, with emphasis on regional effects, internal consistency and comparison to similar policies in the United States. Factors for growth and cyclical changes in the
development planning techniques, study of Canadian include the following: concepts of regional planning, mechanics of the process of economic development; the role of economic and non-economic factors; structural transformation in economic development.

ECON 856-4 Theories of Economic Growth
Equilibrium analysis and economic growth; determinants of growth; steady state and steady growth; technical progress and equilibrium growth. Prerequisite: ECON 808.

ECON 857-4 Studies in Economic Development
Examination of the characteristics of a given underdeveloped economy; allocation of resources and factor strategies; historical or contemporary comparisons of public policy and development.

ECON 859-4 Population Economics

ECON 860-4 Environmental Economics
The analysis of the role of the natural environment in economic system. All economic activity creates waste products (pollution) which must be disposed of back into the natural environment. The socially efficient amount of waste generation and disposal is determined and methods of reaching this level evaluated. This involves the theoretical and empirical determination of the costs and benefits of waste generation and a thorough discussion of the role of government policies: taxes, standards, tradable emission permits versus private market initiatives (bargaining and green goods) under a variety of assumptions about the economic system.

ECON 861-4 Natural Resource Economics
Basic issues of intertemporal valuations. The economic theory of natural resource management for non-renewable resources, fisheries and forests. The effects of market structure and taxation on intertemporal supply patterns will be considered.

ECON 863-4 Fisheries Economics
Theoretical analysis of fisheries exploitation, emphasizing the characteristics of a common property resource and the economic expression of biological factors. Problems of productivity against the background of national fisheries regulations and international agreements. Public policies in respect of the fisheries, with their social and economic implications.

ECON 864-4 Studies in Economic Fisheries Management
Analysis of economic fisheries management techniques derived from the study of a variety of actual fisheries management projects. Prerequisite: ECON 863, 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.

ECON 867-4 Regional Development Problems
An applied course in regional economics. Topics include the following: concepts of regional planning, development planning techniques, study of Canadian regional development problems. Prerequisite: ECON 865.

ECON 869-4 Transportation Economics
Emphasis on costs, demand and pricing of transportation services. Additional topics to be studied include government promotion of transport, transport regulation and the economic effects of transportation improvements. Recommended: ECON 331.

ECON 877-4 Methodology in Economic Theory
Topics to be discussed include theories of rationality; social theories involved in the economic concept of equilibrium; the role and status of economic theories and models; methodology versus sociology of economics; theories of economic knowledge; realism of assumptions and value premises in economics.

ECON 878-4 History of Economic Thought prior to 1870
The origins and development of economic thought from early times until 1870 with special emphasis on mercantilist, physiocratic, classical, Malthusian and socialist doctrines.

ECON 879-4 History of Economic Thought since 1870
The development of economic thought since 1870 will be examined with special emphasis on the evolution of marginal utility theory, general and partial equilibrium analysis, business cycle theories, Keynesian and post-Keynesian economics.

ECON 881-4 Labor Economics
Theoretical analysis of labor in the context of a national resource. Critical examination of the aspects of quantity, quality, allocation and utilization of human resources. Topics given particular attention include labor force participation, structural employment, human capital, incomes policies and the concept of an active manpower policy. Prerequisite: ECON 835.

ECON 886-4 Industrial Relations

ECON 888-4 The Economics of Legal Relationships
An analysis of the economic effects of constraints imposed 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 anarchic 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-competitive legislation, compensation and public regulation, and market regulation for purposes of safety, consumer information and income maintenance of producers.

ECON 890-4 Public Finance
The application of welfare criteria to the theoretical investigation of methods of expenditure determination and approaches to taxation. Consideration of the problems of efficiency, equity, and incidence.

ECON 891-4 The Economics of Public Choice
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.

ECON 893-4 Introduction to Marxian Economics
Examination of Marx’s economic theory, with particular emphasis on capital, theories of surplus value and the Grundrisse.

ECON 895-4 Comparative Economic Systems
Comparative study of capitalist, communist, socialist and mixed forms of national economic organization, with emphasis on the allocation of resources and distribution of income.

ECON 911-913-4 Selected Topics in Economics
Offered by arrangement.

ECON 921-4 Directed Readings
Supervised reading in a particular field of specialization. Offered by arrangement.

ECON 922-4 Directed Readings
Supervised reading in a particular field of specialization. Offered by arrangement.

ECON 923-4 Directed Readings
Supervised reading in a particular field of specialization. Offered by arrangement.

ECON 990-0 PhD Thesis
ECON 991-0 MA Thesis
ECON 998-0 MA Essays
ECON 999-0 MA Project
A. Higgins – Medieval and Renaissance drama, Shakespeare, Middle English literature
M. Linley – Victorian poetry and prose; 19th century women poets, literature and visual representation
K. Mezei – Canadian literature, Quebec literature and translation, modern British fiction, especially Virginia Woolf, feminist literary criticism
R.A. Miki – 19th century American literature, modern American poetry, contemporary Canadian poetry.
Asian Canadian literature, race and cultural theory
P.M. St. Pierre – Commonwealth literature, Canadian literature
E.A. Schellenberg – Restoration, 18th century literature, 18th century women writers, print culture
D. Stouck – American literature, Canadian literature
M.A. Stouck – Chaucer, middle English, 15th century poetry
J. Sturrock – poetry of the Romantic period, especially William Blake; 19th century domestic fiction; women writers of the 19th century, especially Jane Austen and Charlotte Mary Yonge; literature and the visual arts, especially 1780-1900; Iris Murdoch, A.S. Byatt

MA Program

Admission
In addition to requirements in the Graduate General Regulations (page 299), the department requires evidence of academic writing ability in the form of at least two substantial literary essays which are scholarly in format and approach. The papers submitted may be undergraduate essays previously prepared, or ones specially written for this purpose. Applicants intending to specialize in writing and rhetoric may wish instead to submit a portfolio of representative writings, which should include at least one academic paper.

Programs
This program develops scholars with a critical and comprehensive awareness of English studies. Students concentrating in writing and rhetoric will normally have a substantial background in English studies, but may come to the program from a variety of backgrounds. 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 English studies.

Examinations
While the general regulations set the minimum CGPA necessary for continuance at 3.0, the department regards grades below B to be unsatisfactory and expects students to achieve an average above the minimum. If progress is deemed unsatisfactory, withdrawal under section 1.8.3 of the Graduate General Regulations (page 303) may be required.

Option A students take four courses, write a thesis of about 100 pages and defend it in an oral examination. Thesis option students submit a thesis proposal and are examined by the supervisory committee no later than one semester following the completion of course work. Students proceed with the thesis only after the approval of the supervisory committee and the graduate program committee.

Option B students choose a paper or project from one of their six courses. The paper (or project) is revised and expanded to make it suitable for publication. The expanded work is examined by two faculty members, and defended in an oral examination. The paper (or project) must be completed and submitted for examination no later than the end of the semester following completion of coursework, and is judged on a pass/fail basis. A student who fails may be permitted a second and final attempt.

Language Requirement
All MA students must demonstrate a reading ability in one language other than English that is acceptable to the students' supervisory committee. Ability will be determined by a time limited examination consisting of the translation of a passage of literature or translation of a literary or scholarly passage in the particular language. A dictionary is permitted.

The Department of French offers courses to help meet language requirements. Students interested in courses in German, Russian or Spanish should consult with the Office of the Dean of Arts.

For further information and regulations, see "1.1 Degrees Offered" on page 299.

Joint Master's in English and French Literatures
This program allows students who have already been trained in both literatures to continue studies beyond the undergraduate level. See "Joint Major in English and French Literatures" on page 149.

PhD Program
Applicants to the Department of English's small PhD program will have a well planned project that integrates into the department's areas of specialization. Cross disciplinary proposals and innovative studies are encouraged. Students are expected to contribute at all stages of the program.

The department has expertise in major areas of English literature and language with special strength in the 20th century. The department's Centre for Research in Professional and Academic Writing offers opportunities for advanced study in rhetoric and writing, including participation in the centre's research projects and instructional programs. 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
Students must have an MA or equivalent with high standing from a recognized university and 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 required graduate course. The senior supervisor in consultation with the graduate program committee will advise students in their choice of courses.

Field Exams and Thesis Oral
Students must write field exams by the end of the sixth semester, and complete the thesis oral by the end of the seventh semester.

The Thesis
Students complete their research and proceed with the writing of their thesis. Students have 9-12 semesters to complete their degree.

Individualized Field Exams
Each candidate will write two field exams. The student will take home the examination question and complete the paper within three days. The submitted examination paper should be no more than 30 pages. There will be no oral defence.

In each field exam area, a partial reading is prepared by the faculty specializing in the area. Students add to the reading list. The completed list must be approved by two faculty in the area and the graduate program committee. Current field reading lists may be obtained from the department.

Both field exams are completed by July 30 of the second year in the program (sixth semester). The examiners consist of two faculty in the area appointed by the graduate program committee. The senior supervisor cannot be an examiner in the field exam. Students are awarded pass/fail or pass with distinction for truly exceptional exams.

Those in a field exam may be allowed to repeat it once not later than the following semester. A second failure leads to elimination from the program.
Thesis Oral
The thesis oral ensures coverage in the thesis area. Upon successful completion of field exams, the student submits a reading list by September 15, on the background readings for the thesis area, to the senior supervisor. The supervisory committee for the thesis oral, consisting of the senior supervisor and one other supervisor, responds to the proposed reading list by October 1. The final list is approved by the graduate program committee.

The oral examination on the thesis area and background material will take place by December 15. The oral exam will be approximately two hours. The oral will be graded pass/fail. In exceptional cases a distinction will be recognized.

Language Requirement
PhD students must demonstrate a reading ability in a language other than English that is acceptable to the supervisory committee. Ability is determined by a time limited exam of a literature or criticism passage translation in that language. A dictionary is permitted.

The Department of French and the Latin American Studies Program offer courses to help students meet language requirements. For German or Russian courses, consult the Office of the Dean of Arts.

For further information and regulations, refer to Graduate General Regulations (page 299).

Thesis
In consultation with the graduate program committee, the student creates a supervisory committee consisting of a senior supervisor and two readers (one may be from another department). By the third semester, the student submits the proposed supervisory committee and thesis proposal to the graduate program committee for approval.

The completed thesis is defended in an oral examination. The (defence) examining committee consists of a chair (normally the graduate program chair), members of the supervisory committee (senior supervisor and at least one other department member), a faculty member external to the Department of English, and an external examiner who is not a member of Simon Fraser University. From the time of the supervisory committee’s appointment, the student and senior supervisor meet regularly (at least three times a semester) through the field exam period, the thesis oral semester, and the thesis research and writing period. It is the student’s responsibility to set a meeting schedule. The senior supervisor should inform the graduate program committee of absences of more than a month to arrange for another committee member to meet regularly with the student. Students in research (ENGL 899) should give the supervisor a written report about the research at the end of every semester. This is particularly important for those who do not submit chapters of their work. Any changes in direction or new developments should be discussed.

Students may make changes to their supervisory committee when, for instance, the development of a more refined topic indicates a different faculty member would be more appropriate for the committee. Changes made for any reason must be formally approved by the graduate program committee and the dean of graduate studies.

Graduate Courses
ENGL 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, transcendentals, ne-Raphaeliteism, modernism and post-modernism are examples of possible topics.

ENGL 804-5 Studies in Canadian Literature
In addition to particular movements and periods in literatures in Canada, may explore relations between Canadian, Quebec, American, British, or Commonwealth literatures.

ENGL 805-5 The Study of Genre
History and theory of the novel, epic, lyric, poetry, comedy, tragedy, satire, the grotesque and autobiography are among the possible areas of study.

ENGL 806-5 Approaches to Individual Authors
May deal with one or more authors from a particular theoretical perspective.

ENGL 808-5 Theoretical Approaches to print Culture, 1700-1900
An introduction to the history and variety of theoretical approaches to studies of print culture 1700-1900. Students enrolled in the Print Culture 1700-1900 program are required to take this course.

ENGL 810-5 Graduate Professional Development Seminar Part I
The Graduate Professional Development Seminar (ENGL 810/811) is required of both MA and PhD students. All incoming students will take 810 in their first year. ENGL 810 has two components. The first component is to introduce students to the basic tools of advanced study and to acquaint them with the kinds of research being done in the department of faculty and graduating students. There will also be workshops on topics such as drafting and submitting proposals, applying for grants, presenting papers, publishing, choosing graduate schools, and employment possibilities, including interview situations. The second component consists of six 2 hour workshops for new teaching assistants which will focus on the teaching of writing in literature courses. Required. Satisfactory/unsatisfactory.

ENGL 811-5 Graduate Professional Development Seminar Part II
Conclusion of 810 consisting of research workshops for students near completion of their research projects. Required. Satisfactory/unsatisfactory.

ENGL 841-5 Directed Readings A
ENGL 842-5 Directed Readings B
ENGL 843-5 Directed Readings C
ENGL 898-0 MA Thesis
ENGL 899-0 PhD Thesis
ENGL 999-0 MA Paper or Project

Department of French
Chair
M.C. Fauquenoy Léslé, DrDcY (Paris), Chev. Palmes (France), FRSCan
Graduate Program Chair
(To be announced)
Faculty and Areas of Research
See “Department of French” on page 151 for a complete list of faculty.

R. Canac-Marquis – transformational syntax, morphosyntax, formal semantics, anaphora, second language acquisition
R. Davison – 18th century French literature, correspondence and pedagogy, women writers, emigré writers
M.C. Fauquenoy – French linguistics, sociolinguistics, Credite French dialects
G. Poirier – Renaissance French literature, 17th century French literature, Quebec literature and paraliterature, gender studies
S. Steele – Chrétien de Troyes, Medievalism and the Third Republic, French war writing, modern French poetry
J. Viswanathan – modern French and Canadian novel, narrative theory, film and fiction
P. Wrenn – text linguistics, experimental phonetics, Canadian French, phonostylistics, phonology

The Department offers graduate research leading to an MA, with a concentration in either French linguistics or French literature. Students interested in French as a second language (FSL) should contact the graduate program chair. (The FSL option will be of particular interest to candidates contemplating a career in the teaching of French.) Students seeking PhD program admission may apply under the special arrangements provisions of graduate general regulation 1.3.4.

The major areas of study are as follows.

Linguistics: Linguistic analysis of French (sound system, morphology, syntax, lexicography), varieties of French (social, regional and stylistic variations), French Creoles, French linguistic theories, French applied linguistics, theoretical approaches to the acquisition of French as a second language. A variety of practical applications of linguistic theory may be envisaged: pedagogy, translation, stylistic analysis, etc.

Literature: Periods and genres: French Medieval literature, Renaissance literature, travel accounts, 18th century literature, poetry and novel of the 19th century, 20th century fiction, poetry and drama, Québécois and Western Canadian French literatures. Critical approaches: literature and society, women writers, history of literature, cultural studies, discourse analysis, interdisciplinary approaches to literature, teaching of literature.

MA Program

Conditions of Admission
Candidates for admission must satisfy the general admission requirements for graduate studies as shown in Graduate General Regulations 1.3.2 (page 299) and 1.3.8 (page 300).

Program admission requires a sound background in French literature or French linguistics, as well as a good command of both oral and written French. Candidates lacking these must remedy the deficiency before admission is granted. This may be accomplished through satisfactory completion of one or two semesters as a qualifying student (Graduate General Regulation 1.3.5 page 300).

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 page 302) that has been appointed by the end of the second semester.

Students are normally admitted initially to the MA without thesis option. Those wishing to transfer to the MA with thesis option may do so after completion of the first semester in the program, on the recommendation of their supervisory committee, and subject to the approval of the graduate studies committee. Program requirements: course work,
thesis topic or area of field examination, as well as any additional requirements, must be approved by the supervisory committee and the graduate studies committee.

Degree Requirements
Students may be required to complete additional courses to remedy deficiencies or to ensure suitable preparation for the thesis or project research that is proposed.

The MA program has the following minimum requirements.

MA with Thesis
Students in the MA with Thesis option must successfully complete a minimum of 15 credit hours of graduate work from their chosen concentration, either in linguistics or in literature. Within the 15 hours, with the approval of the senior supervisor, students may take up to five credit hours outside the Department of French. In addition, students complete a thesis of about 100 pages that is defended at an oral examination as described in section 1.9 and 1.10 of the Graduate General Regulations. Students must submit a written thesis proposal no later than one semester following the completion of course work. Substantive work on the thesis may proceed only after approval of the thesis proposal by the supervisory committee and the graduate studies committee.

MA with Project
Students selecting this option are required to complete a minimum of 20 credit hours of graduate work. Fifteen hours must be completed within the Department of French. With the approval of the senior supervisor, up to five credit hours may be completed by taking a course outside the department. In addition, students must complete a project that makes a contribution to French linguistics, French/francophone literature or FSL pedagogy which is to be submitted for oral examination. The project may involve a practical component in a non-traditional format. Students must submit a written project proposal no later than one semester following the completion of course work. Substantive work on the project may proceed only after the project’s approval by the supervisory committee and the graduate studies committee.

MA without Thesis
Students selecting this option are required to complete a minimum of 30 credit hours of graduate work. With the approval of the senior supervisor, up to 10 credit hours may be completed by taking courses outside the Department of French. In addition, students must take a field examination based on three completed courses. Preparation for the field examination will be undertaken on the advice of the supervisory committee.

Language Requirement
Students must demonstrate to the graduate program committee an acceptable level of competence in written and oral French and must show at least a reading knowledge of one language other than English or French that is acceptable to the supervisory committee. This requirement can be fulfilled by successfully completing two courses in that language or by passing an exam consisting of the translation of a 250 word text into English.

Graduate Courses
Core Courses
Course selection must be made in consultation with the student’s supervisor.

Linguistics and Literature
FREN 803-5 Research Methods in French Linguistics and/or French Literature

Linguistics
FREN 804-5 Topics in the Structure of French
FREN 805-5 Topics in the Structure of French II
FREN 806-5 Topics in the Acquisition of French
FREN 810-5 Pragmatics and the Structure of French
FREN 811-5 Topics in the Varieties of French
FREN 812-5 Approaches to the Linguistic Analysis of French
FREN 816-5 Sociolinguistic Approaches to French Studies

Literature
FREN 820-5 Types of Discourse
FREN 821-5 Theories and Methods of Literary Analysis
FREN 822-5 Socio-cultural Approaches to French Literature
FREN 823-5 Interdisciplinary Approaches to French Literature
FREN 824-5 Topics in French Canadian Literature
FREN 825-5 Topics in French Literature
FREN 826-5 Monographic Studies

Joint Master in English and French Literatures
This joint master’s program allows students who have already been trained in both literatures to continue studies beyond the undergraduate level.

Students register in and, if successful, receive a degree from one of two departments, known as the home department. The other department is designated the associate department.

Application for Admission
Students may apply to either department or to both, indicating a preference. Both departments must agree on the student’s admission or on conditions for admission. A home department will be assigned in consultation with the student and with the agreement of both departments. A minimum of 15 upper division undergraduate credit hours in each discipline is required for admission. The student, after admission and two semesters of course work, will have the option of completing an MA either with thesis or without, subject to the agreement of both departments.

Supervision
The home department selects a joint supervisory committee of two faculty from the home department and one from the associate department.

Home Department Requirements
If English is the home department, both of ENGL 810-5 Graduate Professional Development Seminar Part I
ENGL 811-5 Graduate Professional Development Seminar Part II

Concentration Requirements
In addition to the home department requirements shown above, students must also complete either the MA with thesis or without thesis option.

MA with Thesis
For this option, students successfully complete another 20 credit hours selected from literature courses in the Departments of French and English, including at least one course from each department (one course from one department and three from the other, or two from each department) and complete a thesis of about 100 pages on a topic acceptable to the supervisory committee, defended at an oral examination as described in Graduate General Regulations 1.9 (page 303) and 1.10 (page 304).

MA without Thesis
For this option, students successfully complete another 30 credit hours selected from literature courses in the Departments of French and English, including at least two courses from each department (two courses from one department and four from the other, or three from each department) and a written field exam based on three completed courses. Field exam preparation is undertaken on the advice of the supervisory committee.

Graduate Courses
FREN 803-5 Research Methods in French Linguistics and/or French Literature

The study of research methods and tools used in French linguistics and/or French literature. Planning a long term research project. (0-2-0)

FREN 804-5 Topics in the Structure of French I
Explores a selection of classic problems of the structure of French (phonology, morphology, syntax, lexicology or semantics) applying a variety of theoretical viewpoints, from a diachronic or synchronic perspective. (0-2-0)

FREN 805-5 Topics in the Structure of French II
Explores, from a variety of diachronic or synchronic theoretical viewpoints, a selection of classic problems of the structure of French not covered in FREN 804. (0-2-0)

FREN 806-5 Topics in the Acquisition of French
New trends and theoretical developments in the acquisition of French as a second language. Study of the contribution of linguistic theory to the teaching and learning of French. (0-2-0)

FREN 810-5 Pragmatics and the Structure of French
Explores a selection of themes in the pragmatics of French, for example paralinguistics features of French, phonostylistics, contrastive structures (French/English). A variety of practical applications may be envisaged: pedagogy, translation, stylistic analysis, etc. (0-2-0)

FREN 811-5 Topics in the Varieties of French
An in-depth study of one of the many varieties of French (in France and in the world) from linguistic and/or sociolinguistic viewpoints, i.e. popular French, Canadian French, French-based Creoles.

FREN 812-5 Approaches to the Linguistic Analysis of French
Studies the contributions made by a selection of French language specialists to the evolution of various aspects of linguistic theory.

FREN 816-5 Sociolinguistic Approaches to French Studies
Explores the relationship between language, society and identity in France and/or in the French-speaking world. The study, from an integrative point of view, of social markers in speech, conversational rules, objective versus subjective norms, attitudes towards language variation and their implications among French speakers. Finch bilingualism, language planning and the place of French in the world.

FREN 820-5 Types of Discourse
A study of the language in use, discourse strategies, the enunciation devices of various types of texts, both traditional and non-traditional genres such as oral or para-literary texts.

FREN 821-5 Theories and Methods of Literary Analysis
A study of a selection of significant works by contemporary French critics (Barthes, Genette, Kristeva). The application of their theories and models to the analysis of specific works. May concentrate on one area, e.g. narratology, semiotics, etc.
Department of Geography


Chair
(to be announced)

Graduate Program Chair
N.K. Blomley BSc, PhD (Brist)

Faculty and Areas of Research
See "Department of Geography" on page 154 for a complete list of faculty.

W.G. Bailey – physical climatology, ginseng research
N.K. Blomley – political and urban geography
B.E. Bradshaw – environmental economic geography, resource management
T.A. Brennand – glacial geomorphology, quaternary environments, regional paleohydrology
J.A.C. Brohman – third world development, economic geography, Latin America
R.A. Clapp – economic geography, resource conservation, forest policy
S. Dragicevic – geographic information science, spatial analysis and modelling
A.M. Gill – tourism and community planning, resources management
W.G. Gill – urban and social geography
M.V. Hayes – social geography, population health
R. Hayter – regional development, manufacturing, BC’s forest economy, Japan
E.J. Hickin – fluvial geomorphology
R.B. Horfall – social geography, environmental psychology
J. Hutchinson – quaternary environments, coastal studies
J. Hyndman – feminist, political and cultural geography

P.M. Koroscil – historical geography, Canada
L.F.W. Lesack – ecosystem biogeochecmistry, land and water interactions, limnology
J.T. Pierce – economic and rural geography, research methodology
B. Pitman – cultural and social geography, urban studies, regional development and planning
W.L. Quinton – hydrology of cold regions, runoff processes

A.C.B. Roberts – cultural, historical, paleo environments, remote sensing, photogrammetry
M.C. Roberts – fluvial geomorphology, subsurface methods
M.L. Roseland – regional planning and sustainable communities
M.G. Schmidt – soil science, forest ecology
N.C. Schuurman – geographic information science, spatial data and integration
I. Winton – cultural-historical geography

Areas of Research

The Department of Geography offers MA, MSc and PhD degrees in the Faculties of Arts and Science. Physical geography should see the Department of Geography entry in the Faculty of Science section (page 382).

Emphasis is placed on the application of theoretical frameworks to the analysis of social, economic and physical landscapes, with particular reference to western North America.

MA Program

Admission
Normally, MA candidates should have an undergraduate grade point average of 3.25 to enter the program. Admission for MA students is in the fall semester. Applications for fall admission should be completed by February 1 of that year. Admission to the MA program requires a command of both quantitative techniques and qualitative methodologies. Candidates lacking these must remedy the deficiency by taking courses equivalent to GEOG 251 and 301. The MA candidate, once admitted, works under the guidance of a faculty advisor, pending the choice of a supervisory committee. The supervisory committee, which normally consists of two faculty members, one of whom may be from outside the department, will be chosen by the beginning of the second semester.

Degree Requirements
All candidates for the MA degree are expected to complete the degree requirements (30 credit hours) in six semesters.

The MA program requires the submission of a thesis (18 credit hours). The remaining 12 credit hours will be comprised of required and elective courses. The recommended maximum length of a master’s thesis is 120 pages (including bibliography and end notes, but excluding appendices). The thesis normally involves the conceptualization of a problem and the collection, analysis and interpretation of empirical data.

Normally, MA students will present their proposed research at a one day conference (Research Day) to be held annually in the spring semester. A written proposal should be submitted to the student’s supervisory committee, defended in colloquium and approved by the end of the second semester.

The completed thesis will be judged by the candidate’s examining committee at an oral defence.

Course Requirements

GEOG 600 and 601 are seminars on graduate studies in geography which are offered each fall and spring semester. Grading is on a satisfactory/unsatisfactory basis. Attendance is compulsory in order to obtain a satisfactory grade. GEOG 604 is a required course for MA students and is offered every year. With the advisor’s consent, the student can request that this requirement be replaced by another course.

One of GEOG 620 and 640, Special Topics courses, will normally be offered each year depending on student research interest.

All other courses are offered less frequently, dependent on student demand and faculty availability.

Master of Science Program

The department offers a program leading to the MSc degree in the Faculty of Science. See the Geography entry in the Faculty of Science section (page 382).

PhD Program

For admission requirements, see “Graduate General Regulations” on page 299. Applicants must have completed the MA or MSc requirements at Simon Fraser University or equivalent. Students admitted to the PhD program without an appropriate background may be required to make up specified courses.

Supervisory Committee

The student, upon admission, works under the guidance of a faculty advisor, pending the choice of a supervisory committee. The supervisory committee, normally consisting of three faculty members, one of whom may be from outside the department, will be chosen by the beginning of the second semester.

Degree Requirements

The advisor, and subsequently the supervisory committee, and the student determine a program of study to suit the background and research objectives of the candidate. After consultation with the supervisory committee, however, students can elect, or may be required to take courses in order to acquire knowledge and skills, including language skills, relevant to their research.

Qualifying Examination

Written and oral qualifying examinations, designed to establish the student's competence to proceed with doctoral thesis research, will normally be undertaken at the end of the second semester of residence and no later than the end of the third semester. Students who fail the written or oral exam may retake each 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 consists of the members of the supervisory committee (the senior supervisor acts as chair), plus an examiner external to the supervisory committee.

Written exams comprise four papers jointly agreed by the qualifying examination committee.

The oral must be held within three weeks of the completion of the written examination. The student is examined primarily in the areas of the topics covered by the written examinations, but questions may range over the entire discipline.

Thesis

Candidates successfully completing qualifying examinations will present a thesis proposal at a departmental colloquium no later than the end of the fifth semester of residence. The supervisory committee must approve the written proposal prior to the start of substantive research. The completed thesis will be judged by the candidate’s examining committee at an oral defence. If the thesis defence is failed, the candidate is ineligible for further degree candidacy in the degree program.

For further information and regulations see “Graduate General Regulations” on page 299.
Geography Graduate Courses
GEOG 600-0 Introduction to Graduate Studies: Fall Semester
Introduction to graduate studies in the Department of Geography at Simon Fraser University, covering formal requirements and practical considerations.

GEOG 601-0 Introduction to Graduate Studies: Spring Semester
Completion of GEOG 600, with an emphasis on the preparation and presentation of the research proposal.

GEOG 604-5 Research Design and Analytical Techniques in Human Geography
Qualitative and quantitative techniques relevant to human geographic research.

GEOG 605-4 Geographic Ideas and Methodology
Contemporary and historical modes of analysis in human geography.

GEOG 606-5 Research Design and Analytical Techniques in Physical Geography
Research design, data collection and quantitative methods in physical geography.

GEOG 611-4 Hydrology
Conceptual and methodological bases of current hydrologic research.

GEOG 612-4 Glacial Geomorphology
Glacial landform-process models; field study of glacial landforms and sediments.

GEOG 613-4 Fluvial Geomorphology
An examination of current conceptual and methodological issues in fluvial geomorphology based on analyses of the primary research literature.

GEOG 614-4 Climatology
Recent theoretical developments in physical climatology.

GEOG 615-4 Quaternary Environments
Recent developments in paleoecology and the study of Quaternary environments.

GEOG 617-4 Soil Science
Soil physics, soil chemistry, soil biology and/or forest soils.

GEOG 620-4 Selected Topics: Economy, Environment and Development
Geographic perspectives on selected topics in economy and environment in Canadian and international contexts.

GEOG 622-4 Theories and Practices of Development
Conditions in the Third World: a review of theories and geographical solutions.

GEOG 626-4 Multinational Corporations and Regional Development
The influence of the policies and structures of multinational corporations on regional economic change.

GEOG 640-4 Selected Topics: Social and Urban Geography
Geographic perspectives on society and the city in Canadian and international contexts.

GEOG 641-4 Morphogenesis and the Built Environment
Evolution of built environments in urban contexts: morphological change and societal processes.

GEOG 644-4 Regional Development and Planning
Regional development in theory and practice with particular reference to resource based hinterland regions.

GEOG 645-4 Resource Management
Economic, social and political aspects of conservation and resource management.

GEOG 646-4 Cultural Geography
Relationships between cultural geography and related fields, particularly social theory and current philosophy.

GEOG 651-4 Advanced Spatial Analysis and Modeling
Perspectives on the description, analysis and prediction of geographical processes using spatial modeling and decision-making in a GIS environment.

GEOG 653-4 Theoretical and Applied Remote Sensing
Theory and applications of analytical processing procedures used with multispectral remote sensing data.

GEOG 655-4 Advanced Principles of Geographic Information Science
Examines data, data structures and computational methods that underlie GIS description and analysis. Illustrates the social science and science links between computers and geography.

GEOG 656-4 Aerial Reconnaissance for Remote Sensing
Theoretical and practical training in the acquisition of airborne multispectral remote sensing data.

GEOG 666-4 Geography, Development Theory, and Latin America
Geographic aspects of theories of development as they have been applied in Latin America.

GEOG 681-4 Law and the Geographies of Power
Case studies of the inter-relations between the social and political construction of law and space.

GEOG 685-4 Resources, Environment and Food Production
A global survey of the geographical context of food production.

GEOG 691-4 Directed Readings
Students may only take this course once during their program.

GEOG 697-0 MSc Thesis
Students may only take this course once during their program.

GEOG 698-0 MA Thesis
Students may only take this course once during their program.

GEOG 699-0 PhD Thesis
Students may only take this course once during their program.

Graduate Diploma in Urban Studies
This program is subject to funding.

This is an interdisciplinary program that provides an opportunity to study the city and its functions from several perspectives. The program is aimed at those with a background in the urban professions as well as those who would simply like to learn more about cities. The graduate diploma in urban studies (GDUS) provides a strong foundation in various urban-related disciplines and emphasizes the application of these disciplines to real-world problems and situations.

The GDUS is offered at the University's Harbour Centre campus, located in the core of British Columbia's principal urban, national and international centre. The program draws particularly on Vancouver's experience but also encompasses study of cities in other places and from other times.

Admission
Applicants are normally required to hold an undergraduate degree in one of the urban studies base disciplines (economics, geography, political science, sociology and anthropology). Applications from students with other degrees or with equivalent professional training and experience will also be considered. Admissions decisions will be based on undergraduate grades (normally, a GPA of 3.0 is required), a one page statement of student interest in the program, and letters of reference.

Application
Candidates must submit the following documentation when applying for the program.
• official copy of transcript of undergraduate grades (mailed directly from the granting institution)
• two confidential letters of reference (mailed directly from the referees)
• TOEFL and TWE test scores may be required for applicants whose first language is not English

Financial Assistance
Limited student financial assistance is available.

Diploma Requirements
To qualify for the graduate diploma in urban studies, students must complete a total of 24 credit hours drawn from courses URB 605–698 (see “Urban Studies Graduate Courses” below). Up to two other graduate courses may be substituted for those courses. URB 605 and 698 are required courses.

Urban Studies Graduate Courses
URB 605-2 Introduction to Urban Studies
This course provides an introduction to the field of urban studies at the professional graduate level. The course studies the nature and function of cities from a variety of geographical, social, political and economic aspects. The focus is on Canadian cities but attention will be given to the historical context and to cities in other parts of the contemporary world. (0-2-0)

URB 610-4 Urban Design: integrating Theory and Practice
This course is an examination of urban design as a discipline that involves the environmental, aesthetic, social, economic, geographic, ecological, historical, political, and cultural aspects of the built environment. The importance of creative design, the interrelationship between the spatial organization of a city, its efficient delivery of services, the social, cultural and economic considerations of the public realm, as well as the process of change in our pluralistic society will all be considered. (0-2-0)

URB 620-4 Urban Communities and Cultures
This course is an introduction to the anthropological and sociological study of complex urban societies in comparative perspective. It includes study of anthropological and sociological approaches to urbanization, the nature of the city as a social system, and urban communities and cultures. (0-4-0)

URB 630-4 Urban Development, Planning and Policy
The focus of this course is the evolving relationship between state interventions into the city, and dynamics of urban development. The class emphasizes the historical context to urban planning and policy, with particular reference to the Canadian city. (0-4-0)

URB 640-4 Urban Regions and Urban Change
The aim of this course is to develop a perspective on the study of urbanization by applying systematic approaches to specific regional and case contexts. Major theoretical and conceptual themes will be reviewed. Some emphasis will be placed upon the Canadian experience in order to develop a common ground among members of the course and some emphasis will be also placed upon the United States and Western Europe because of the dominance of those collective urban experiences and literatures. However, members of the course will be expected to develop an interest in a particular region, assemble a personal bibliography and report to the class on their enquiries. The list of references given to the class may be perused for selected items to initiate this personal work. Emphasis will be placed upon individual and/or participatory research. (0-4-0)
Gerontology Program

2800 Harbour Centre, (604) 291-5065 Tel, (604) 291-5066 Fax, gero@sfu.ca, www.harboures.sfu.ca/gero/

Graduate Program Chair
A.V. Wister BA, MA, PhD (WOnt)

Faculty and Areas of Research

H. Chaudhury – design for dementia, place-based reminiscence, long term care and self in dementia
G.M. Gutman – seniors’ housing, long term care, dementia, health promotion and aging, program evaluation
B. Mitchell* – families and aging, intergenerational relations, youth transitions, quantitative methods, health promotion and social policy
N. O'Rourke – geriatric depression, normal memory function and mental health, personality and well-being, widowhood, informal care of persons with dementia
A.V. Wister – social demography, health and lifestyle promotion, environment and aging, program evaluation, design and statistical methods

*joint appointment with sociology and anthropology

Advisor
Ms. N. Holby, 2800 Harbour Centre, (604) 291-5065

The Gerontology Program offers a master of arts degree. There are two concentrations offered within the program: aging and the built environment, and health promotion/population health and aging. The MA program prepares students for professional roles with a high level of current knowledge of the field, and substantial competence in the kinds of research tasks necessary to undertake those roles. It also provides focused, interdisciplinary training for individuals in occupations that provide services to older adults. Further, the program will develop an appreciation of the complex ethical issues that are faced by persons working in gerontology.

Each of the concentrations deals with specific problems and issues.

The aging and the built environment concentration trains students in the planning, design, research and evaluation of working, living and recreational environments for older persons. Students in this concentration will have backgrounds in architecture, interior design, urban and regional planning, social/human ecology, kinesiology, recreation and leisure studies, occupational therapy, physiotherapy, human factors, human geography, sociology or environmental or social psychology.

The health promotion/population health and aging concentration provides knowledge that can be used for research, evaluation and critical analysis of our health care system and of specific health promotion strategies. Students with degrees in psychology, sociology, demography, medical geography, social work, nursing, health education, physiotherapy, and physical education or kinesiology would be probable candidates for this concentration.

Students take an integrated core course sequence and courses specific to the selected concentration. The program builds upon the expertise, research activities and international reputation of the associated Gerontology Research Centre.

MA Program

Admission

Students interested in applying to this program should contact the student advisor for application forms and information. Candidates who have not completed the post baccalaureate diploma program in gerontology or a minimum of five upper level courses with substantial aging content may be advised to complete courses from the diploma program prior to applying to the MA program. Applications for fall admission should be completed by January 30 of that year and applications for spring admission by September 30 of the previous year.

Applicants are required to forward an application for graduate studies form, a cheque or money order for $55 (Canadian) made payable to Simon Fraser University, original copies of their transcripts along with three letters of reference, a statement of research interests (500-600 words), a statement of work experience in gerontology and a completed curriculum vitae information form.

The following prerequisites, or their equivalent, are needed for each concentration.

Aging and the Built Environment

GERO 401-3 Aging and the Built Environment

Health Promotion and Aging

GERO 404-3 Health and Illness in Later Life

and one of

GERO 302-3 Health Promotion and Aging*

GERO 402-3 Drug Issues in Gerontology

GERO 403-3 Counselling with Older Adults

GERO 407-3 Nutrition and Aging

*formerly offered as GERO 411 Special Topics: Health Promotion and Aging

Curriculum and Description

There are five components to the program: core courses, required courses for each concentration, electives, project or thesis and internship.

Students must complete six courses: two core courses, two required courses from the chosen concentration, and two electives. They must also complete a project. Under special circumstances, students may complete a thesis in lieu of the project (see Project or Thesis Option below).

Core Courses

These courses will be required of all students.

GERO 801-4 Health Policy and Applied Issues in Gerontology

GERO 802-4 Development and Evaluation of Health Promotion Programs for Older Persons

Students who complete a thesis will also complete the following course or any other approved graduate research methods course (also recommended for project stream students) (see Project or Thesis Option below).

GERO 803-4 Analytical Techniques for Gerontological Research

Areas of Concentration Requirements

These courses are required of students within each concentration.

Aging and the Built Environment

GERO 810-4 Community Based Housing for Older People

GERO 811-4 Institutional Living Environments

Health Promotion/Population Health and Aging

GERO 820-4 Principles and Practices of Health Promotion

GERO 821-4 Epidemiology of Aging

Elective Courses

Students may 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 Safety

GERO 840-4 Special Topics in Gerontology

GERO 889-4 Directed Studies

GERO 998 MA Project

GERO 999 MA Thesis

SA 886-5 Selected Problems in Social Analysis*

*when offered as Social Policy in a Changing Society

Project or Thesis Option

All students will be initially admitted into the project stream and will normally present a written project proposal to a faculty member, chosen as a supervisor. After consultation with the project supervisor, a second member is selected to complete the supervisory committee. Examples of projects include: evaluation of programs for older adults; design and implementation of environments or services for older persons; and analyses of secondary data. A project report will be evaluated by the supervisory committee and a qualified external reader. The project requirement must meet the guidelines set out in the Graduate General Regulations (page 299). A small number of highly qualified students who wish to prepare for advanced graduate training may be permitted to elect a thesis option after one semester
in the program. Students allowed to complete a thesis will replace the two elective courses with GER 803. The thesis provides a focused research of high quality. Students will be encouraged to engage in original and innovative research to meet this requirement. Committee selection and approval of the thesis proposal will follow the same steps as the project. The thesis requirement must meet the guidelines in the Graduate General Regulations (page 299).

Internship
Students lacking relevant work experience will be required to supplement their program of study with an internship. The student will work for an agency or organization in a position of responsibility normally for a maximum of one semester.

Graduate Courses
GERO 801-4 Health Policy and Applied Issues in Gerontology
The aim of this course is to examine linkages between long term care and other service sectors as well as to compare programs and services across community, provincial and national boundaries. A number of key policy issues will be discussed that pertain to the provision of health related services to older adults.

GERO 802-4 Development and Evaluation of Health Promotion Programs for the Elderly
This course deals with the design, implementation and evaluation of health promotion programs and services for older persons. Students will participate in the development and critical analysis of a variety of health initiatives aimed at healthful aging.

GERO 803-4 Analytical Techniques for Gerontological Research
This course has been specifically designed to provide training in quantitative data analysis using SPSSx Programming Language with a focus on behavioural research problems in gerontology.

GERO 810-4 Community Based Housing for Older People
This course presents an in-depth examination of theory, research and policy related to planning, designing, developing and managing housing for independent and semi-independent older adults.

GERO 811-4 Institutional Living Environments
This course focuses on design issues, theory, research and policy relevant to planning, developing and managing institutional living environments for dependent adults.

GERO 820-4 Principles and Practices of Health Promotion
This course is designed to cover and critically evaluate concepts, models and theories of health promotion and wellness in the aging population. These methods of implementation will be discussed in relation to individual and structural health system issues facing the aged.

GERO 821-4 Epidemiology of Aging
This course is required for students in the health promotion and aging concentration. It examines epidemiological methods and approaches to the study of aging and the care of the aged. Students will survey and critically evaluate current epidemiological literature addressing health and health care issues associated with individual and population aging.

GERO 830-4 Human Factors, Technology and Safety
This course covers theoretical, research and industry literature pertaining to designing home, work, institutional and public environments that are ergonomically functional, safe, and satisfying to the older adult.

GERO 840-4 Special Topics in Gerontology
This course offers an opportunity to offer a specialized course in an area germane to the program but on a topic that is outside of the regular courses.

GERO 850-0 Co-op Internship
The internship consists of one full-time work arrangement. Arrangements for the work semesters are made through the Faculty of Arts Co-op Co-ordinator at least one semester in advance. For further details, students should refer to the Co-operative Education section of the Calendar. Prerequisite: MA students in good standing with a minimum GPA of 3.0 may apply to enter the co-op internship after satisfactory completion of 16 semester hours credit.

GERO 889-4 Directed Studies
This course consists of supervised readings in a particular field of specialization relevant to the selected area of concentration.

GERO 889-0 MA Project
A project must be written under committee supervision for formal examination as part of the program requirements for students in the project stream.

GERO 899-0 MA Thesis
A thesis must be written under committee supervision for formal examination as part of the program requirements for students in the thesis stream.

Department of History
6022 Academic Quadrangle, (604) 291-4467 Tel, (604) 291-5837 Fax, www.sfu.ca/history

Chair
J.I. Little BA (Bishop’s), MA (New Br), PhD (Ott)

Graduate Program Chair
D. MacLean BA (NY State), MA, PhD (McG)

Faculty and Areas of Research
See “Department of History” on page 157 for a complete list of faculty.

L. Armstrong – Italian Renaissance
W.L. Cleveland – Middle East
J.S. Craig – early modern England
R.K. Debo – Russia
P.E. Dutton – ancient and Medieval
C.I. Dyck – modern Britain
J. Eyrther – modern Chinese
M.D. Fellman – United States
K. Ferguson – 20th century United States
D.P. Gagan – hospitals, health care, social classes
H. Gay – history, philosophy of science
A. Gerolymatos – Greece and Balkans
J.F. Hutchinson – social, Russia
H.J.M. Johnston – Canada
M. Leider – Canada, labor
J.I. Little – Canada, French Canada
T.M. Loo – Canada, law, environment
D. MacLean – Middle East, Islam, India
J. Matsumura – East Asia
H. Pabel – early modern Europe
R. Panchasi – modern France
J. Parr – Canada
M. Prokopow – Anglo-Atlantic colonial world
P. Rabmon – First Nations history
D.A. Ross – Africa
N. Roth – modern Germany
A. Seager – Canada, labor
M.L. Stewart – Europe, social, women’s studies
J.O. Stubbs – modern Britain

Areas of Study
The Department of History offers graduate research leading to an MA and PhD. The major study areas are Canada, Europe, colonialism and imperialism, the Middle East, the Americas, and Africa. Only those who wish to specialize in one of the specific fields covered by the list of MA courses in the case of MA applicants, or PhD areas of specialization in the case of PhD program, will be considered for admission. The department reserves the right to accept candidates only when a qualified supervisor is available and the University resources (including library facilities) are deemed adequate for the student's stated research priority.

Admission of Graduate Students
Admission for MA students will be in the fall semester only, and for PhD and part time MA students in either fall or spring semesters. Applications for fall should be completed by February 15, and applications for spring admission by October 15 of the previous year. Applicants must submit a sample of their written work.

MA Program

Conditions of Admission
MA candidates must satisfy the minimum University entrance requirements: at least a 3.0 average or its equivalent. In addition, the department requires a 3.5 (B+ average) average in history courses taken during the last two years of the undergraduate program. A grade of B or better is expected in each history course.

Programs of Study
Upon graduate program admission, students are assigned a provisional supervisor. See “1.6.4 Supervisory Committee” on page 302 for supervisory committee information. All MA degree candidates must satisfy the following minimum requirements, totalling 30 credit hours.

The department offers two options. The thesis option requires 20 credit hours (four courses of five credit hours each), of which at least 15 must be in graduate courses in the department. The project option requires 30 credit hours, (six courses of five credit hours each) of which 20 must be in graduate courses in the department.

Normally, three seminars are offered each fall and spring semester, including one in conjunction with the University of British Columbia’s Department of History, at the Harbour Centre campus.

All Canadian history students must take HIST 806, another seminar of their choice, and the research seminar HIST 814. All European history students must take HIST 810, another seminar of their choice, and the research seminar HIST 814. Other students must take one seminar and HIST 814. Remaining course requirements may be taken as readings courses.

In HIST 814, each thesis option student writes a paper which becomes the basis of the thesis. It should present a coherent thesis topic and place this topic within the framework of existing work in the area. Each project option student is required to write a short research paper which becomes the basis of the required research project.

Full time MA thesis option students complete degree requirements in a maximum of five semesters, and project option students in a maximum of three semesters. Part time thesis option students complete degree requirements in a maximum of eight semesters and part time project option students in a maximum of six semesters.

Students with significant financial support from fellowships, scholarships or teaching assistantships are expected to take a full semester course load. Those with no financial aid from fellowships, teaching assistantships, etc, may be considered part time students and may take only one course per semester.
Students complete a thesis of 10 credit hours with a maximum length of 100 pages, or a research project of approximately 35 pages. The student’s thesis/research project must demonstrate capability in scholarly research and procedures as well as independent critical thought. Before the beginning of the third semester, thesis option students defend the thesis prospectus before an examining committee made up of the supervisory committee and the graduate program committee chair. The project option student will defend his/her research project in the same time frame.

Full time thesis option students complete their degree requirements in a maximum of five semesters, and project option students in three. Part time students may take one additional year for completion.

Language Requirements

Students must demonstrate a reading ability in a language other than English that is acceptable to the supervisory committee. Students proposing to study Canadian history must demonstrate an ability to read French. Ability is determined by a time limited examination consisting of the translation of a passage of history in the particular language. A dictionary is permitted. The Department of French offers courses to help students meet the language requirements.

PhD Program

General

Prospective PhD candidates are advised that the degree is granted in recognition of the student’s general grasp of the subject matter of a broad area of study; for the ability to think critically; and for the power to analyse and co-ordinate problems and data from allied fields of study.

A student ordinarily is admitted to the PhD program after completion of an MA or its equivalent. BA applicants applying directly to the PhD program must have at least a 3.5 GPA or its equivalent. Candidates for the MA may, under exceptional circumstances, be admitted to the PhD program without completing the MA requirements if they have 20 credit hours of course work. Admission from the MA program is contingent upon a distinguished level of performance, recommendation of directing faculty, scholarly potential, and available department resources.

Programs of Study

Upon program admission, each student is assigned a faculty supervisor. See “1.6 Supervision” on page 302 for information on supervisory committees. The supervisory committee and the student determine three fields of study, at least two of which are chosen from the list below. A third field may be chosen within or outside the Department of History with permission of the graduate studies committee.

The student and each field supervisor will agree as soon as possible on a general readings list of approximately 45 books (or the equivalent) in each field. Reading list copies must be submitted to the chair of the graduate program committee by the beginning of the second semester. The graduate program committee approves these lists and places them in the student’s files. Students are expected to cover the material on these lists, preferably by means of a structured reading and writing program with their supervisors.

The comprehensive examinations, based on the reading lists, are offered twice a year, in the first half of the fall and spring semesters. Written examinations are administered in weeks five and six of the semester. Oral examinations are scheduled in weeks six through seven of the same semester. Students who miss the first round of examinations in their fourth semester due to extenuating circumstances must take the examinations the following semester. For details on the nature of the comprehensive examinations, see the Department of History’s graduate brochure. All written examinations must be passed before the oral comprehensive exam takes place. A student who fails one of the written examinations, and one only, will have one additional chance for re-examination before sitting the oral examination. A ‘fail’, ‘pass’, or ‘pass with distinction’ will be assigned by the examining committee after completion of the oral exam. Students falling at this stage are not allowed to continue in the program.

PhD Fields

Canadian social and cultural history
Canadian political and economic history
European social history
European cultural history
European intellectual history
European international relations since the early 19th century
gerard and history
rural history
mediaeval Europe
France since 1789
Germany since the 18th century
Russia since Peter the Great
the British Isles since 1485
Great Britain as a great power since 1763
state and society in the nineteenth century Ottoman empire
state and society in the twentieth century Middle East
the Middle East in the international system
the geopolitics of the Indian empire
Islamic India
sub-Saharan Africa since 1800
European settlement in Africa
United States to 1890
United States since 1890
United States cultural history 1830-1890
colonial Latin America
Latin America since Independence

Thesis

Within one semester of successful completion of comprehensive exams and formal candidacy admission, students submit a thesis prospectus on a topic selected from the specialization areas listed above. The same procedure is followed for MA candidates but the thesis committee may seek the participation of another who has particular expertise in the area of the proposed thesis topic. Through the thesis, the student must demonstrate an original contribution to knowledge. When the thesis is complete and the student is ready to offer himself/herself for the degree, a thesis examining committee will be formed, composed of the chair of the departmental graduate program committee or designate; the student’s supervisory committee; a member of faculty or a person otherwise suitably qualified who is not a member of the supervisory committee; and an external examiner who is not a University employee. This committee examines the student on the thesis and in the student’s major field of study. See “Graduate General Regulations” on page 299 for further information and regulations.

Language Requirements

Students must demonstrate a reading ability in one language other than English that is acceptable to the supervisory committee. Students proposing to study Canadian history must demonstrate an ability to read French, determined by a time limited examination consisting of the translation of a passage of history in the particular language. A dictionary will be permitted. The Department of French offers courses to help graduate students meet this requirements.

Graduate Courses

HIST 814 is a compulsory MA seminar offered each fall semester. HIST 806 and 810 are also offered as seminars each year. At least two other seminars will normally be offered, the choice depending on the research interests of the majority of the students.

HIST 805-5 Western Canada
HIST 806-5 Themes in Canadian History
HIST 810-5 Themes in European History
HIST 812-5 Special Topics in History
HIST 814-5 Research Seminar
HIST 819-5 Medieval Europe
HIST 820-5 Tudor and Stuart England
HIST 821-5 Early Modern Europe
HIST 822-5 Modern Great Britain
HIST 823-5 Modern Russia
HIST 824-5 Modern France
HIST 825-5 Modern Germany
HIST 826-5 International Relations
HIST 828-5 European Cultural and Intellectual History
HIST 843-5 United States to 1890
HIST 844-5 United States since 1890
HIST 845-5 Latin America to 1825
HIST 846-5 Latin America since 1825
HIST 851-5 State and Society in 19th Century Middle East
HIST 852-5 State and Society in the Modern Middle East
HIST 854-5 Imperialism in the Middle East
HIST 864-5 Tropical Africa
HIST 870-5 Culture and Society in China
HIST 871-5 Culture and Society in India
HIST 881-5 Great Britain as a Great Power Since 1763
HIST 884-5 Health and Society
HIST 885-5 Law and Society
HIST 886-5 Migration and Settlement
HIST 887-5 Comparative Labour History
HIST 888-5 Native-European Contact
HIST 890-5 Gender and History
HIST 891-5 The French Experience in North America
HIST 892-5 Religion and Society
HIST 893-5 State and Society
HIST 894-5 War and Society
HIST 895-5 Rural History
HIST 896-5 Culture and Identity
HIST 897-5 Supervised Readings
HIST 898-0 MA Thesis
HIST 899-0 PhD Thesis
HIST 900-0 Research Project

Latin American Studies Program

5053 Academic Quadrangle, (604) 291-3518 Tel, (604) 291-5799 Fax, www.sfu.ca/has

Faculty and Areas of Research

M. Escudero – Spanish literature, 17th century
colonial literature, Latin American modern theatre
A. Hira – economic development and policy, international relations, political economy and political science
G. Otero – economic and political sociology, Mexico, North America

Associated Faculty
R.E. Boyer, History
J.A.C. Brohman, Geography
A. Ciria*
R. Clapp, Geography
M. Gates, Sociology and Anthropology
J. Garcia*
This program offers an interdisciplinary course of study and research leading to a master of arts degree in Latin American studies. It draws from approaches associated with both the social sciences and the humanities, exploring the interrelationships between cultural, socioeconomic, and political dimensions in the Latin American development process. It places a particular emphasis on contemporary Latin America as well as current trends toward globalization while recognizing the importance of understanding colonialism and the origins of the nation-state. Although most students will focus on the 20th century, the program welcomes students whose research interests encompass earlier historical periods.

Areas of Study
Latin American Economy and Society
Topics will be drawn from the following themes: national and world economic structures, processes, and policies; development theories and strategies; agrarian structures and environmental sustainability; labor markets, the informal economy and poverty; macroeconomics; the fiscal crisis and trans-national finance; neo-liberalism, free trade areas, and trans-national investment.

Latin American History and Culture
The historical genesis and transformation of Latin American cultures; ethnicity, race, class, and identity; gender and sexuality; Latin American literature and visual arts; and popular culture.

Latin American Politics and the State
Political regimes, state structures and processes; policy formation and political conflict; political parties, social movements and ideologies; democracy and human rights; global versus local influences in national political processes.

Admission Requirements
Admissions will be conducted on a biennial basis. Applicants must satisfy the Latin American studies graduate program committee that they are well prepared academically to undertake graduate level work in Latin American studies. See "Graduate General Regulations" on page 299 for additional University requirements. As well as these, the program requires:

- a sample of the candidate’s scholarly work, preferably with a Latin American focus (i.e., an undergraduate paper previously submitted as part of a course requirement)
- a short statement of purpose detailing interests and goals in Latin American studies
- proof of reading and speaking competence in Spanish or Portuguese equivalent to the successful completion of three college level courses (i.e., SPAN 102, 103, 201). At the discretion of the Latin American studies graduate program committee, proof of competence in another language of Latin America and the Caribbean may be accepted in exceptional circumstances.
- If applicable, a resume of previous relevant course work and/or employment will be considered. Background may include specialized training, exposure to interdisciplinary studies of Latin America, and/or first hand field experience.

Acceptance into the MA program is conditional on the availability of a senior supervisor who may be selected only from Latin American studies and/or associated faculty.

MA Requirements
The student must complete the following minimum requirements.

- The following four courses: LAS 800 (offered biennially); SA 857 (or equivalent with approval of the supervisory committee) and two courses, one of which must be an LAS course (LAS 815, 825 or 835). The other can be an LAS directed readings course (only one directed readings course allowed) or one graduate course in another department or university that is designated by the program with full Latin American content, or more broad graduate courses in related disciplines that focus on Latin America. Credit for the latter is subject to supervisory committee approval. Students with deficiencies may be asked to complete more courses.
- Prior to commencing thesis work, students defend a written thesis prospectus in an oral examination. The prospectus will normally be defended by the end of the third semester in the graduate program.
- Students complete a thesis giving evidence of independent research and critical abilities. It will be judged by the candidate’s examining committee at an oral defence. The thesis may be written in English or Spanish.

Other Graduate Latin American Content Courses
The following may be acceptable in the MA program. Permission may be required from the departments in which these courses are offered and some courses may require prerequisites.

- GEOG 770-4 Geography, Development Theory and Latin America
- HIST 845-5 Latin America to 1825
- HIST 846-5 Latin America since 1825

In addition, more broadly listed courses may be acceptable if focused on Latin America. However, credit is subject to their designation as full course Latin American courses by the Latin American studies graduate program committee. Some are:

- CMNS 845-5 Communication Knowledge Systems and Development
- ECON 853-4 Theories of Economic Development
- GEOG 740-4 Geography and the Third World
- POL 859-5 Government and Politics of Developing Countries
- SA 850-5 Advanced Sociological Theory
- SA 870-5 Advanced Anthropological Theory

Special Arrangements
Students seeking admission to a Latin American studies doctoral program may apply under the Special Arrangements provisions of the Graduate General Regulations section 1.3.4 (page 300).

Graduate Courses
LAS 800-5 Approaches to Latin American Studies
An annual interdisciplinary seminar taught by selected Latin American studies faculty examining core theoretical and substantive themes in Latin America.

LAS 815-5 Latin American Economy and Society (0-5-0)

LAS 825-5 Latin American History and Culture (0-5-0)

LAS 835-5 Latin American Politics and the State (0-5-0)

LAS 851-5 Directed Readings in Latin American Studies
Directed readings in a selected field of study under the direction of a single faculty member. An annotated bibliography and a term paper is required.

LAS 898-0 MA Thesis

Liberal Studies Program
2100 Harbour Centre, (604) 291-5152/5104 Tel, (604) 291-5159 Fax, www.sfu.ca/lgs, lgspl@sfu.ca

Director
M.D. Fellman AB (Mich), PhD (Northwestern)

Graduate Program Chair
J. Sturrock BA, MA (Oxf), PhD (Br Col)

Steering Committee
J.L. Berggren, Mathematics
S. Duguid, Humanities
H. Gay, History
R.L. Koepeke, Liberal Studies
J. Martin, Education
K. Mezei, English
M. Propokow, History
P. Schouls, Simons Chair

This program, which leads to the degree of master of arts, liberal studies, is designed for adults returning to study on a part time basis. The program, which is affiliated with the Department of Humanities, is offered at the University’s Harbour Centre campus during evening and weekend hours.

In the best tradition of liberal education, the program addresses some of the great works of our intellectual and artistic heritage, studies the perennial concerns that have shaped our culture, and explores contemporary perspectives on traditional ideas and values. The interdisciplinary seminars provide the opportunity for wide reading, careful reflection, and intense discussion. They are taught by Simon Fraser University faculty chosen for their expertise and teaching excellence, and for their interest in interdisciplinary studies.

Admission
Applicants must satisfy the liberal studies graduate program committee of academic suitability for the program. In addition to fulfilling the normal graduate admission requirements, prospective students must demonstrate readiness through reference letters, samples of written work, and normally an interview. Exceptionally, the graduate program committee may recommend for admission applicants who do not meet normal requirements but who, by reason of prior experience, strong interest and demonstrated competence, are particularly suited.

Degree Requirements
Students complete six seminar courses and submit:

- two extended essays for oral examination or
- one project for oral examination or
- complete two additional courses and write a field examination based on material covered in three completed courses.

Two of the six required courses are core courses, which normally must be completed in the first two semesters of attendance (LS 800 and 801). The remaining four may be selected from among those offered within the program.

Students may enrol for one or two courses per semester. Exceptionally, and by agreement of the graduate program committee and the department involved, a student may take one graduate course in another department toward this degree.
The extended essays are developed from course work papers. The project, which may make significant use of non-written media, will also be developed from course work and will be examined for the examination of a master’s thesis under 1.10.1 of the
Graduate General Regulations (page 304). One of the two additional courses (see above) must be LS 898 and the other may be any LS course other than LS 998 or 999. Field examination preparation is on the supervisory committee’s advice.

The program, for students seeking educational breadth at the graduate level, emphasizes a community of inquiry and discussion over independent research. For this reason, it entails several special expectations within the general regulations for graduate study.

Newly admitted students must attend an introductory short course prior to the beginning of the first core course in the fall semester.

Supervisory committees will be arranged by the chair of the graduate program committee. By approval of the dean of graduate studies, the supervisory and examination process for the extended essays or project requirement may be modified to emphasize collegial exchange.

Students should expect to participate in out-of-class activities, such as pre-class dinners, that encourage interchange among the participants, and to enhance a sense of intellectual community.

Because the program is designed for individuals having other obligations, and who may for that reason require greater or lesser amounts of time to complete the program, the program has been approved for part-time study.

Liberal Studies Courses

LS courses are intensive seminars. The core courses LS 800 and 801 develop a common readings base for all students. The other six seminar courses may vary in approach and in specific content each time they are offered and will address a central tension in our intellectual lives, trace some of its sources, and consider its impact on our experience of the present. All courses are cross-disciplinary and may draw on faculty from across the University to contribute expertise.

Graduate Courses

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 899-5 Graduating Seminar
The final seminar for those students in the graduate liberal studies program pursuing the course option MA. The seminar will revisit the themes raised in the two opening core seminars (LS 800 and 801).

LS 998-0 MA Extended Essays
Students will present two of their essays for formal examination in order to satisfy the Simon Fraser University requirements for a master’s degree.

LS 999-0 MA Project
This course is for students choosing to satisfy part of the requirements for an MA in liberal studies by presenting a project for formal examination.

Department of Linguistics


Chair
P. McFetridge BA, MA, PhD (S Fraser)

Graduate Program Chair
(to be announced)

Faculty and Areas of Research
See “Department of Linguistics” on page 163 for a complete faculty list.

Credit and Research Requirements

Course Work
Students must complete at least 20 credit hours in Linguistics, including LING 800 and 801.

Thesis
All students must complete an MA thesis based on original research, and must comply with University regulations on completing and defending the thesis.

Language Requirements
Candidates must show a high competence in at least one language other than English.

Degrees Offered

The program offers graduate work leading to the degrees of MA and PhD in linguistics.

Applicants are considered by how their proposed programs of study coincide with the research and teaching interests of the department’s faculty. Where a student’s interests span more than one field of study, a program of course work and supervised research in more than one field may be arranged. Individual programs may also be set up in cooperation with other departments under the special arrangements provisions of the Graduate General Regulations 1.3.4. (page 300).

Time Required for the Program

Although University regulation allows a five year time limit for completion of the MA degree and eight years for the PhD, (including the work of the MA degree), an MA student is normally expected to complete the degree in two years; a PhD student in three years after the MA. See “Graduate General Regulations” on page 299 for further information.

MA Program

Admission

Students must demonstrate adequate preparation in linguistics. It is not possible for students having little or no academic preparation in linguistics to gain clear admission to the program or admission as a qualifying student. See “1.3.5 Admission Under Special Arrangements” on page 300. and also see “1.3 Admission” on page 299 for general admission requirements.

Areas of Specialization


Credit and Research Requirements

Course Work
Students must complete at least 20 credit hours in Linguistics, including LING 800 and 801.

Thesis
All students must complete an MA thesis based on original research, and must comply with University regulations on completing and defending the thesis.

Language Requirements
Candidates must show a high competence in at least one language other than English.
Department of Philosophy

Graduate Courses
LING 800-4 Phonology
LING 801-4 Syntax
LING 802-4 Semantics
LING 803-4 Theory
LING 804-4 Field Methods
LING 805-4 Historical and Comparative Linguistics
LING 806-4 Sociolinguistics
LING 807-4 Computational Linguistics
LING 809-4 Morphology
LING 810-4 Topics in Linguistics I
LING 811-4 Topics in Linguistics II
LING 812-4 Topics in Linguistics III
LING 813-4 Topics in Linguistics IV
LING 820-4 Formal Linguistics
LING 821-4 Phonetics
LING 830-4 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

PhD Program

Admission
Students will have to demonstrate a substantial background in linguistics. It is normally not possible to gain direct admission to the PhD program without an MA in linguistics, or the equivalent.
For general admission requirements, see "1.3 Admission" on page 299 of the Graduate General Regulations.

Areas of Specialization

Credit and Research Requirements
These requirements are beyond those of the MA requirements. Students may need to take specified courses from the MA program requirements as a condition of admission to the PhD program.

Course Work
Students must complete at least 16 linguistics credit hours, approved by the supervisory committee.

Thesis Proposal
Each candidate develops a research proposal for a thesis based on original research. The proposal is to be discussed and approved by the supervisory committee.

PhD Thesis
Students must complete the thesis in accordance with regulations.

Language Requirements
Candidates must show a high degree of competence in two languages besides English. They should have some knowledge of the structure of at least one non-Indo-European language. The student’s supervisory committee determines how the student demonstrates this competence.

MA Program

Admission
See "1.3.3 Admission to a Master’s Program" on page 299 for university admission requirements. In addition, the applicant is expected to have either a 3.33 cumulative GPA or a 3.5 GPA in third and fourth year philosophy courses. Honors degrees, where available, are preferred. The department pays close attention to both letters of reference and writing samples. A student whose undergraduate work does not satisfy the above conditions may be required to complete additional undergraduate courses as part of the program, or to register as a qualifying student before consideration for admission.

Degree Requirements
The following requirements apply to all MA candidates.
• the completion of six courses, one of which may be a 300 or 400 level undergraduate course, provided a grade of A- or better is achieved in it and permission of the graduate studies committee is granted.
• demonstrated competence in such foreign languages as the graduate studies committee determines to be required for the proposed research.
• demonstrated competence in formal logic at the level of PHIL 210, or higher when relevant to his or her research.
There are three ways to complete a Master’s degree in the Department of Philosophy:

Non-Thesis Option
This is the recommended degree for most students intending to apply for a PhD program in philosophy after completing their MA. The program is intended to broaden and deepen the student’s philosophical education and allow him or her to develop the necessary materials for a successful application to PhD programs. The non-thesis option has the following specific requirements.

Distribution Requirements
The candidate must complete at least one course in each of the following three areas of philosophy: value theory; metaphysics and epistemology; history of philosophy.

Extra Course Work
There is one additional course required.

Cumulative Grade Point Average
A CGPA of 3.5 is required.

PHIL 899
In this course, that is completed under the direction of the senior supervisor, a paper from a previously completed graduate course is revisied and revised to a standard suitable in form and content for submission to a professional journal. The resulting paper normally shall not exceed 30 pages.

Final Examination
The student will present the paper in a public forum directed by the supervisory committee and at least one other faculty member in the field. After the public presentation and discussion, the expanded committee will evaluate the paper and the student’s performance at the examination.

Specialized Thesis Option
This option is intended for those who have a particular project and supervisor in mind when they enter the program, and especially those with interdisciplinary interests. The specialized thesis option has the following specific requirements:
• The student normally enters the program with a well-defined project and a permanent (as opposed to interim) senior supervisor.
• The program and a course of study is approved by the graduate studies committee.
• Up to three of the required courses may be from outside the Department of Philosophy.
• A thesis, normally no more than 100 pages in length, giving evidence of independent critical ability is submitted and successfully defended.
• The specialization is noted on the student’s final transcript under Committee Decisions.

Classic Thesis Option
This option has the following specific requirements:
• The candidate must complete at least one course in each of the following three areas of philosophy: value theory; metaphysics and epistemology; and history of philosophy.
• A thesis, normally not more than 100 pages in length, giving evidence of independent critical ability is submitted and successfully defended.

PhD Program

Admission
See "1.3.4 Admission to a Doctoral Program" on page 300 for university admission requirements. In addition, the applicant is expected to have either a 3.67 cumulative GPA in third year and subsequent philosophy courses. Honors degrees, where available, are preferred. The department pays close attention to both letters of reference and writing samples. The department will discuss the applicant’s suitability for the program.

Degree Requirements
The following requirements apply to PhD candidates.
• A thesis, normally no more than 100 pages in length, giving evidence of independent critical ability is submitted and successfully defended.
• The specialization is noted on the student’s final transcript under Committee Decisions.

Committee Decisions
attention to both letters of reference and writing samples. A student whose previous work does not satisfy the above conditions may be required to complete additional undergraduate courses as part of the program, to enter the MA program, or to register as a qualifying student before consideration for admission to the MA or PhD program.

**Degree Requirements**

**Course Requirements**

Eleven courses are required, including up to two 300 or 400 level courses, provided the grade is A- or better and approval is granted by the graduate studies committee.

**Distribution Requirements**

The candidate must complete at least two courses in each of the following three areas of philosophy: value theory; metaphysics and epistemology; history of philosophy.

**Substitute Courses**

Up to four graduate level courses taken here or at another institution prior to enrolling in the PhD program may, with the approval of the graduate studies committee, count toward satisfying course and distribution requirements.

**Area Examinations**

Three area examinations are required. Each area must fall within a different one of the following four categories: metaphysics and epistemology, value theory, logic/formal studies, and history of philosophy. Each examination is based on a reading list whose mastery shall not take more than one semester. Please see the department for further details.

**Language Requirements**

Students are required to demonstrate such competence in foreign languages as the graduate studies committee deems essential to the successful completion of their proposed research.

**Formal Logic Requirement**

In addition to other course requirements, students are required to either have or acquire competence in formal logic up to standard metatheory for first order logic, or higher when considered relevant to their research.

**Dissertation Prospectus**

The final step before advancement to candidacy (or AB status) is the presentation and approval by the supervisory committee of a dissertation prospectus, consisting of a critical literature survey, an extended abstract, and an outline of the proposed dissertation. The candidate presents the proposed plan of study to the department at an open colloquium.

**Preliminary Dissertation Examination**

After the student has completed at least one chapter of the dissertation, but well before completion, he or she must pass the preliminary dissertation examination. The purpose of the examination is to determine whether the quality of the dissertation, as it is progressing, is satisfactory and to suggest improvements where necessary. A preliminary dissertation examination is an oral examination carried out by an examining committee, consisting of the student’s supervisory committee plus at least one other member of the department, along with any relevant extra-departmental faculty. It is based upon at least one completed chapter, a dissertation outline and any other material the student wishes to submit. There is no limit to the number of times a student may attempt to pass this examination.

**Dissertation**

PhD program students write and defend a dissertation embodying original philosophical research.

**Graduate Courses**

In addition to courses offered at Simon Fraser University, graduate students may also satisfy their course requirements by taking courses offered at the University of British Columbia, after consultation with their supervisor.

**Metaphysics and Epistemology**

PHIL 802-5 Selected Topics in Epistemology
PHIL 803-5 Selected Topics in Metaphysics
PHIL 804-5 Selected Topics in Philosophy of Science
PHIL 805-5 Selected Topics in Philosophy of Mind
PHIL 806-5 Selected Topics in Philosophy of Language

**Logic and Formal Studies**

PHIL 812-5 Selected Topics in Logic I
PHIL 813-5 Selected Topics in Logic II
PHIL 814-5 Selected Topics in Philosophy of Mathematics
PHIL 815-5 Selected Topics in Formal Studies

**Value Theory**

PHIL 822-5 Selected Topics Normative Ethics
PHIL 823-5 Selected Topics Meta-ethics
PHIL 824-5 Selected Topics Moral Psychology
PHIL 825-5 Selected Topics in Social and Political Philosophy
PHIL 826-5 Selected Topics in Aesthetics

**History**

PHIL 852-5 Selected Topics in Ancient Philosophy
PHIL 853-5 Selected Topics in Medieval Philosophy
PHIL 854-5 Selected Topics in 17th and 18th Century Philosophy
PHIL 855-5 Selected Topics in 19th and 20th Century Philosophy

**Directed Studies**

PHIL 861-5 Directed Studies: Selected Topics I
PHIL 862-5 Directed Studies: Selected Topics II
PHIL 863-5 Directed Studies: Selected Topics III
PHIL 864-5 Directed Studies: Selected Topics IV
PHIL 865-5 Directed Studies: Selected Topics V
PHIL 898-0 MA Thesis
PHIL 899-0 Non-Thesis Project Completion
PHIL 998-0 PhD Thesis

**Department of Political Science**


**Chair**

L.J. Erickson BA, PhD (Alta)

**Graduate Program Chair**

(to be announced)

**Faculty and Areas of Research**

See “Department of Political Science” on page 167 for a complete list of faculty.

- J. Busumtwi-Sam – international organization and law, conflict management, political economy
- L.J. Cohen – comparative government and politics – Soviet Union and Eastern Europe
- D. Cohn – Canadian politics, research methods and health policy
- M. Grifffen Cohen – public policy, women’s studies, economics
- T.H. Cohn – international relations, Canadian foreign policy
- M.A. Covell – comparative ethnic conflicts, African politics, comparative federalism
- L. Dobuzinskis – public policy/administration, political philosophy and political economy (rational choice)
- L.J. Erickson – Canadian politics, political behavior, women and politics, parties
- A. Heard – Canadian judicial and constitutional issues, comparative human rights
- A. Hira – international political economy, Latin American studies
- M. Howlett – public administration and policy, Canadian government and politics
- T. Kawasaki – Japanese politics and foreign policy, international relations theory, and international relations in the Asia-Pacific region
- D. Laycock – political philosophy and public administration/policy, Canadian government
- S. McBride – political economy, Canadian politics, globalization
- P. Meyer – East Asian international relations, Russian foreign policy, comparative foreign policy
- A. Moens – international relations, comparative politics, US politics
- D.A. Ross – international security and conflict studies, Canadian foreign and defence policies
- P.J. Smith – public policy/administration, Canadian and comparative local government, Canadian government and politics, federalism
- P.V. Warwick – research methods, comparative government – Western Europe

**Fields of Study**

The major fields of study are Canadian government and politics, comparative government and politics, international relations.

Within these three major fields of study there are three distinct thematic emphases of: public policy, political economy and governance.

**Admission**

For general admission requirements see “1.3 Admission” on page 299 of the Graduate General Regulations section. In addition, the department requires students to submit written statements of their current interests and proposed areas of research.

Applications for graduate work will be considered, by and large, with reference to the manner in which the proposed area of the candidate’s research coincides with the teaching and research interests of the faculty. See the list of faculty for general research interests.

Should additional course work be deemed necessary, the graduate studies committee will indicate the same as a prerequisite.

**Degree Requirements**

**MA Program**

The program may be completed through an essay or project option, a thesis option, or a field exam option.

Students are admitted to the essay or project option and require approval of the graduate program chair to transfer to another stream. Except in extenuating circumstances, students may only transfer once during the MA program.

Upon enrolment, students are assigned a two member supervisory committee which has the responsibility for determining, in consultation with the student, the projected program of study and for ensuring that the student fulfils all degree requirements. The supervisory committee must approve all courses and program choices.
The essay or project option requires completion of either extended essays in two fields of study offered by the department or one research project. Students in the essay or project option complete five courses: POL 801 or 802 plus four additional courses from at least two of the three fields of study offered by the department. Students also must write a thesis, normally 18,750 to 25,000 words in length (plus bibliography) and defend it in an oral defence.

To be admitted to the PhD program, students must submit, first to the supervisory committee and then to the appropriate department field committee, a thesis proposal outlining a brief topic summary, its relevance, the methodology to be followed in the investigation, and a chapter-by-chapter outline, a timetable for thesis completion and a select bibliography. The thesis proposal must be approved by the thesis supervisory committee and by the appropriate field committee.

Students in the thesis stream complete four courses: POL 801 or 802 plus three additional courses from at least two of the three fields of study offered by the department. Students also must write a thesis, normally 18,750 to 25,000 words in length (plus bibliography) and defend it in an oral defence.

To be admitted to the field exam stream, students must submit, first to the supervisory committee and then to the appropriate department field committee, a field exam proposal outlining major and minor fields of study, a draft reading list in each field, and a timetable for field exam completion. The field exam proposal must be approved by the student’s supervisory committee and by the appropriate department field committee. To fulfill the requirements, students complete six courses: POL 801 or 802 plus five additional courses from at least three of the five department fields of study. Students also must pass two written field examinations: one in their major and one in their minor field of study. The supervisory committee will serve as the nucleus of the field examination committee. With the student’s consultation, the supervisory committee will be expanded to include additional examiners if necessary. Any student who fails one of the field examinations, and one only, may retake the failed field examination.

PhD Program
The department offers specialized research resources in Canadian politics and public policy, comparative politics, and international relations with a focus on issues of political economy, public policy and governance. However, the department may offer advanced study in other political science fields, subject to the availability of faculty research expertise.

Admission
In addition to the minimum admission requirements (page 299 of the Graduate General Regulations 1.3.3), the department requires a completed political science MA normally with a minimum 3.67 GPA in graduate courses taken towards the MA degree. A written statement of current research interests indicating two areas of proposed specialization, three letters of reference from qualified referees, and a sample of the candidate’s written work are also required. How well the applicant’s proposed research coincides with the department’s focus on political economy, public policy and governance is an important admission consideration. Background deficiencies must be met by taking appropriate courses in addition to normal PhD work. Admission applications are reviewed once each year by the department graduate studies committee. The program starts in September.

Supervisory Committee
In accordance with Graduate General Regulation 1.6, (page 302) upon program admission, the departmental graduate studies committee assigns a senior supervisor and two second supervisors to each student. This committee is responsible for monitoring, advising and evaluating the student’s progress. Each supervisory committee will be structured to reflect the issues of political economy, public policy and governance and to ensure that these constitute an integral part of each program.

Program Requirements
The PhD program consists of 20 credit hours of graduate work beyond the requirements of the MA plus a second language requirement, two comprehensive exams and a thesis.

Course Work
Students must successfully complete 20 credit hours of graduate level course work. All courses must be approved by the student’s supervisory committee and reflect the areas of specialization within the fields of political economy, public policy and governance as identified in the student’s letter of intent. Students must complete POL 801 or 802 or equivalent. All courses must be completed prior to completion of any other component of the program.

Language Requirement
Students must demonstrate a reading ability in one language other than English that is acceptable to the student’s supervisory committee. Students studying subjects related to Canadian politics must demonstrate an ability to read French which is determined by successful completion of a time limited examination consisting of a dictionary aided translation of a passage from the political science literature written in the language selected.

Comprehensive Examinations
Upon course work completion and prior to thesis research, students must successfully complete a comprehensive examination in each of two selected fields. By the end of the second semester, the student’s senior supervisor notifies the departmental graduate studies committee of the two political science fields of study which will serve as comprehensive examinations subjects. Each exam consists of a three hour written exam and a one hour oral exam, held one week after the written exam. Each is established, conducted and evaluated by a comprehensive examination committee selected by the department graduate studies committee. Each comprehensive examination committee is composed of at least one member from the student’s supervisory committee and at least two faculty members from the field of study being examined. At least one faculty member on the committee is not on the student’s supervisory committee. The comprehensive examination committee is chaired by the department graduate studies chair.

Students receive a grade of pass with distinction, pass or unsatisfactory from the comprehensive examination committee following completion of the written and oral component of each field. Students who receive a failing grade are permitted one retake of that exam after a period of remedial study of no less than three months.

Thesis
Candidates successfully completing both comprehensive examinations are required to complete POL 890. The PhD seminar assists students with formal thesis preparation and to relate it to issues of political economy, public policy and governance. POL 890 culminates with the student’s presentation as a seminar to the department outlining his/her research interests. This is done prior to submission of a formal thesis proposal to the graduate studies committee.

Following the departmental seminar and after consultations with the student’s supervisory committee, the student prepares a thesis proposal for graduate studies committee approval. The proposal will state the thesis title, topic, general intent, methodology and selected bibliography and will be accompanied by a detailed research plan and timetable for the completion of each thesis chapter. The thesis proposal should not exceed 25 pages in length, excluding bibliographic references. The thesis should not be more than 300 pages and must represent an original contribution to the development of the discipline. The completed thesis must be successfully defended at an oral defence established in accordance with the Graduate General Regulations 1.9 (page 303) and 1.10 (page 304).

Performance Evaluation
In accordance with Graduate General Regulation 1.8 (page 303) the progress of each student is reviewed periodically by the graduate studies committee. At least once each year, the student’s supervisory committee submits a written report on the student’s progress to the graduate studies committee to aid its deliberations. Students judged to have maintained unsatisfactory progress may be asked to withdraw from the program.

Time Limits
Although Graduate General Regulation 1.12 (page 305) establishes an eight year time limit for PhD completion, the department expects that the PhD program will be completed within three to five years.

Graduate Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>POL 801-5</td>
<td>Theoretical Perspectives in Political Science</td>
</tr>
<tr>
<td>POL 802-5</td>
<td>Political Research: Design and Analysis (0-5-0)</td>
</tr>
<tr>
<td>POL 812-5</td>
<td>Political Theory</td>
</tr>
<tr>
<td>POL 814-5</td>
<td>Normative Political Theory</td>
</tr>
<tr>
<td>POL 821-5</td>
<td>Canadian Government and Politics</td>
</tr>
<tr>
<td>POL 825-5</td>
<td>Canadian Political Economy</td>
</tr>
<tr>
<td>POL 826-5</td>
<td>Parties and Ideologies in Canada</td>
</tr>
<tr>
<td>POL 827-5</td>
<td>Issues in Canadian Government and Politics</td>
</tr>
<tr>
<td>POL 829-5</td>
<td>Internship</td>
</tr>
<tr>
<td>POL 830-5</td>
<td>Comparative Government and Politics</td>
</tr>
<tr>
<td>POL 832-5</td>
<td>Government and Politics of Communist and Post-Communist Countries</td>
</tr>
<tr>
<td>POL 837-5</td>
<td>Issues in Comparative Politics</td>
</tr>
<tr>
<td>POL 838-5</td>
<td>Government and Politics of Industrialized Countries</td>
</tr>
<tr>
<td>POL 839-5</td>
<td>Government and Politics of Developing Countries</td>
</tr>
<tr>
<td>POL 841-5</td>
<td>International Relations</td>
</tr>
<tr>
<td>POL 842-5</td>
<td>International Law and Organization</td>
</tr>
<tr>
<td>POL 843-5</td>
<td>Canadian Foreign Policy</td>
</tr>
<tr>
<td>POL 844-5</td>
<td>International Political Economy</td>
</tr>
<tr>
<td>POL 845-5</td>
<td>Foreign Policy Analysis</td>
</tr>
<tr>
<td>POL 846-5</td>
<td>International Security Studies</td>
</tr>
<tr>
<td>POL 851-5</td>
<td>Public Policy Analysis</td>
</tr>
<tr>
<td>POL 852-5</td>
<td>Urban Government and Politics</td>
</tr>
<tr>
<td>POL 853-5</td>
<td>Public Administration</td>
</tr>
<tr>
<td>POL 855-5</td>
<td>Science, Technology and Public Policy</td>
</tr>
<tr>
<td>POL 856-5</td>
<td>Issues in Social and Economic Policy</td>
</tr>
<tr>
<td>POL 861-5</td>
<td>Issues in Political Development</td>
</tr>
</tbody>
</table>

Students with credit for POL 837-5 may not take this course for further credit.

POL 890-0 PhD Seminar
POL 891-0 Master’s Seminar
POL 892-0 Research Project
POL 893-5 Readings in Political Science
Department of Psychology


Chair
(to be announced)

Graduate Program Chair
R. Mistberger BA (McG), PhD (Chic)

Faculty and Areas of Research
See “Department of Psychology” on page 170 for a complete list of faculty.

B.K. Alexander – psychology of addiction, history of psychology, temperance mentality
K. Bartholomew – adult attachment, abuse in intimate relationships, male same-sex relationships
B.L. Beyernstein – drugs and behavior, brain and behavior, sensation (olfaction), critical appraisal of occult and pseudo-scientific claims
A.R. Blackman – human experimental, perception, driving, risk taking
M.L. Bowman – clinical neuropsychology, health psychology, stress and coping, individual differences
J. Carpendale – social cognitive development, moral development and cognitive development
D. Connolly – psychology and law, children and the law, children’s autobiographical memory, eyewitness memory
D.N. Cox – behavior therapy, health psychology, sport psychology, psychology and law
S.D. Hart – psychology and law, psychopath, mentally disordered offenders, violence predictions, wife assault, psychological assessment; models of personality and personality disorder
G. Iarocci – developmental psychopathology, autism, development of visual attention and perception, risk and protective factors and cultural identity in the development of first nations children
M. Kimball – history of women in psychology and psychoanalysis
R.F. Koopman – measurement, multivariate methodology, numerical methods
W.R. Krane – multivariate statistics, psychological scaling, psychometric theory
D.L. Krebs – moral developmental, altruism, self-serving cognitive biases, evolution of morality and self-deception
R.G. Ley – forensic psychology (criminal) PTSD adolescent psychopathology and delinquency, psychodynamic psychotherapy
M.D. Maran – psychometrics and philosophy of science
J.J. McDonald – cognitive neuroscience, human electrophysiology, event-related potentials, attention and cross-modal processing
C.G. McFarland – social cognition, social memory, mood and social judgment, social comparison processes
R. Mistberger – behavioral neuroscience, biological clocks and sleep, shift work
M.M. Moretti – self, attachment and psychopathology; developmental psychopathology particularly conduct disorder, aggression and violence in girls; systemic intervention; program development and evaluation
R.M. Roesch – psychology and law, including forensic assessment, jail mental health, and competency to stand trial
A.E. Thornton – adult clinical neuropsychology, neurocognitive models of memory and executive functions, encoding and retrieval processes in cognitively impaired patients
W.L. Thornton – neuropsychology of normal and pathological aging, adult neuropsychological assessment, visuospatial attention, decision-making and competence
I. Torres – clinical neuropsychology cognitive deficits, and structural brain changes in schizophrenia and severe mental disorders, neuropsychology of mental illness
W. Turnbull – social psychological pragmatics, conversation analysis, theoretical psychology
N.V. Watson – sexual differentiation of the nervous system and the behaviour of human and non-human animals. Hormones and behaviour, apoptosis and neuronal growth, reproductive behaviour, serotonin psychopharmacology, human neuropsychology, neuroethology, psychobiology
B.W.A. Whittels (BA) – cognition, memory, perception, concept formation, attention
R.D. Wright – visual attention; cognitive neuroscience; intermediate level vision; attention and athletic performance; divided attention, driving and instrument design
A. Young – child psychopathology, anxiety, learning disabilities

Associate Members
R.R. Corrado, Criminology
A. Horvath, Education
M. Jackson, Criminology
J. Martin, Education
N. O’Rourke, Gerontology
R. Steinberg, Counselling Services
J. Sugarman, Education
D. Weeks, Kinesiology

Overview of Graduate Training
The Department of Psychology offers graduate programs culminating in MA and PhD degrees in either experimental or clinical psychology. The department is organized around five areas of concentration: cognitive and biological psychology, developmental psychology, law and forensic psychology, social psychology, and theory and methods. All graduate students in the department work on research topics within one of these general topic areas. In the experimental psychology program, training is research-intensive and intended to produce PhD-level researchers. The clinical psychology program offers specialty streams in child-clinical, forensic-clinical, clinical neuropsychology and clinical-social, with certificates in the child and forensic streams. A combined LLB/PhD program is also offered, administered jointly with the University of British Columbia.

Application and Admission Requirements
Applicants, admitted only in the fall semester, must submit all supporting documentation in one complete package (completed application form, statement of purpose, officially transcripts of all post secondary course work, three academic letters of reference, and the $55 application fee). Graduate Record Examinations (general sections) and TOEFL scores can be submitted separately. Experimental program applicants: submit GRE general sections only; clinical program applicants: submit both GRE general sections and the GRE subject test in psychology. Incomplete application packages will not be accepted. The department reserves the right to admit only those for whom research space and appropriate faculty supervisors are available. Application packets are accepted in October for fall admission.

Admission requirements for special students are outlined in the Graduate General Regulations (see “1.3.5 Admission Under Special Arrangements” on page 299). Special student applications must be submitted to the department’s graduate program assistant. Students seeking admission as a special student must obtain written permission from the instructor of each course they wish to take, and submit it, along with transcripts of previous university work, no later than ONE month prior to the semester in which they plan to undertake the proposed course of study. Special students taking psychology graduate courses must obtain a minimum B- grade in each course taken in order to be admitted as a special student in subsequent semesters.

Satisfactory Performance
The progress of each student is assessed at least once a year. A course grade of less than B is considered unsatisfactory. Any student who obtains a grade of less than B in two or more courses may be required to withdraw from the program.

MA Thesis
Students are required to present a thesis proposal to their supervisory committee before the end of their fourth semester in the program. After the thesis has been submitted, an oral defence will be scheduled. Students are expected to have completed their MA thesis by the end of their second year in the program. For further information and regulations, see “Graduate General Regulations” on page 299

PhD Dissertation
Before starting dissertation research, the candidate presents a formal evaluation proposal. The candidate must present a dissertation proposal before the end of the third program year, and is expected to complete the PhD dissertation within four years of program entrance. The completed dissertation will be defended in oral examination. Judgment will be made by an examining committee. For further information and regulations, see “Graduate General Regulations” on page 299

Supervisory Committees
For the MA thesis, students establish a supervisory committee before the end of their first program year. The PhD supervisory committee will consist of at least two Department of Psychology faculty, one of whom will be the senior supervisor and committee chair. Other faculty outside the department who are considered necessary by the student and senior supervisor may serve on the committee. The PhD supervisory committee should be established by the end of the first semester following PhD program admission. Students choose a Department of Psychology faculty member as the senior supervisor and chair of the PhD supervisory committee and two or more additional members. At least one of the additional members must be from the Department of Psychology. One committee member must act as advisor to measurement and design aspects of the dissertation research.

Program in Experimental Psychology
This program provides specialized training in: cognitive and biological psychology, developmental psychology, law and forensic psychology, social and personality psychology, and theory and methods.
**Degree Requirements**

Students admitted to the MA program must achieve satisfactory performance in PSYC 824, 910, 911, two breadth courses, and a minimum of two area courses, and to complete an MA thesis (PSYC 890). PhD program students must complete two offerings of PSYC 715, a minimum of two area courses, comprehensive examinations, and a doctoral dissertation. The required courses and comprehensive exams must be completed within two years of PhD program entrance. In addition, students must participate in area research seminars (PSYC 913, 914, 916, 917 or 918) during their MA and PhD programs and to complete the requirements of their area of specialization.

**Experimental Area Requirements**

**Cognitive and Biological Area**

- area course 1
- area course 2
- area course 3
- area course 4

*Additional Requirements*

- PSYC 913-1.5 Research Seminar

*area courses are determined for each student individually and may include courses both from within and outside the department.*

**Developmental Area**

- PSYC 750-5 Proseminar in Developmental Psychology (area course 1)
- PSYC 950-5 Seminar in Developmental Psychology (I) (area course 2)
- PSYC 944-3 Seminar in Psychopathology (area course 3)
- PSYC 950-5 Seminar in Developmental Psychology (II) (area course 4)

*Additional Requirements*

- PSYC 950-5 Seminar in Developmental Psychology (III)*
- PSYC 819-3 Ethics and Professional Issues
- PSYC 914-1.5 Research Seminar

As well, students must complete an additional PSYC 950 in each year past year four.

*to be taken in year four*

**Law and Forensic Psychology Area**

- PSYC 790-5 Proseminar in Law and Psychology (area course 1)
- PSYC 815-3 Mental Health Law and Policy (area course 2)
- PSYC 810-3 Seminar in Social Psychology and Law (area course 3)
- PSYC 990-3 Seminar in Law and Psychology (I) (area course 4)

*Additional Requirements*

- PSYC 990-3 Seminar in Law and Psychology (II)
- PSYC 897-3 Research Project in Law and Psychology/Forensic Psychology
- PSYC 892-3 Research/Policy Practicum in Law and Psychology
- PSYC 916-1.5 Research Seminar

**Social and Personality Area**

- PSYC 760-5 Proseminar in Social Psychology (I) (area course 1)
- PSYC 780-5 Proseminar in Social Psychology (II) (area course 2)
- PSYC 960-5 Seminar in Social Psychology (I) (area course 3)
- PSYC 960-5 Seminar in Social Psychology (II) (area course 4)

*Additional Requirements*

- PSYC 819-3 Ethics and Professional Issues
- PSYC 917-1.5 Research Seminar

As well, students must complete an additional PSYC 960 in each year past year four.

**Theory and Methods Area**

- area course 1
- area course 2
- area course 3
- area course 4

*Additional Requirement*

- PSYC 918-1.5 Research Seminar

*area courses are determined for each student individually and may include courses both from within and outside the department.*

As well, students will typically be required to take more than four area courses.

**Program in Clinical Psychology**

This PhD program, accredited by the Canadian Psychological Association and the American Psychological Association, is based on clinical training and provides specialized training in the same areas as the experimental program and offers specialization certificates in child clinical psychology and clinical forensic psychology.

**Degree Requirements**

MA students must complete satisfactorily the following: PSYC 744, 770, 820/821, 822/823, 824, 880 (practicum), 910, 911, 896 and two area courses. PhD students must complete two PSYC 715 courses, PSYC 819, one breadth course, and a minimum of two area courses. At least two courses must be advanced topics courses in assessment or intervention.

Students will not be permitted to register in PhD course work beyond the fall semester of the third program year until the MA thesis is complete.

Students are required to enroll in PSYC 825 (ongoing clinical training) every semester until they complete PSYC 880 (practicum). Subsequently, they must enroll in PSYC 825 at least two out of three semesters. As well, they are required to enroll in PSYC 825 in five out of the first six semesters of the MA program, the exception being the practicum semester.

In addition, students must participate in area research seminars (PSYC 913, 914, 916, 917 or 918) during their MA and PhD programs and to complete their area of specialization requirements.

Students must successfully defend their dissertation proposals before applying for internship.

**Clinical Specialization Certificate Requirements**

**Developmental Area: Child Clinical Stream**

- PSYC 750-5 Proseminar in Developmental Psychology (area course 1)
- PSYC 830/831-3/2 Practicum in Child Evaluation and Treatment Formulation (area course 2)
- PSYC 944-5 Seminar in Psychopathology (area course 3)
- PSYC 807-5 Advanced Topics in Intervention (Child Therapy) (area course 4)

*Additional Requirements*

- PSYC 807-5 Advanced Topics in Intervention (Systemic Therapy)
- PSYC 914-1.5 Research Seminar

**Law and Forensic Psychology Area: Clinical Forensic Stream**

- PSYC 790-3 Proseminar in Law and Psychology (area course 1)
- PSYC 815-3 Mental Health Law and Policy (area course 2)
- PSYC 835-3 Special Topics in Criminal Forensic Psychology (area course 3)
- PSYC 836-3 Special Topics in Criminal Forensic Psychology (area course 4)

**Faculty of Arts – Department of Psychology**

**SFU/UBC Program in Law and Forensic Psychology**

The Simon Fraser University/University of British Columbia (SFU/UBC) Program in Law and Forensic Psychology offers the option of completing either a PhD or a joint LLB/PhD degree. Students in both the PhD and LLB/PhD streams specialize in either experimental psychology and law, or in clinical forensic psychology. The program is operated co-operatively between Simon Fraser University and University of British Columbia.

All regular MA and PhD requirements of the graduate studies faculties and the psychology departments must be met. Students admitted to the LLB/PhD stream complete the requirements for both an LLB in law and a PhD in law and forensic psychology.

The PhD is awarded by the university in which the student is registered for the PhD, although students may take courses from either department. The LLB is awarded by UBC's Faculty of Law, and students must satisfy all requirements for that degree.

Applications, regardless of whether applying to the PhD option or to the LLB/PhD option, are made directly to the director, SFU/UBC Program in Law and Forensic Psychology, Department of Psychology, 8888 University Drive, Simon Fraser University, Burnaby, BC, V5A 1S6. Students must submit all supporting documentation in one complete package (completed application form, statement of purpose, one copy of official transcripts of all post secondary course work, three academic letters of reference, and the application fee). GREs (general) and LSAT scores can be submitted separately. The application fee for the PhD option is $75. The fee for LLB/PhD option applicants whose transcripts are exclusively from BC post secondary institutions is $110. Applicants, any or all of whose transcripts are from institutions outside of BC, must submit a $130 fee. Students indicate to which psychology department they wish to apply, and which faculty member they prefer. Admission to the clinical forensic stream must be approved by the respective clinical program to which the student has applied. To be admitted into the LLB/PhD joint degree program, applicants also must be deemed acceptable by the Faculty of Law at UBC.

Program continuance is conditional upon a high performance standard as determined by an annual review of students. A student may be permitted to complete either an LLB, MA, or PhD alone.

**Program Faculty**

D. Cox, PhD – associate professor of psychology, SFU
D.G. Dutton, PhD – professor of psychology, SFU
L. Grant, BA, LLB, LLM – associate professor of law, UBC
R.D. Hare, PhD – professor emeritus of psychology, UBC
D.G. Dutton, PhD – professor of psychology, UBC
J. Mosoff, BA, MA, LLB, LLM – assistant professor of law, UBC
R.M. Roesch, PhD – professor of psychology, SFU
M. MacCrimmon, BSc, LLB, Dip Law – professor of law, UBC
J.C. Yuille, PhD – professor of psychology, UBC
Graduate Courses
PSYC 600-3 Biological Bases of Behavior
PSYC 601-3 Cognitive and Affective Bases of Behavior
PSYC 602-3 Developmental and Social Bases of Behavior
PSYC 603-3 Individual Differences
PSYC 700-3 Professional Issues in Psychology
PSYC 705-3 Proseminar in History and Systems
PSYC 715-1.5 Proseminar in Measurement
PSYC 720-3 Proseminar in Learning
PSYC 725-3 Proseminar in Cognition
PSYC 730-3 Proseminar in Perception
PSYC 740-3 Proseminar in Motivation
PSYC 744-3 Proseminar in Psychopathology
PSYC 750-3 Proseminar in Developmental Psychology
PSYC 760-3 Proseminar in Social Psychology
PSYC 770-3 Proseminar in Personality
PSYC 780-3 Proseminar in Physiological Psychology
PSYC 785-3 Proseminar in Animal Behavior
PSYC 790-3 Proseminar in Law and Psychology
PSYC 804-3 Seminar in Evaluation
PSYC 806-3 Advanced Topics in Assessment
Prerequisite: PSYC 820, 821, 822, 823, 824, or permission of the instructor.
PSYC 807-3 Advanced Topics in Intervention
Prerequisite: PSYC 820, 821, 822, 823, 824, or permission of the instructor.
PSYC 808-3 Advanced Topics in Evaluation
Prerequisite: PSYC 820, 821, 822, 823, 824, or permission of the instructor.
PSYC 809-3 Advanced Topics in Applied Psychology
Prerequisite: PSYC 820, 821, 822, 823, 824, or permission of the instructor.
PSYC 810-3 Seminar in Social Psychology and Law
Prerequisite: PSYC 790.
PSYC 815-3 Mental Health Law and Policy
Prerequisite: PSYC 790.
PSYC 819-3 Ethics and Professional Issues
Prerequisite: graduate program standing. Graded on a satisfactory/unsatisfactory basis.
PSYC 820-6 Seminar in Individual Assessment
PSYC 821-4 Practicum in Individual Assessment
Prerequisite: PSYC 880 (Practicum); registration in PSYC 820, graduate standing in the clinical program, or permission of the instructor. Graded on a satisfactory/unsatisfactory basis.
PSYC 822-6 Seminar in Intervention
PSYC 823-4 Practicum in Intervention
Prerequisite: PSYC 880 (Practicum), registration in PSYC 822, graduate standing in the clinical program, or permission of the instructor. 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 830-3 Seminar in Child Evaluation and Treatment Formulation
Prerequisite: PSYC 750, 820.
PSYC 831-2 Practicum in Child Evaluation and Treatment Formulation
Prerequisite: PSYC 750, 820. Corequisite: PSYC 830.
PSYC 835-3 Special Topics in Civil Forensic Psychology
Prerequisite: PSYC 790, 815.
PSYC 836-3 Special Topics in Criminal Forensic Psychology
Prerequisite: PSYC 790, 815.
PSYC 880-3 Practicum
Full-time clinical work for four months in an approved setting. Prerequisite: PSYC 744, 770, 820, 821, 910, 911. Graded on a satisfactory/unsatisfactory basis.
PSYC 886-9 Internship
Full-time clinical work for 12 months in an approved setting. Prerequisite: equivalent of the MA clinical program, three PhD level courses, successful completion of the PhD comprehensive examinations, and successful defense of the PhD research proposal. Graded on a satisfactory/unsatisfactory basis. Registration in PSYC 886 must be continued for a total of three consecutive semesters.
PSYC 890-3 Practicum in Clinical Forensic Psychology
Prerequisite: PSYC 790, 835 or 836.
PSYC 892-3 Research/Policy Practicum in Law and Psychology
Prerequisite: PSYC 790.
PSYC 897-3 Research Project in Law and Psychology
Prerequisite: PSYC 790.
PSYC 898-0 MA Thesis
PSYC 899-0 PhD Thesis
PSYC 905-3 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 912-914-1.5 Research Seminar
PSYC 915-3 Seminar in Measurement
PSYC 916-1.5 Research Seminar
Research seminars are designed specifically to enable graduate students in Psychology to plan, execute, and analyse 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 research seminar courses are graded on a satisfactory/unsatisfactory basis.
PSYC 920-3 Seminar in Learning
PSYC 925-3 Seminar in Cognitive Processes
PSYC 930-3 Seminar in Perception
PSYC 935-3 Seminar in Motivation
PSYC 940-3 Seminar in Motivation-Emotion
PSYC 944-3 Seminar in Psychopathology
PSYC 950-3 Seminar in Developmental Psychology
PSYC 955-3 Seminar in Social Psychology
PSYC 956-3 Seminar in Psycholinguistics
PSYC 970-3 Seminar in Personality
PSYC 980-3 Seminar in Biological Psychology
PSYC 985-3 Seminar in Animal Behavior
PSYC 990-3 Seminar in Law and Psychology
Prerequisite: PSYC 790.
PSYC 997-3 Directed Studies
PSYC 999-0 PhD Comprehensive Examination
Publishing Program
161 Harbour Centre, (604) 291-5242 Tel,
(604) 291-5239 Fax,
www.harbour.sfu.ca/ccsp/ccsp.html
Director
R.M. Lorimer BA, MA (Manit), PhD (Tor)
Teaching Faculty
V. Frith BA, MA, PhD (Tor) – editing, history of the book
R.M. Lorimer BA, MA (Manit), PhD (Tor) – publishing policy
J. Maxwell BA (Br Col), MPub (S Fraser) – technology, new media
B. Trifonidis BBA, MPA (Texas) – management
R. Woodward BA (Miami, Ohio), MA (Oregon) – design and production
Associate Members
A.C.M. Beale, Communication – history of communication
T. Bose, English – editing production, editing Shakespeare
R.M. Goe, English – rhetoric and composition
A. Cowan, Continuing Studies – publishing education, editing and production
C. Gerson, English – history of Canadian publishing
M.A. Gillies, English – Victorian publishing
C.M. Mamchur, Education – composition
G.A. Mauser, Business Administration – marketing
M. Page, English – definitive and fluid drama texts
P.M. St. Pierre, English – publication and authorship
R. Smith, Communication – information technology
J.O. Stubbs, History – newspaper history
J. Zaslove, English – literacy and literature reception
Adjunct Professors
R. Barnes, MA (Camb) – economics, marketing consultant
R. Bringhurst, BA (Indiana), MFA (Br Col) – Author
J.J. Douglas, LLB (S Fraser) – retired publisher, Douglas and McIntyre
D. Gibson, MA (St. Andrews), MA (Yale) – publisher, McClelland and Stewart
C. Good, BA, MA (Tor) – publisher, Penguin Canada
R. Hancox, Dip (Regent St. Polytechnic, London), MD, Neiman Fellow (Harv), Professional Fellow
A. MacDougall – president, Raincoast Books
R. Milroy, BA (Ont) – publisher, Canadian Medical Association
S. Osborne, BA (Br Col) – publisher, Geist Magazine
K. Siegler, BA, MA (S Fraser) – publisher, Talon Books
M. Sosteric, BA, MA (Regina), PhD (Alta) – assistant professor, Athabasca University
P. Whitney, BA (Sask), MLS (Br Col) – chief librarian, Burnaby Public Library
The publishing curriculum offers a program of study leading to a master of publishing (MPub). The MPub is a professional program designed for persons in, or intending to enter, the publishing industry. It is composed of a set of courses, an internship, and a project report. The program encompasses a full range of publishing activities including business, design, editing and multimedia.

Admission Requirements
The normal admission requirement is a bachelor’s degree with a minimum 3.0 grade point average from a recognized university or the equivalent. In addition, applicants will be required to
• have some demonstrated familiarity with the publishing industry
• be familiar with the operation of both Apple and IBM compatible microcomputers
• demonstrate a suitable level of competence in editing and proofreading
• be familiar with the major concepts of marketing and accounting
• demonstrate a suitable level of competence in English composition

Entering students are expected to have a minimum knowledge of publishing which will be assessed through an evaluation of documents and experience, and in some cases, interviews and examinations. Should candidates be found not to have the knowledge, understanding and skills necessary for entry, they will be advised that they may gain those skills by successfully completing the following courses or their equivalents.

BUS 251-3 Financial Accounting I
BUS 254-3 Managerial Accounting I
BUS 343-3 Introduction to Marketing
CMNS 371-4 The Structure of the Publishing Industry
CMNS 372-4 The Publishing Process

The following courses are valuable background as a foundation for editing:
ENGL 370-4 Studies in Language
ENGL 375-4 History and Principles of Rhetoric
ENGL 430-4 Writing and Response in the Research Genres
ENGL 431-4 Technical and Professional Literacies: Theory and Practice

Degree Requirements
Course Work
MPub candidates complete 33 credit hours of course work in addition to both an internship and project report. The curriculum is composed of courses offered exclusively within the program. The director may recommend that some students substitute courses from Simon Fraser University or other institutions, and/or experience and demonstrated expertise for courses in the program.

Internship and Project Report
A key component of the MPub program is an internship and project which integrates the knowledge gained during the student's graduate studies with the demands of an applied setting. This internship is in the workplace, typically in industry, public institutions or government. An appropriate level of documentation and reporting is required. Internships generally last four months.

During the internship the student receives academic supervision as required from the student's University senior supervisor. Day to day supervision will be the responsibility of designated industry supervisors. These professionals will have appropriate qualifications and will be appointed by the University. In very small companies, alternative arrangements may be made for supervision.

The internship will focus on a specific project that is initiated by the student, by one or more members of the student's supervisory committee or by the industry supervisor's employer. The student submits an outline that defines the project scope, plans for documentation and reporting, anticipated activities, schedule and conclusion. The outline is approved by the supervisory committee and the program director. Commitment of the company or institution, the industry supervisor and the University will be formalized by a letter exchange.

The student must produce two reports; the first, a work report which is an appraisal of the student's work experience, and the second, a project report which will be an investigation and analysis of a particular problem or case. The latter will serve as a record and interpretation of the project. The supervisory committee and director will assess the student's project on the basis of the conduct of the project, quality of work, and quality of reports. There is no oral examination, however, a project report will be submitted in accordance with Graduate General Regulations 1.10.6 (page 304).

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. (3-0-0) 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, and identifies the readership demographics and potential. Design mock-ups are produced and a final presentation made to an industry panel. (0-0-3)

PUB 607-3 Web Publishing Project
Students create their own home pages and working in a team environment, participate in a web publishing project that may include the CCSP web site. Normally the web publishing project is real rather than a simulation. Students will be assigned to roles based, in part, on their interests but most importantly on their capabilities as judged from the course work completed before the commencement of the project. (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 899-5 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

Faculty of Arts – Department of Sociology and Anthropology 357

5053 Academic Quadrangle, (604) 291-3518 Tel, (604) 291-5799 Fax, www.sfu.ca/sociology

Chair
E. Gee BA, PhD (Br Col)

Faculty and Areas of Research
See “Department of Sociology and Anthropology” on page 171 for a complete list of faculty.

M. Boelscher-Ignace – practice theory, language and culture, aboriginal resource management, aboriginal peoples of northwestern North America
J. Bogardus – critical sociological and anthropological theory, sociology of knowledge, critical pedagogy, contemporary ethnography and community-centred practice
D. Culhane – critical anthropology, anthropology of/and colonialism, anthropology of/and law, First Nations, contemporary ethnography, visual anthropology
P. Dossa – critical anthropology, anthropology of health, anthropology of diaspora and migration, Muslim minorities: gender, disability, aging
N. Dyck – social anthropology, sport and childhood, aboriginal peoples and governments, Canadian society
K. Froschauer – Canadian social issues, political economy, sociology of development, immigration, East Asia
M. Gates – development studies, agricultural policy and practice, environmental anthropology, urban anthropology, NAFTA, Latin America, Mexico
E. Gee – demography, sociology of aging, sociology of the family, social policy, gender
M. Howard – development studies, ethnicity, natural resources management, textiles and art, southwest Pacific, southeast Asia
M. Kenny – anthropology and medicine, anthropology and psychiatry (memory as a political issue in child abuse, amnesia and multiple personality), religion and society, 19th century American social history, history of eugenics
D. Lacombe – contemporary social theory, sexuality and moral panic, deviance and social problems
A.T. McLaren – sociology of gender, education and the family
B. Mitchell – families and aging, youth transitions, intergenerational relations, quantitative methods, social policy, health promotion
G.P. Nicholas – North American prehistory, prehistory and contemporary human ecology, ecology of wetlands, cultural resource management
G. Otero – political sociology, political economy of development, sociology of agriculture, science and technology, social movements, NAFTA, Mexico and Latin America
S. Pigg – contemporary anthropological theory, transnational cultures and post colonial social relations, anthropology of medicine, anthropology of development, Nepal
J. Pullingham – social policy, feminist political economy, gender, sociology of the family (especially family law)
G.B. Teeple – political economy of Canada, Hegelian and Marxist philosophy, sociology of art, neoliberalism and the global division of labor
A. Travers – sociological theory, feminist theorizing on the liberal democratic public sphere, gender and technology, sociology of sport and leisure, social issues and movements
J.M. Whitworth – sociology of religion (especially sects, cults and new religions), sociological theory, 19th century British and North American intellectual history

Admission
The Department of Sociology and Anthropology offers programs of advanced learning and research leading to MA and PhD degrees. The MA program is available on both a part-time and a full-time basis. See “1.3 Admission” on page 299 for general admission requirements. The department also requires a written statement about the student’s current interests and prospective research. How well the applicant’s proposed research coincides with the research and teaching interests of the faculty is an important admission consideration. PhD applicants must submit a sample of their work from earlier or ongoing graduate studies.

Admission applications are normally considered once each year at the end of January. The program commences in September.

Contact the department’s graduate program chair or secretary for further program information.

Areas of Study
• anthropology and sociology of medicine, health and society (particularly politics of knowledge production, disability, mental health, AIDs)
• Canadian society (ethnic relations, demographic issues, social inequality, political economy)
• development studies (especially the Third World, including studies of tourism, tourism and international health)
• environmental issues
• minority indigenous peoples (particularly Canadian Native peoples)
• political sociology (with emphasis on political economy, ethnic relations and social movements)
• religion and society
• social and cultural anthropology (with emphasis on the anthropology of contemporary life)
• social policy issues (gender relations, aging, government administration of native peoples)
• sociological and anthropological studies of law and legal systems
• sociological theory, anthropological theory, and the philosophy of the social sciences (European intellectual history, holistic, comparative, historical and post colonial perspectives)
• sociology of sexuality and moral panic, and social problems and deviance
• sociology of agriculture, and science, technology and society

MA Program Requirements
The MA program may be completed through course work and either an essay or research project option or a thesis option.

All students are admitted to the essay or project option and require the recommendation of their supervisory committee and the approval of the department graduate program committee to transfer to the thesis option.

Except under extenuating circumstances, students may transfer only once during their time in the MA program.

Option 1: Courses and Extended Essays or Research Project Report

The minimum requirements for completion of the degree program include four one-semester courses, and two extended essays or one research project report.

Courses
Students must complete four one-semester courses, two of which must be SA 850 or 870, and SA 857. The remaining two courses will be chosen from SA 886, SA readings courses, a course in another department or university. (The option of the readings courses and the extra-departmental courses must be approved by the student’s supervisory committee and the departmental graduate program committee. Any student with deficiencies may be asked to complete more courses.)

Extended Essays or Research Project Report
The extended essays or research project option requires the completion of either:
• two extended essays that will normally consist of no more than 35 pages each, inclusive of bibliographies, appendices and tables. At the discretion of the supervisory committee, the maximum number of pages may be increased. This will normally be done only to facilitate the inclusion of large appendices and/or tables. Each extended essay will normally elaborate upon research undertaken in course work.
• one research project report that will normally consist of no more than 70 pages, inclusive of bibliographies, appendices and tables. At the discretion of the supervisory committee, the maximum number of pages may be increased. This will normally be done only to facilitate the inclusion of large appendices and/or tables. Each research project will normally be designed by the supervisory committee in consultation with the student.

The extended essays and the research project reports should demonstrate capability in scholarly research as well as independent critical thought and will be examined by the student’s supervisory committee and a qualified external examiner. Extended essays and research project reports will be bound and placed in the library.

Option 2: Courses and Thesis

The minimum degree completion requirements under this option include three one-semester courses and one thesis. Students who wish to transfer to this option must submit a thesis proposal to their supervisory committee at the end of the first semester of enrollment in the program. Supervisory committee may then recommend to the department graduate program committee that the student be permitted to transfer to the thesis option. See the department handbook for further details.

Courses
Students complete three one-semester courses, two of which must be SA 850 or 870 and SA 857. The remaining course is chosen from SA 886, SA readings course, a course in another department or university. The option of the readings course and the extra-departmental course must be approved by the student’s supervisory committee and the departmental graduate program committee. Students with deficiencies may be asked to complete more courses.

Thesis
The thesis option focuses on high quality research study. The thesis will normally consist of no more than 75-100 pages, inclusive of bibliographies, appendices and tables. At the discretion of the supervisory committee, the maximum number of pages may be increased. This will normally be done only to facilitate the inclusion of large appendices and tables. The thesis will be examined by the student’s supervisory committee and a qualified external examiner. Theses are bound and placed in the library.

PhD Program Requirements
Students complete four one-semester courses, two of which must be SA 850 or 870 and SA 857.

If a doctoral student has completed an MA in the department, course requirements remain the same as for other doctoral students, but special arrangements will be made by the department’s graduate program committee so that SA 850 or 870 is not repeated.

The remaining two courses will be chosen from SA 886, SA readings courses, or a course in another department or university. The option of the readings courses and the extra-departmental courses must be approved by the student’s supervisory committee and the departmental graduate program committee. Any student with deficiencies may be asked to complete more courses.

Students must also complete a written qualifying examination in theory and methodology. Prior to commencing work on the thesis, the student will defend a written prospectus on the thesis in an oral examination.

Students must prepare a thesis. See the departmental handbook for guidelines. An oral examination on the thesis is also required.

Graduate Seminar
All full-time graduate students must attend and actively participate in the graduate seminar during the first two semesters of their program. In subsequent semesters, attendance and registration is voluntary. Special arrangements will be made for part-time students to fulfill this requirement.

Language Requirement
Although the department recognizes that a knowledge of French or foreign languages is desirable for advanced degree studies, it does not have prescribed language requirements. However, where a language other than English is necessary for the candidate’s field work or reading, the student will be required to attain the necessary proficiency.

Co-operative Education
This program enables students to gain work experience that complements their academic studies. MA students in good standing with a minimum grade point average of 3.0 may apply to enter the co-op program after satisfactory completion of SA 850 or 870, and SA 857 plus one (thesis option) or two (extended essay or research project option) of the
following courses: SA 853, 854, 871, 872, 886, or equivalent. Students also require the recommendation of their supervisory committee and the approval of the departmental graduate program committee.

Students may elect to take either the traditional co-op program of two separate work semesters, or the co-op internship program of three consecutive work semesters.

Arrangements for the work semesters are made through the Faculty of Arts Co-op Co-ordinator at least one semester in advance. For further details, see “Co-operative Education” on page 216.

Graduate Courses
SA 840-2 Graduate Seminar
SA 841-0 Graduate Seminar
SA 850-5 Advanced Sociological Theory
SA 853-5 Readings in Sociology I
SA 854-5 Readings in Sociology II
SA 857-5 Research Design Seminar
SA 870-5 Advanced Anthropological Theory
SA 871-5 Readings in Anthropology I
SA 872-5 Readings in Anthropology II
SA 886-5 Selected Problems in Social Analysis
SA 890-0 Practicum I
Prerequisite: completion of core MA degree requirements SA 850 or 870, and SA 857 plus one (thesis option) or two (extended essay or research project option) of the following: SA 863, 854, 871, 872 and 886 (or equivalent) with a minimum gpa of 3.0. The recommendation of the student’s supervisory committee and the approval of the departmental graduate program committee also is required.

SA 891-0 Practicum II
Prerequisite: the student must have completed SA 890.

SA 892-0 Practicum III
Prerequisite: SA 891 and departmental approval.

SA 896-0 MA Extended Essays
SA 897-0 MA Research Project
SA 898-0 MA Thesis
SA 899-0 PhD Thesis

Department of Women’s Studies
5102A Academic Quadrangle, (604) 291-3333 Tel, (604) 291-5518 Fax, www.sfu.ca/womens-studies
Chair
M. Kimball BA (Macalester), PhD (Mich)
Graduate Program Chair
S. Wendell BA (NY State), PhD (Br Col)
Faculty and Areas of Research
M. Griffin Cohen, Political Science – feminist economics, public policy
M. Kimball, Psychology – feminist theories of gender, feminist critiques of science, feminist psychoanalytic theories, women and achievement
H. Leung, women’s Studies – queer theory and feminist theory; gender and sexuality in Asian cinemas; literacy and cultural studies
J. Levitin, Contemporary Arts – women and film: theory and production, women and popular culture, women and comedy, Third World film and women
M. MacDonald, Women’s Studies — feminist critiques of gender equity in science and technology; ecofeminist analyses of the professionalization of environmental caring
M.L. Stewart, History – women in Europe, French fashion and beauty industry
S. Wendell, Women’s Studies – feminist social and political theory, feminist ethics, feminist epistemology, disability studies
H. Zaman, Women’s Studies – women and work in comparative perspective, gender and development, feminist research methods, women of colour and Canadian feminism, Third World

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 analyze and compare major feminist social and political theories, including those that have emerged from liberal, socialist and radical feminist traditions. The relationship among theories of sexism and political goals and practices will be discussed.

WS 823-5 Graduate Seminar in Feminist Art/Literary Criticism
This course will examine the development of feminist aesthetic theories with particular reference to literary, cinematic and/or art forms. The fundamental assumptions of feminist literary and/or art criticism as well as the principles of art forms will be discussed.

WS 824-5 Graduate Seminar on Women and Social Policy
This course will focus on one or more social issues and policies in such fields as law, health, economics, social welfare, and science and technology.

WS 825-5 Graduate Seminar in Women, Technology and Social Change
This course will focus on relationships between changes in the technological and scientific bases of a society and changes in other major aspects of that society, particularly as they affect women's roles and ideas about women. Emphasis will be on Europe and North America.

WS 830-5 Selected Topics Graduate Seminar I
WS 831-5 Selected Topics Graduate Seminar II
WS 840-5 Directed Studies
WS 898-0 MA Thesis
WS 999-0 MA Field Exam
Prerequisite: completion of six graduate courses.
Faculty of Business Administration


Dean
C.E. Love BEng, MBA (McM), PhD (Lond)

Associate Deans
L.N. Meredith BA, MA, PhD (S Fraser)
B.H. Reich BA, MSc, PhD (Br Col)

Faculty and Areas of Research
See “Faculty of Business Administration” on page 180 for a complete list of faculty.

N. A. R. Abramson – international business, comparative management
A. Bick – investments and asset pricing
G. W. Blazenko – business finance
M. J. Brydon – management information systems
G. R. Bushe – organizational development, strategic human resource management
E. W. Bukszars, Jr. – business strategy, business, government and society
J. C. W. Chang – marketing
E. U. Choo – management science
P. M. Clarkson – accounting
C. M. Collins-Dodd – retailer decision-making, price expectations
A. Duncan – accounting
C. P. Egri – organizational power and politics, innovation, leadership
C. E. N. Emby – accounting
M. Favare-Marchesi – accounting
D. R. Finley – accounting
M. R. Fizzell – accounting
J. N. P. Francis – international and strategic marketing, negotiations, advertising
A. M. G. Gelardi – accounting
A. C. Gemini – management information systems
I. M. Gordon – accounting
R. R. Grauer – business finance
D. R. Hannah – management and organization studies
J. W. Heaney – business finance
R. D. Iverson – management and organization studies
J. Jermias – accounting
P. C. Klein – business finance
R. Krider – marketing
B. A. Lautsch – industrial relations, human resource management
M. B. Lazarova – international business
C. E. Love – management science
E. A. Macdonald – accounting
E. M. A. Mainie – policy
N. MacKay – management information systems
I. P. McCarthy – management of technology, management science
G. A. Mauser – marketing
H. Merchant – international business
L. N. Meredith – business marketing, marketing strategy
M. Parent – management information systems
D. C. Parker – decision support systems
D. L. Patient – business communication
A. D. Pavlov – business finance
L. T. Finfield – organization behavior, organization policy
G. Poirais – international finance, econometrics, financial Institutions
B. H. Reich – management of the information technology function, strategic information systems, qualitative research
J. G. Richards – business, government and society
R. W. Schwindt – industrial organization; international trade; business, government and society
D. M. Shapiro – industrial organizations, managerial economics, business and public policy

J. P. Sheppard – business policy, corporate failure and survival
C. F. Smart – business policy, organizational behaviour
D. R. Smith – business finance
K. G. Stewart – business communication
D. C. Thomas – international business
R. L. Tung – international business
A. R. Vining – business policy, business government and society
A. R. Warburton – management science
J. H. Waterhouse – accounting
W. C. Wedley – international business, operations management
M. N. Wexler – business, government and society, organizational behavior and theory
R. G. Wyckham – marketing
R. A. Yates – commercial law
J. L. Ziechowskow – marketing
C. D. Zatzick – management and organization studies

Graduate Diploma Offered
Business Administration

Graduate Degree Offered
Master of Business Administration

Graduate Programs Offered
The Faculty of Business Administration offers three programs leading to the MBA degree: the executive MBA program, the specialist MBA program and the management of technology MBA program.

The executive MBA program is a weekend or 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 specialized MBA program is a full-time program designed primarily for recent graduates who desire more concentrated exposure to a specific field of business study and development of applied research skills. Recent graduates with a business degree move directly to study an area of specialization.

The Management of Technology program (MOT) is designed for those who already have at least two years of experience working in the technology sector and who are now considering a move into management. Students can enrol in either the accelerated option (full-time study for 10 months) or the flexible option (part-time study for 20 months).

Graduate Diploma in Business Administration

Academic Program Co-ordinator
M. Selman BA, PhD (Br Col)

Executive Director
T. Brown MBA (S Fraser), 7200 Harbour Centre, (604) 291-5255

The graduate diploma in business administration (GDBA) provides core business skills to the working professional who has earned an undergraduate degree in a discipline other than business. Delivered by the Internet over three semesters, the GDBA is a convenient and practical alternative for those who are unable to attend a traditional classroom-based program.

The GDBA is shorter and more concentrated than an MBA, covering the core of most MBA programs. The GDBA provides the firm foundation of business skills necessary to successfully compete in today’s job market.

Although completion of the GDBA will satisfy the business degree requirement necessary for the Simon Fraser University MBA application, please be advised that satisfactory completion of the GDBA will not guarantee admission to the MBA program. Admission in the MBA program requires an applicant to meet all of the criteria set by each MBA program.

Admission

The basic entry qualification is a degree from a recognized university in an area other than business administration, commerce or the equivalent. A university level course in mathematics is required. We require three letters of reference preferably from supervisors or former professors. Candidates are expected to be reasonably computer literate, and familiar with the Internet. The Simon Fraser University GDBA requires a strong command of the English language. Applications are processed as they arrive. Early submission of all required materials will enable the admissions committee to assess the student’s file expeditiously. Highly qualified applicants may be admitted early into the program.

Application

Candidates must submit the following documentation when applying to the program.

• Simon Fraser University’s Application for Admission to the Graduate Diploma Program in Business Administration
• official copy of transcript of undergraduate grades (mailed directly from the granting institution)
• three confidential letters of reference (mailed directly from the referees)
• TOEFL and TWE test scores, if applicable. Applicants must take the Test of English as a Foreign Language (TOEFL) and the Test of Written English (TWE) if their first language is not English and/or their national language is other than English. Scores must be above 570 on the TOEFL test and 5.0 on the TWE
• a recent passport style photo is required

Financial Assistance

The Bank of Montreal offers a student line of credit for Canadian citizens and landed immigrants. Loan information and application packages are available from the GDBA office. Eligible students may also apply to the Canada Student Loan program in their province of residents. (The GDBA is considered a full time program by the Canada Student Loan program.)

Diploma Requirements

To qualify for the graduate diploma in business administration, students must complete a total of 24 credit hours drawn from the following courses.

BUS 550-2 Financial Accounting
BUS 551-2 Managerial Accounting
BUS 552-4 Managerial Economics
BUS 553-2 Quantitative Business Methods
BUS 554-2 Management Information Systems
BUS 555-4 Managerial Finance
BUS 556-4 Marketing Management
Degree Requirements

To qualify for the MBA degree, the candidate must complete the requirements under one of two available options: project option or thesis option.

For the project option, students complete a minimum of three courses in a field of concentration, a minimum of one course in a supporting field, and one course in research techniques. Eight courses are required for the project option. Of these, four must be supporting or research courses. In addition, students must complete a written research project equivalent to one course. A project will generally represent successful original research regarding some practical problem. While students are expected to conduct a literature search regarding the problem, it will generally be less exhaustive in comparison with that of the thesis. The scope of a project is regarded as equivalent to one graduate course.

For the thesis option, students complete a minimum of three courses in a field of concentration as well as at least one course in research techniques and BUS 900, Research Methodology. Six courses are required in the thesis option. In addition, students must complete a written research thesis equivalent to three courses. In general, a thesis represents a major research effort in which the student, working closely with the supervisory committee, demonstrates a comprehensive knowledge of the literature on some aspect of a discipline and successfully completes original research which represents a contribution to knowledge in the area.

The requirements and options for each of the areas are detailed below.

Fields of Concentration: three course minimum

Accounting

- BUS 871-4 Seminar in Financial Accounting
- BUS 872-4 Seminar in Managerial Accounting
- BUS 874-4 Advanced Topics in Accounting

Finance

- BUS 815-4 Portfolio Theory
- BUS 817-4 Theory of Capital Markets
- BUS 818-4 Advanced Topics in Business Finance

International Business

- BUS 862-4 Contemporary Topics in International Business
- BUS 882-4 Doing Business with the Pacific Rim Countries
- BUS 883-4 International Business and Multinational Enterprises
- BUS 884-4 Comparative Management
- BUS 885-4 International Human Resource Management
- BUS 886-4 Management of International Firms
- BUS 887-4 Entry Strategies for International Markets

Management and Organization Studies

- BUS 831-4 Industrial Relations
- BUS 836-4 Human Resource Practices for managers
- BUS 837-4 Effective Leadership and Management in Organization
- BUS 839-4 Organizational Assessment and Planned Change

Marketing and Information Systems

- BUS 822-4 Decision Theory
- BUS 876-4 Decision Support Systems
- BUS 845-4 Marketing Measurement
- BUS 846-4 Mining and Models in Marketing
- BUS 877-4 Managing Information Technology
- BUS 878-4 Electronic Commerce

Microsoft

- BUS 845-4 Marketing Measurement
- BUS 846-4 Marketing Theory and Models
- BUS 847-4 Advanced Consumer Behavior
- BUS 848-4 Research in Marketing Strategy

Specialist MBA Program


Director

J.L. Zaichkowski, BHE (Br Col), MSc (Guelph), PhD (Calif)

Advisor

Ms. N. Lalji, program co-ordinator, 2323 Lohn Building, (604) 291-3639 Tel, (604) 291-3404 Fax

The MBA program has a subject specialization focus in the following fields of specialization:

- accounting*
- management and organization studies
- International business marketing and information systems
- marketing policy analysis*

*not available in 2002/2003

Additional fields of specialization are available with the approval of the student’s supervisory committee. For example, students can take supporting courses in such disciplines as resource management, economics, computing science, criminology, and engineering science.

Admission

For admission, a student must have a bachelor’s degree from a recognized university with a concentration in business administration (or its equivalent). The student should have normally completed course work in differential calculus,* statistics, managerial economics (or micro economics), accounting, management science (or operations research), finance, marketing, human resource management, and business policy (or business and society). Students admitted without all of these courses may be required to make up the deficiency without graduate credit.

The maximum number of students directly admitted in any one year to an area of concentration is expected to be 30. The minimum undergraduate grade point average required for admission is 3.0 (or equivalent).

Criteria for admission, in addition to undergraduate grades, include acceptable scores on the GMAT test (see Application below), strong letters of reference, and for 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 and/or a co-op term(s) may expect to take one additional semester in order to complete BUS 900. The completion time for a student holding a teaching assistantship over their whole program is typically five five semesters.

*Integral calculus is also required for specializations in finance, management science and information systems, and marketing. It is recommended for specialization in accounting.

Application

Students must submit the following documentation when applying.

- Simon Fraser University graduate application form
- official transcript of undergraduate grades (mailed directly from the granting institution). It is advisable to include an unofficial copy of your transcript(s) with your application.
- three confidential letters of reference (mailed directly to the referees), at least two of which come from faculty members at universities. (Forms are supplied for references.)
- score on the graduate management admissions test (GMAT minimum score 550) and 5 on analytical writing
- Students whose first language is not English and whose undergraduate degrees have not been obtained at an institution in Canada, the United States, the United Kingdom, Australia or New Zealand where English is the language of instruction, require scores on the test of English as a foreign language (TOEFL) and the test of written English.

Financial Assistance

The Faculty can offer most qualified graduate students a teaching assistantship in business administration. Remuneration is normally $4,800 per semester. In addition to teaching assistantships, members of faculty, from time to time, have funding available to hire research assistants. A number of graduate fellowships are available to students who demonstrate high academic performance. See “Financial Aid for Graduate Students’ on page 308 for information on other university scholarships and awards available to graduate students.
Policy Analysis
BUS 850-4 Theoretical Issues in Strategic Management
BUS 852-4 Researching the Corporation in Canadian Society
BUS 854-4 Business and Government Regulation
BUS 858-4 Business and the Public Interest
BUS 860-4 Administration of Public Enterprises

Co-operative Education Program
This option is available to qualified MBA students at the Burnaby campus. The goal of the co-op component is to give students applied experience so that they can link concepts with practice, and advance their career opportunities.

Admission
Students must be admitted to the MBA program before applying for the co-op option and must have a CGPA and previous SGPA of at least 3.0. Students must maintain these grade levels to continue in the MBA co-op option.

Course Requirements
To qualify for an MBA with a co-operative education designation, students must complete two co-op practicum semesters (BUS 725 and 726) and satisfy other MBA graduation requirements. These work terms are normally interlaced with study semesters.

MBA Courses

BUS 725-0 MBA Co-op Practicum I
First semester of work experience. This course is open only to MBA students. The co-op education program co-ordinators must be contacted prior to registration for this course. Prerequisite: students must be enrolled as a graduate student in the MBA program, and must have a CGPA and previous SGPA of at least 3.0. Students entering the MBA program with a degree other than in business normally must complete all 500 level courses before beginning a co-op practicum. Students entering the MBA program with a business/commerce degree must complete a minimum of one semester with at least two courses at the 800 level before beginning a co-op practicum.

BUS 726-0 MBA Co-op Practicum II
This is the second semester of work experience. This course is open only to MBA students. The co-op education program co-ordinators must be contacted prior to registration for this course. Prerequisite: BUS 725. Students must be enrolled as a graduate student in the MBA program, and must have a CGPA and previous SGPA of at least 3.0.

BUS 801-4 Research Techniques
The design, conduct, and analysis of business research including both field and laboratory research methods. Prerequisite: BUEC 333, or permission of the instructor.

BUS 815-4 Portfolio Theory
A study of optimum portfolio selections and diversification of financial assets including cash vis-a-vis different classes of utility functions of final wealth. Also, an examination of the behavior of speculative prices and rates of return. Prerequisite: ECON 331, Offered once a year. This is the same course as BUS 815.

BUS 817-4 Theory of Capital Markets
A study of capital market equilibrium theories, risk allocation, valuation models under perfect and imperfect markets and their empirical testing. Prerequisite: ECON 331, 835. Offered once a year. This is the same course as BUS 817.

BUS 818-4 Advanced Topics in Business Finance
Extensions of advanced topics beyond those covered in BUEC 815 and 817. Prerequisite: BUEC 815, 817. This is the same course as BUS 818.

BUS 822-4 Decision Theory
An examination of prescriptive (Bayesian) theory of decision making under uncertainty and critical investigation of the theory. Prerequisite: BUEC 333, MATH 157, or permission of the instructor.

BUS 831-4 Industrial Relations
Negotiation, arbitration, collective agreements, work stoppages, labor-management co-operation.

BUS 836-4 Human Resource Practices for Managers
This course is focused on understanding how organizations can build, maintain, and compensate their pool of employees. Topics include recruitment and selection practices, compensation and incentive systems and diversity management.

BUS 837-4 Effective Leadership and Management in Organizations
Effective leadership is essential in modern organizations. This course provides an overview of leadership theories, principles and practices. An experiential learning approach is used to develop students’ leadership skills and competencies.

BUS 839-4 Organizational Assessment and Planned Change
Current theory, research and practice in organizational diagnosis and planned change. Prerequisite: advanced undergraduate course work in micro and macro organizational behavior.

BUS 845-4 Marketing Measurement
The generation and analysis of non-accounting information from sources both internal and external to the firm, with the purpose of understanding the use of such measurements in marketing segmentation. Prerequisite: BUS 801.

BUS 846-4 Data Mining and Models in Marketing
The construction, analysis and application of models of marketing phenomena. The focus is on turning data into strategically useful information by using analytical tools. Prerequisite: BUS 801.

BUS 847-4 Advanced Consumer Behavior
A study of the results of consumer interactions with the forces affecting purchase decisions. The influence of environmental, corporate, and governmental factors on consumer behavior and the processes of consumer decision-making will be examined. Prerequisite: BUS 347, 801 or permission of the instructor.

BUS 848-4 Research in Marketing Strategy
Research in strategy integrates marketing models, competitive marketing theories, and marketing strategic analysis. Cases and computer simulations may be used to demonstrate competitive strategic decisions. Prerequisite: BUS 801.

BUS 850-4 Theoretical Issues in Strategic Management
This course investigates the theoretical basis of strategic management particularly in the areas of strategic decision making, formulation and implementation. Prerequisite: BUS 578 or equivalent.

BUS 852-4 Researching the Corporation in Canadian Society
Research in contemporary theory and methods of investigating and conducting scientific research in Canadian corporations.

BUS 854-4 Business and Government Regulation
The theory and practice of public policy in the area of industrial organization. Topics include anti-competes, utility regulation, patent policy, and other policies directed at market failure. Prerequisite: ECON 200, or permission of the instructor.

BUS 858-4 Business and the Public Interest
Society requires business to act in the ‘public interest’ by means both of explicit (legislated) rules and implicit social contracts. This course deals with these social contracts and will include discussions of employment policies, investment policies, charitable donations, environmental concerns and community service.

BUS 860-4 Administration of Public Enterprises
History, models of organizations of public corporations and their divergence from private counterparts. Public accountability decision-making, cost-benefit theories.

BUS 862-4 Contemporary Topics in International Business
The analysis of specific issues in international business/multinational firms, Canada’s regulations, international financial management, international marketing, international operations, foreign investment and the international environment.

BUS 871-4 Seminar in Financial Accounting
An in-depth analysis of current literature in financial accounting theory and practice. Emphasis will be placed on recent empirical research. Prerequisite: permission of the instructor.

BUS 872-4 Seminar in Managerial Accounting
An integrative course intended to develop an appreciation of the interrelationship of managerial accounting and analytical, behavioral and technological considerations in analysis and design of control systems. Emphasis will be placed on empirical research. Prerequisite: permission of the instructor.

BUS 873-4 Tax Strategy for Managers
The course will provide an overview of how taxes affect business decisions. The students will be exposed to a variety of managerial strategic decision topics which require a knowledge of taxes in order that optimal decisions can be made. Topics to be included will be: entity planning, capital structure, tax planning, pensions, markets and arbitrage, international operations and personal tax planning.

BUS 874-4 Advanced Topics in Accounting
Selected advanced topics in accounting. A continuation of 871 and 872 with emphasis on the interrelation between financial and managerial accounting. Particular attention will be devoted to present and developing problem areas and the research related to those problems. Prerequisite: BUS 871 and 872, or permission of the instructor.
BUS 876-4 Decision Support Systems
Design and application of computer-based information systems to support managerial decision making in organizations.

BUS 877-4 Managing Information Technology
This course is designed to give students the knowledge to take a leadership role within an organization with respect to information technology. Students will learn to analyse complex business situations and solve real-world IT-related management problems. The students will work in a team-based project environment to complete an IT-related project and demonstrate effective analysis, communication and technical competence through class participation, presentations and report writing. (4.0-0)

BUS 878-4 Electronic Commerce
Electronic commerce is altering the way many organizations do business. This course will examine electronic commerce from both a managerial and a technological perspective. The objectives of the course are to provide students with an understanding of the technologies underlying e-commerce along with theoretical perspectives that will enable students to understand the broader implications of e-commerce. (4.0-0)

BUS 882-4 Doing Business with the Pacific Rim Countries
The course seeks to examine the opportunities and challenges of doing business with the Pacific Rim countries. Topics include the analysis of foreign investment climate, business negotiations and marketing strategies. Prerequisite: permission of the instructor.

BUS 883-4 International Business and Multinational Enterprises
The course identifies theories, information and research findings which are useful in understanding different aspects of managing multinational operations, such as foreign investment, organization and control. Prerequisite: permission of the instructor.

BUS 884-4 Comparative Management
The course compares and contrasts similarities and differences in management styles and practices across countries. It seeks to develop an appreciation of what it is like to work with people from other cultures. Prerequisite: permission of the instructor.

BUS 885-4 International Human Resource Management
The course seeks to identify how cultural differences affect the practice of international human resource management; and to understand the linkage between international human resource strategy, organizational structure and corporate strategy. Prerequisite: permission of the instructor.

BUS 886-4 Management of International Firms
This course deals with strategic requirements for the management of multinational corporations. Firm-specific and institutional challenges facing global managers in formulating and implementing profitable strategies are also discussed. Prerequisite: BUS 883.

BUS 887-4 Entry Strategies for International Markets
Product-market entry decisions as well as choices on foreign market entry mode (exports, licensing, direct investment, etc.) are discussed. This course also deals with co-operate alliances in international business. Prerequisite: BUS 883.

BUS 897-4 Directed Readings
Supervised reading and report preparation in a particular field of specialization.

BUS 900-4 Methodology Seminar/Research Workshop
This course, which will meet twice weekly, will devote one half to an examination of methodological approaches including selection, planning and conduct of research and philosophy of science and one half to attendance at faculty and graduate student workshop presentations. The methodology section of the course is intended to place students’ research methodology in a broader context for critical evaluation. The workshop section will require students to present their own research finding for critical evaluation. Prerequisite: completion of prior required research courses, or permission of the instructor.

BUS 901-902-4 Selected Topics in Business Administration
BUS 903-904-4 Selected Topics in Business Administration
BUS 905-906-4 Selected Topics in Business Administration
BUS 907-910-4 Selected Topics in Business Administration

Executive MBA Program
2400 Harbour Centre, (604) 291-5031 Tel, (604) 291-5122 Fax, www.sfu.ca/embaward

Executive Program Co-ordinator
Dr. D.M. Shapiro, 2400 Harbour Centre, (604) 291-5155

Executive Director
Ms. D. Cross, 2400 Harbour Centre, (604) 291-5013

This program offers the skills, insights and frameworks that experienced, high potential managers need to prepare for their next career phase. The program takes a general management perspective, focusing on organizational and decision-making processes that cut across functional divisions. It is designed to expand potential and develop the strategic and global perspective required of tomorrow’s senior managers. Using a cohort model where students take courses in the same sequence, the program encourages student interaction and cooperation; study groups and project teams are an important aspect of the learning experience.

Because executive MBA students pursue full time careers, classes meet either two nights a week (weeknight program) or alternate weekends all day (weekend residential program). Classes are held at Simon Fraser University at Harbour Centre, located in downtown Vancouver. Students in the weekend residential program have Friday night accommodation provided as part of tuition for the fall and spring semesters. Students take two courses or two and one half courses per semester, completing the course work in two years. Both programs begin in September. Those who already have a three week semester break except for the summer when the break is at least one month. Immediately following acceptance in May, all students participate in a preparatory skills module that includes Numeracy and the Electronic Toolkit. At the same time, students with no microeconomics training should review our recommended self study guide.

Admission
Applicants will be considered for admission to the program based on the following criteria.

- current business experience, with four to five years in management positions
- GMAT (graduate management admission test) results
- academic qualifications, including an undergraduate degree (B average) or a professional designation (i.e. CA, CMA, CPA, FE)
- letters of reference

*While priority will be given to applicants with a university degree or a professional designation, a limited number of applicants may be admitted who do not hold a formal degree but possess exceptional business management qualifications.

The application deadline is April 15 for September enrolment in the same year. In order to have your application reviewed for the September enrolment, you must have written the GMAT by April 1.

All students must demonstrate proficiency in mathematics and analytical writing. Students may prepare for the program by developing the following proiciencies: computer skills, using a PC in a Windows environment with Microsoft Word and Excel applications; reading and comprehension skills; and business and report writing.

For more information, phone (604) 291-5013, fax (604) 291-5122, e-mail embaward@sfu.ca or see our website at www.harbours.sfu.ca/embaward.

Degree Requirements
Students must complete 13 courses, one of which is an elective, with a minimum B (3.0 GPA) average grade, and should expect to spend 25-30 hours a week on their studies.

Electives in the past two years have included: negotiation/conflict resolution; managing new ventures; global operations and the impact of E-commerce; managing corporate change; and leadership and group development.

In place of the 600 level MBA courses listed below, students may substitute, with the prior consent of the executive MBA graduate program committee, equivalent graduate course work from any Simon Fraser department. Prior approval is not required to substitute 800 level BUS or BUED courses as electives. In extraordinary circumstances, and with prior executive MBA graduate program committee permission, students may alter the course load of two courses per semester.

Weeknight and Weekend Residential Program Schedule

Year I
Semester 1 Fall
Fall Residential
MBA 601-2.5 Data and Decision-making
MBA 651-5 Managerial Economics
MBA 681-5 Organizational Leadership and Interpersonal Behavior

Semester 2 Spring
MBA 615-5 Marketing Management
MBA 670-5 Financial and Managerial Accounting

Semester 3 Summer
MBA 606-5 Financial Management
Elective

Year II
Semester 4 Fall
Fall Residential
MBA 602-2.5 The Global Business Environment
MBA 603-5 Structure and Change in Organizations
MBA 691-5 Business and Government

Semester 5 Spring
MBA 607-5 Business Strategy
MBA 621-5 Information Technology & Organizational Transformation

Semester 6 Summer
Reflection/Action Retreat
MBA 696-5 Applied Strategic Analysis

Executive MBA Courses
MBA 601-2.5 Data and Decision-making
This course explores the application of quantitative methods to managerial decision-making. Topics will include data analysis and statistical description.
organizational decision-making. Complexity, uncertainty, and lack of information in quantitative methods to cope with problems of technology.

MBA 603-5 Structure and Change in Organizations
This course applies contemporary organizational theory to the managerial challenges of entrepreneurial, corporate, public sector and not-for-profit organizations in the areas of organizational structure and change, adapting the organizations to their changing environment, and articulating alternate plans for organizational survival (and where possible, growth).

MBA 604-5 Organizational Change and Development
An examination of the concepts, principles and assumptions of organization development.

MBA 606-5 Financial Management
Finance is the study of investments: these investments are made by firms in their operative activities and by persons in their financial portfolios.

MBA 607-5 Business Strategy
Analysis of strategic issues affecting the success of the total enterprise and business units. The course includes industry analysis, internal analysis of the firms’ skills, resources and capabilities, corporate and business level strategies, the process of doing strategic analysis, the relationship between strategy and management, and the basic design of a plan of implementation for a strategic plan.

MBA 610-5 Directed Studies in Business Administration
Individual study with a faculty member. The course outline must be approved by the graduate program committee.

MBA 611-5 Directed Studies in Business Administration
Individual study with a faculty member. The course outline must be approved by the graduate program committee.

MBA 612-5 Directed Studies in Business Administration
Individual study with a faculty member. The course outline must be approved by the graduate program committee.

MBA 615-5 Marketing Management
An analysis of the strategic consideration of marketing management and their impact on the firm and its competitors.

MBA 621-5 Information Technology and Organizational Transformation
A seminar format will be used to discuss the concepts and frameworks essential to the effective management of information technology. Our focus will be on the strategic role that information systems play in organizations, their structure and components, and various perspectives on how to plan and manage this technology.

MBA 632-5 Operations Research
Quantitative methods to cope with problems of complexity, uncertainty, and lack of information in organizational decision-making.

MBA 634-5 Business Forecasting
Modern forecasting methods applied to a variable of interest to the student and his employer. Students taking the course must have access to at least five years of monthly data or 12 years of quarterly data on the variable to be forecast. Generally, the paper written for this course will provide the basis for the MBA project.

MBA 651-5 Managerial Economics
The application of modern microeconomic theory to problems of managerial decision-making. The importance of both economic models and quantitative applications are explained. Topics include demand, cost and productivity analysis; the analysis of market structure and firm strategy; international competition and trade; organizational economics; and the analysis of risk, uncertainty and information.

MBA 660-5 Special Topics in Business Administration
Course content varies from semester to semester. Specific course outlines and bibliographies must receive prior approval of the graduate program committee.

MBA 661-5 Special Topics in Business Administration
Course content varies from semester to semester. Specific course outlines and bibliographies must receive prior approval of the graduate program committee.

MBA 662-5 Special Topics in Business Administration
Course content varies from semester to semester. Specific course outlines and bibliographies must receive prior approval of the graduate program committee.

MBA 663-5 Special Topics in Business Administration
Course content varies from semester to semester. Specific course outlines and bibliographies must receive prior approval of the graduate program committee.

MBA 670-5 Financial and Managerial Accounting
Analysis of financial statements and their role in evaluation of the firm, and of internal financial information and its function in planning, control and performance evaluation.

MBA 681-5 Organizational Leadership and Interpersonal Behaviour
Interpersonal relations and group dynamics in organizational life. Development of perceptual and communication skills in small groups. Leadership theory and work group behavior.

MBA 688-5 Industrial Relations
Collective bargaining, the collective agreement, work stoppages, arbitration and the legal environment.

MBA 689-5 Special Topics in Business Administration
Course content varies from semester to semester. Specific course outlines and bibliographies must receive prior approval of the graduate program committee.

MBA 690-5 The Canadian Economy
An investigation of Canadian economic issues and problems, with particular emphasis on their impact on business decisions.

MBA 691-5 Business and Government
This course provides a survey of the relationship between business and government. The course examines the rationale for and nature of government intervention, the impact of public policies on business and the interactions among government, business and society.

MBA 693-5 Research Project
Individual study with a faculty member. The course outline must be approved by the graduate program committee.

MBA 695-5 Methods of Research
Methods and aims of business research and how it contributes to effective management.

MBA 696-5 Applied Strategic Analysis
Students will undertake a strategic firm analysis or public policy analysis (public sector students). Students may undertake other types of projects with permission of the executive MBA director. The project is submitted to the library. Prerequisite: MBA 607, 691.

MBA 698-5 Directed Studies in Business Administration
Individual study with a faculty member. The course outline must be approved by the graduate program committee.

MBA 699-5 Research Project
Execution of research project under faculty supervision. No formal classes.

MBA (Global Asset and Wealth Management)
3353 Lohn Building, (604) 291-3563 Tel, (604) 291-4920 Fax, www.sfu.ca/gawm
Academic Director
P. Klein BSc, MBA (WOnt), PhD (Tor)
Executive Director
D. Fraser
The Global Asset and Wealth Management Program (GAWM) has been designed in close co-operation with representatives of the financial community. The result is a program that provides a high level of expertise in both the engineering and architectural aspects of investment management. Students will obtain top-notch engineering skills through courses in economic theory and the science of asset allocation and security selection. They will also develop skills in the architectural side of investment management through courses in client relationship management, interpersonal communication, investment counselling and estate planning, and through extensive consultation with industry speakers and advisors. Internships within the Financial Services community will be conducted during the course of the GAWM program.

Admission
For admission, applicants to the GAWM MBA must have an undergraduate degree in business, commerce, economics, a professional designation such as a CFA, or successful completion of the Graduate Diploma in Business Administration (GDBA) offered by Simon Fraser University. In addition to the academic requirement, applicants to the program will be considered based on the following criteria:

- two to three years of work experience in the financial services industry
- a Graduate Management Admission Test (GMAT) score report
- three letters of reference from colleagues, supervisors or significant clients
- demonstrated proficiency in English may be required if you have not graduated from an English speaking university or if your first language is not English
- in-person or telephone interview by the admissions committee.

The application deadline for all students is April 30. Subject to space, late applications may be considered from applicants with SFU’s GDBA or a business undergraduate degree.
Application
Students must submit the following documentation when applying for the GAWM MBA.
- Simon Fraser University’s Application for Admission to the GAWM MBA
- official copies of transcripts of undergraduate grades (mailed directly from the granting institution)
- three confidential letters of reference (mailed directly from the referees)
- GMAT (graduate management admission test) results
- TOEFL and IELTS test scores, if applicable

Applicants must take the test of English as a Foreign Language (TOEFL) if their first language is not English and/or their national language is other than English. Scores must be above 570 on the TOEFL test.
- a recent passport style photo.

Financial Assistance
Ten scholarships in the amount of $10,000 will be awarded annually from funds donated by the GAWM Business Council.

The Royal Bank of Canada offers a student line of credit for Canadian citizen and landed immigrants. Loan information and application packages are available from the GAWM MBA office. Eligible students may also apply to the Canada Student Loan program in their province of residence.

A number of graduate fellowships are available to students who demonstrate high academic performance.

See “Financial Aid for Graduate Students” on page 308 for information on other university scholarships and awards that are available to graduate students.

Degree Requirements
To qualify for the MBA degree, students must maintain a minimum average grade of B (3.0 grade point average) and complete courses totalling 40 credit hours or more from the following list:

BUS 802-4 Foundations of Financial Economics
BUS 803-4 Financial Econometrics
BUS 804-4 Strategic Analysis For Wealth Management
BUS 805-4 Capital Markets
BUS 806-2 Client Relationship And Leadership Effectiveness I
BUS 807-2 Client Relationship And Leadership Effectiveness II
BUS 808-2 Client Relationship And Leadership Effectiveness Practice
BUS 809-2 Equity Security Analysis and Portfolio Management
BUS 810-2 Fixed Income Security Analysis and Portfolio Management
BUS 811-2 International Investing and Portfolio Management
BUS 812-2 Tax and Estate Planning
BUS 813-2 Ethics, Wealth Management and the Securities Industry
BUS 814-2 Derivative Securities
BUS 816-2 Investment Policy
BUS 818-2 Investment Policy

MBA (Management of Technology) Courses
BUS 802-4 Foundations of Financial Economics
An introductory course for GAWM students in the theory of finance and investor behaviour. It covers investor financial decision-making under uncertainty as well as capital market equilibrium.

BUS 803-4 Financial Econometrics
The foundations in econometrics for the GAWM program. Reviews econometric methods for testing asset-pricing models and for performance measurement.

BUS 804-4 Strategic Analysis for Wealth Management
Will teach students to analyse the competitive prospects for a given industry as well as specific companies within that industry. It will also include analysis of strategic choices in the financial services industry.

BUS 805-4 Capital Markets
Extends concepts in BUS 802 to various estimation and empirical issues in capital markets that are important for wealth and asset management. Topics in behavioural finance as well as performance measurement and attribution will also be covered. Asset allocation models will be studied covered with reference to the theoretical literature as well as models actually used in practice.

BUS 806-2 Client Relationship and Leadership Effectiveness I
Emphasizes how to become an effective investment counsellor. Topics covered will include leadership styles, client relationship development, interpersonal communication, coaching/counselling strategies and skills, conflict and team management, and performance measurement. Information systems for effective client relationship management will also be covered.

BUS 807-2 Client Relationship and Leadership Effectiveness II
This course is a continuation of the concepts in BUS 806.

BUS 808-2 Client Relationship and Leadership Effectiveness Practice
Assists students in developing self-awareness and the ability to evaluate their leadership. Covers personal leadership plans, effective leadership practices and reflection-in-action and life-long learning practices.

BUS 809-2 Equity Security Analysis and Portfolio Management
Extends concepts covered in the financial economics course sequence to the valuation of equity securities. Topics include the components of fundamental and technical analysis for individual stocks, as well as an analysis of different investment strategies and styles. Students will be required to produce a research report on a given equity security analysing the prospects for the industry in which it operates, the company’s competitive position within its industry and whether the current market price fairly represents these prospects. This course will also introduce students to alternative investment classes, such as private equity, hedge funds and real estate investment vehicles.

BUS 810-2 Fixed Income Security Analysis and Portfolio Management
Covers theories of the term structure, measures of fixed income return and yield, and interest rate and sources of risk in fixed income securities. Specific fixed income securities analysed will include option-free bonds as well as bonds with embedded options. This course will also study fixed income portfolio strategies, such as active, passive, hybrid and derivative strategies.

BUS 811-2 International Investing and Portfolio Management
Extends equilibrium asset pricing models to an international context and analyses the implications on equity and fixed income security analysis and portfolio management. Students will be introduced to various international market indices and the role of international securities in investment portfolios. Currency hedging will also be covered.

BUS 812-2 Tax and Estate Planning
Provides students with an understanding of the implications of taxes and intergenerational wealth transfer on portfolio management. It will review basic elements of the tax system, tax-efficient investment vehicles and estate planning. Specific examples of the effect of these factors on investors’ portfolios will be considered. This course will be taught in the context of Canadian tax law, but will also contain selected coverage of the tax codes of other countries, including the U.S. Mechanisms for implementing investors’ charitable concerns will also be considered.

BUS 813-2 Ethics, Wealth Management and the Securities Industry
Reviews the regulatory framework for investment managers and analyses the types of ethical considerations that might arise. Specific topics will include the importance of knowing the client, the nature of fiduciary obligations, suitability, standards of care (i.e., the prudent person and produce expert rules) and the identification and proper management of conflicts of interest.

BUS 814-2 Derivative Securities and Structured Transactions
An introductory course for GAWM students in derivative securities. It covers pricing as well as the use of derivative securities in portfolio management and structured transactions.

BUS 816-2 Investment Policy
A capstone course that focuses on the development of effective investment policy for high net worth as well as institutional investors. It integrates topics in previous courses and is closely linked to BUS 809 Client Relationship Management III, as well as the Wealth Management Practicum.

BUS 818-2 Investment Policy
Students will be required to complete a written project equivalent to one full course (4 credits). A project will generally represent successful research on a topic in asset and wealth management. The project will be supervised by faculty members, but members of the broad investment management community may also participate in the supervisory committee as second readers when appropriate. We hope that topics proposed by members of the Business Council may be suitable from time to time.

MBA (Management of Technology)
7200 Harbour Centre, 515 West Hastings Street, Vancouver, BC, V6B 5K3, (604) 291-5259 Tel, (604) 291-5153 Fax, motmba@sfu.ca E-mail, www.harbour.sfu.ca/mot

Academic Director
B.H. Reich BA, MSc, PhD (Br Col)

Executive Director
T. Brown MBA (S Fraser), 7200 Harbour Centre, (604) 291-5255

The management of technology MBA addresses the needs of the high technology business sector and continues Simon Fraser University’s long tradition of industry collaboration. MOT MBA graduates will have a solid grounding in the theories and disciplines of management, particularly focused on topics relevant to an organization with technical core competencies. MOT MBA students work, or want to work, in enterprises that have products or services based on advanced technology. Most will have an undergraduate degree in a technical discipline; some students will have an undergraduate business degree complemented with technical work experience.

The program consists of two semesters of full time study followed by an industry-based final project. Students who continue working while they complete the program have the option of completing the program over five semesters of study. Courses are
delivered face-to-face in new facilities at Simon Fraser University's Harbour Centre campus.

Admission
For admission, applicants to the MOT MBA must have either an undergraduate degree in business (BBA, BCom); or a non-business undergraduate degree combined with the graduate diploma in Business (GBDA); or a non-business undergraduate degree combined with an approved program of business courses. For most applicants the business prerequisite can be satisfied through the successful completion of the management of technology foundation courses (FMOT) offered in the fall semester. In addition to the academic requirements, applicants to the program will be considered based on the following criteria:

• a minimum of two years of relevant work experience
• graduate management admission test (GMAT) test results
• three letters of reference from colleagues, supervisors or significant clients

A limited number of exceptional candidates who lack some of the academic requirements but who have other outstanding qualifications may be admitted once they have completed specific preparatory courses.

The application deadline is April 30. However, late applicants who meet all the program prerequisites may be considered for admission at the discretion of the program director. The MOT MBA has a rolling admission policy. Applications will be reviewed as they are received, and applicants will be contacted within 15 days of our receipt of the complete application.

Application
Students must submit the following documentation when applying for the MOT MBA:

• Simon Fraser University's Application for Admission to the MOT MBA
• official copies of transcripts of undergraduate grades (mailed directly from the granting institution)
• three confidential letters of reference (mailed directly from the referees)
• GMAT (graduate management admission test) results
• TOEFL and TWE test scores, if applicable,

Applicants must take the test of English as a Foreign Language (TOEFL) and the test of written English (TWE) if their first language is not English and/or their national language is other than English. Scores must be above 570 on the TOEFL test and 5.0 on the TWE

• a recent passport style photo

Financial Assistance
Two scholarships annually in the amount of $10,000 will be awarded from funds donated by the MOT Business Council. A number of teaching assistantships, valued at up to $3,800 each, are available to qualified graduate students. In addition to teaching assistantships, members of the faculty from time to time have funding available to hire research assistants.

The Bank of Montreal offers a student line of credit for Canadian citizens and landed immigrants. Loan information and application packages are available from the MOT MBA office. Eligible students may also apply to the Canada Student Loan program in their province of residence.

A number of graduate fellowships are available to students who demonstrate high academic performance.

See "Financial Assistance and Awards" on page 50 for information on other university scholarships and awards that are available to graduate students.

Degree Requirements
To qualify for the MBA degree, students must maintain a minimum average grade of B (3.0 grade point average) and complete courses totalling 36 credit hours or more from the following list:

BUS 750-4 Managing Technological Innovation
BUS 752-4 Strategic Management of Technology-based Firms
BUS 754-4 Marketing Technology-based Products and Services
BUS 758-4 Strategic Use of Information and Knowledge
BUS 758-4 Supply Chain Management
BUS 760-4 Organizing, Motivating, and Leading the Technology-driven Enterprise
BUS 762-4 Project Management
BUS 764-2 Financing the Organization
BUS 766-2 Organizational Focus, and Control through Financial Management
BUS 774-4 Special Topics
BUS 776-4 Special Topics
BUS 778-4 Directed Studies in Management of Technology
BUS 780-4 Applied Project

* requires prior approval of the academic director

MBA (Management of Technology)

Courses

BUS 750-4 Managing Technological Innovation
This course examines successful product and process innovations in industry, as well as the effective organization and management of the technological change process in new ventures, multi-divisional and multinational enterprises.

BUS 752-4 Strategic Management of Technology-based Firms
This course deals with how technology-based firms develop and implement strategies to create competitive advantage. The module treats strategy at two levels of analysis: (a) the overall strategy of the firm and (b) the technology strategy of the firm.

BUS 754-4 Marketing Technology-based Products and Services
What differentiates high-tech markets from more traditional ones is the environment — shrinking product life cycles, rapid changes in information and knowledge and great uncertainty about competitors. This course is designed to teach strategies for developing and executing marketing strategies in technology-intensive markets.

BUS 756-4 Strategic Use of Information and Knowledge
This course will demonstrate, through cases and discussion, how information can be used to support decision-making, monitor operations and enable global communications. Topics will include knowledge management and information technology to support a learning organization.

BUS 758-4 Supply Chain Management
This course demonstrates how strategic competitive advantages can be gained through supply chain management — the processes of logistics, production, delivery and after sales service. Concepts such as flexible manufacturing, just in time inventories and service quality will be examined.

BUS 760-4 Organizing, Motivating, and Leading the Technology-driven Enterprise
Technology-driven organizations are particularly dependent upon human resources. Their employees are intelligent, highly skilled and very mobile. This course discusses the human resource structures and strategies that technology-based firms use to achieve growth of both the firm and the individual.

BUS 762-4 Project Management
In high technology firms, projects are a way of life. The introduction of a new product or service, the redesign of an information system, and the opening of a new warehouse are all examples of projects that the technology-driven manager may encounter. This course demonstrates how complexity can be managed in a manner that increases the probability of project success. As a course assignment, students develop their own plan for the project/internship phase of the program.

BUS 764-2 Financing the Organization
A basic understanding of the sources of capital, how to allocate it and how to regenerate it is necessary for technology managers. This course surveys the sources of venture capital, initial public offerings, mergers and debt capital. It also concentrates on net present values, internal rates of return, and other tools for capital budgeting and valuation.

BUS 766-2 Organizational Focus, and Control through Financial Management
Success is often tempered by the constraint of money. Project budgeting, cash flow projection, and contingency planning are tools that help keep the flow of funds in balance. This course looks at how the technology manager can influence the flow of funds through numerous measures such as leverage, equity injections, credit policies, dividends and taxes.

BUS 774-4 Special Topics
BUS 776-4 Special Topics
BUS 778-4 Directed Studies in Management of Technology

Individual study with a faculty member. A course outline must be approved by the graduate program committee.

BUS 780-4 Applied Project
Students will undertake a strategic business analysis and write an extended essay jointly supervised by a Simon Fraser University faculty member and an industry partner. The Management of Technology program director and a faculty member will negotiate the purpose, content and deliverables of each project with the student and the sponsoring organization.
Faculty of Education

8655 Multi Purpose Complex, (604) 291-4787 Tel, (604) 291-4320 Fax, www.educ.sfu.ca/gradprogs

Dean
(to be announced)

Faculty and areas of research
See "Faculty of Education" on page 185 for a complete list of faculty.

C.L. Amundsen – teaching development in higher education, on-line learning
H. Bai – philosophy of education, ethics and moral education, theories of knowledge, ecological philosophy, eastern thoughts
S. Bailin – 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 and First Nations education, roles and identities of minority teachers, mainstream and minority teachers and administrators working together for inclusive education in elementary, secondary and post-secondary education
S. Campbell – mathematics education and philosophy of education
R. Case – social studies, critical thinking, law-related education
W. Cassidy – social studies, law education, citizenship education, curriculum development and assessment, at risk youth, the ethic of care
P.F. Coleman* – educational governance and particularly school boards, program and personnel supervision, policy processes, community involvement, educational finance, cost effectiveness
D.H. Dagenais – French language education, bilingualism, multi-lingualism, applied sociolinguistics, literacy, ethnography, educational change
S.C. de Castell – literacy, educational technology, educational equity, cultural studies, qualitative research, socio-cultural theory
K. Egan – curriculum, intellectual development, educational theory
I. Geva-may – policy studies, policy analysis, policy evaluation, comparative policies, political cultures impact on policy making, disciplinary focus in recent years on policy of higher education, immigration, health care
P.P. Grimmett – teacher education and teacher development, curriculum development and implementation, educational leadership, teacher research
M.J. Hoskyn – literacy, language and lifespan development, learning disabilities, educational psychology
A.O. Horvath – counselling and therapy process, family and couple’s counselling, therapeutic relationships
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. LaRocque – community, collaboration, ethic of caring, leadership, district-school relations, implementation of change, school reform, educational policy, teacher education
L.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
G. Madoc-Jones – language arts, poetry, cultural origins of language, hermeneutics
C.M. Mamchur – theory and curriculum development, secondary English, the writing process, development of pre/in service training programs, learning styles, integration of drama, literature and narrative writing
J. Martin – psychology of education, counselling psychology, theoretical psychology
M. McClaren* – environmental education, science education
P. Neufeld – early reading acquisition, instructional practices in reading, theories and research in learning disabilities, diagnosis and remediation of students with LD
A.A. Obadia – French education, second language learning, French immersion, applied linguistics, error analysis, psycholinguistics, sociolinguistics, multi media, bilingualism
D.K. O’Neill – telemonitoring and distant collaboration, genre learning, children’s historical reasoning, conception, development and evaluation of innovative computing and communications technologies for K-12 education
T.J. O’Shea – mathematics education including curriculum development, problem solving, applications, and evaluation, large scale assessment and test development, teacher in-service education
D. Paterson – school counselling, groups, counsellor education, classroom communication
S. Richmond – visual arts education, aesthetic education
E. Samier – philosophy and theory of administration; knowledge and value theory; philosophy of leadership; concepts of free will as they relate to Max Weber and his comparative historical work on administrative systems
G.P. Sampson – teaching English as a second language; the origin and development of the scientific registers of the English language, philosophy of language
V. Senkshyn – philosophical analysis applied to creative live musical performance and aesthetic theory, problem of language applied to music, education and musical criticism
S.J. Smith – physical education, phenomenological inquiry, pedagogical theory, and children’s play interactions
C. Snover – movement education, physical education, phenomenological curriculum research, arts in education, embodiment and pedagogy, writing and the body, improvisational performance and teacher education, performative inquiry, spirituality and holistic education
J.H. Sugarman – theory and philosophy of applied psychology, research methods, counselling
J. Thompson – counselling, close relationships, career development, depression and gender
K. Toohy – minority language education, ethnography, socio-cultural theory, language and social context
J. Van Aalst – philosophy of science, computer-supported learning, qualitative research methodology, action research, metacognition, science curriculum, collaborative inquiry in science, tools for inquiry
S. Wassermann* – education, curriculum and instruction, emphasis on curriculum and program development, instructional strategies, teaching for thinking, teaching by the case method
M. Widen* – science education, curriculum evaluation and implementation, in-service and change in education, teacher education
P. H. Wight – educational psychology, metacognition and self-regulated learning, software tools that promote learning
B.Y.L. Wong – literature intervention for adolescents with and without LD, motivation and metacognition in students with LD
D. Zandvliet – education and technology, curriculum and science and environmental education, study of learning environments.
R. Zazkis – mathematics education
M. Zola – language and language learning, the language arts, story, storytelling and storytelling, narrative research, literature for children and young people, literary criticism, writing for children, learning and teaching, phenomenological inquiry, spiritual literacy, spiritual education
*emeritus

Graduate Programs

8655 Education Building, (604) 291-4787 Tel, (604) 291-4320 Fax, www.educ.sfu.ca/gradprogs

Graduate Program Director
K. Toohey BA, MEd (Alta), PhD (Tor)

Graduate Degrees Offered

Master of Arts
Master of Education
Master of Science
Doctor of Education
Doctor of Philosophy

The Faculty of Education offers graduate programs leading to MEd, MA, MSc, EdD and PhD degrees in select fields of scholarly and professional studies. The nature of and requirements for degrees vary by degree and by field of study.

The MEd is a professional degree signifying advanced knowledge about and advanced training in educational practice. Minimal requirements for MEd course work/comprehensive exam programs is the completion of 35 credit hours in required and elective courses, plus a final comprehensive examination. The 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 advanced knowledge in a field of specialization and advanced competence in conducting significant and original research in education.

Minimal requirements for the MA and MSc degrees are successful completion of 33 credit hours of graduate work divided between required and elective courses (at least 23 credit hours) and EDUC 898 Master’s Thesis (10 credit hours).

Minimal requirements for the PhD degree are successful completion of 50 credit hours of graduate work beyond requirements for a MA or MSc, consisting of 20 credit hours divided among required and elective courses and EDUC 899 Doctoral Thesis (10 credit hours).
The EdD in Educational Leadership is a professional degree signifying the acquisition of advanced knowledge and expertise in educational leadership. Minimal requirements for the EdD degree are successful completion of 44 credit hours of graduate work, consisting of 34 credit hours divided among required and elective courses and EDUC 899 Doctoral Thesis (10 credit hours).

Admission
See Graduate General Regulation 1.3 (page 299) for University admission requirements. In exceptional circumstances, applicants who do not meet these requirements may be considered if superior scholarly or professional achievement is demonstrated.

Applications for master's and doctoral programs in education are reviewed once each year. All parts of an application to the master's program in counselling psychology must be complete and received by January 31. All parts of an application to all other master's or doctoral programs must be complete and received by February 15. Applicants to an Individual master's program (see below) are urged to begin the application process well in advance of this deadline. In some cases, an interview may be required.

Admission is granted to a specific degree and to a particular program or program specialization.

Decisions about admissions are available on April 15 or the first business day thereafter. Application packages, available after November 30, are available from the office of Graduate Programs by post, telephone, fax or e-mail: Graduate Programs, Faculty of Education, Simon Fraser University, 8888 University Drive, Burnaby, BC, V5A 1S6.

MA, MEd, MSc, PhD and EdD program information
(604) 291-4787 tel, (604) 291-4320 fax, educgdpg@sfu.ca

Off-campus MEd program information
(604) 291-5897 tel, (604) 291-4320 fax; ida_clayton@sfu.ca

Internet information
www.educ.sfu.ca/gradprogs

Supervision
A pro-tem advisor will be appointed by the director of graduate programs upon admission. The pro-tem advisor offers counsel regarding elective courses and other matters, and, in those programs requiring a project or thesis, about selecting a committee to supervise this work. For additional information on supervisory committees, refer to the Graduate General Regulations, section 1.6 (page 302) and the Faculty of Education Graduate Programs Policies, Procedures, and Protocols Handbook.

Master's Programs
The MA and MSc degrees signify the acquisition of advanced knowledge in the student's field of specialization and competence in conducting significant and original research in education. Graduate programs leading to these degrees culminate with a master's thesis (EDUC 898).

The MEd is a professional degree signifying advanced knowledge about and advanced training in educational practice. All MEd programs, except an Individual program, culminate with a comprehensive exam (EDUC 883). An individual program, a project (EDUC 881) is undertaken that materializes and substantially relates theory to practice or that systematically examines a significant education problem.

MEd Off Campus Programs
Two year MEd programs in Educational Leadership and in Curriculum and Instruction, offered in communities through the province, focus on a theme that integrates scholarly inquiry with local interests and professional practice needs. During fall and spring semesters, classes are normally scheduled every second weekend in the community where the program is situated. In the summer semesters, students typically attend classes on the SFU campus. School districts, educational institutions, groups and individuals interested in an MEd off campus program should contact the assistant to the director for off-campus graduate programs.

Residence Requirements
See “1.7 Residence and Course Requirements” on page 302.

Research Competence Requirement
Master's students must demonstrate research competence that is appropriate to their program or program specialization to the supervisory committee's satisfaction. See “1.7.2 Residence Requirement for the Master's Degree” on page 302.

Comprehensive Examinations for MEd Programs (except Individual Program)
All MEd candidates, except those in an Individual program, must take a comprehensive examination by enrolling in EDUC 883. Normally, this occurs in the semester in which course requirements are completed or in the immediately following semester. Students are advised to observe deadlines for adding courses in planning the semester in which they enrol in EDUC 883. The Faculty of Education Graduate Programs Policies, Procedures, and Protocols Handbook provides details about the comprehensive examination.

MEd Project
This option is available only to students in an Individual program. See Individual Program below.

MA and MSc Thesis
Normally, before the fifth program course, the student presents a master's thesis research plan to the pro-tem advisor or a tenured or tenure-track member of the Faculty of Education whom the student proposes to be senior supervisor. Following the plan approval by the senior supervisor and at least one other University faculty member chosen in consultation with the senior supervisor, the supervisory committee is formed and the student proceeds to the thesis. The master's thesis will be examined as prescribed in the Graduate General Regulations sections 1.9 (page 303) and 1.10 (page 304).

Programs of Study for a Master's Degree

Educational Leadership
This part time, cohort program leads to the MA or MEd degree and is intended for current or prospective leaders engaged in educational activities in a variety of societal workplaces (e.g., schools, colleges, community agencies, health agencies, justice agencies, arts agencies).

The MA consists of five required courses (25 credit hours) plus a thesis; the MEd consists of seven courses (35 credit hours) plus a comprehensive exam. Courses are offered in the late afternoon/evening and during the day in summer session. While the program is grounded both in research and in practice, it has a strong philosophical and conceptual orientation. All these features, reflected in the program and in each course, encourage students to view issues and problems in the workplace in deeper, more complex and educative ways.

Students in both the MEd and MA programs must complete the following core courses.

Core Courses
EDUC 813-5 Organizational Theory and Analyses
EDUC 815-5 Administrative Processes
EDUC 817-5 Policy Processes
EDUC 818-5 Leadership Studies

MEd Requirements
Students will normally be admitted to the MEd course work/comprehensive exam program. In addition to the four core courses, students will complete this required course

EDUC 811-5 Fieldwork I
plus two additional courses (10 credit hours) approved by the co-ordinator.

EDUC 883 follows completion of course work requirements. It is held once a year, during summer session.

MA Requirements
Students admitted to the MEd course work/comprehensive examination program may, on the senior supervisor's recommendation, transfer into the MA program. The MA program requires the four core courses above plus EDUC 864. MA students must demonstrate appropriate research competence which may necessitate taking one or both of

EDUC 863-5 Quantitative Methods in Educational Research
EDUC 867-5 Qualitative Methods in Educational Research

Students may also take one or more electives as required or approved by the senior supervisor.

EDUC 898 follows completion of course work requirements.

Curriculum and Instruction
This program leads to the MA degree, which requires at least 25 credit hours of course work and a thesis (EDUC 898); or the MEd degree, which requires at least 35 credit hours of course work and a comprehensive examination (EDUC 883). This program is intended for educators who wish to examine critically current educational theory, research and practice. Participants will be encouraged to examine their own instructional practices and to consider carefully the match between their practices and their developing theories of education.

The Curriculum and Instruction program can focus on an area of specialization such as diversity and inclusion, education and technology; French education, second language education, reading and learning disabilities, or can be pursued as a general program. Current information about the specializations is available from the Graduate Programs office or on the web site at www.educ.sfu.ca/gradprogs.

The general program's required courses are at least three core courses from the list below. Each Curriculum and Instruction program specialization adds course work requirements to the general program requirements.

Core Courses
EDUC 816-5 Development of Educational Programs
EDUC 820-5 Educational Objectives and Teaching Strategies
EDUC 822-5 Evaluation of Educational Programs
EDUC 823-5 Curriculum and Instruction in an Individual Teaching Specialty
EDUC 830-5 Implementation of Educational Programs
EDUC 833-5 Seminar in Social and Moral Philosophy and Education
EDUC 851-5 Perspectives on Technology-Supported Learning
EDUC 864-5 Research Designs in Education
Additional courses, which are core courses for specializations in curriculum and instruction, include some of the following.
EDUC 804-5 Selected Problems in Educational Technology
EDUC 811-5 Fieldwork I
EDUC 819-5 Studies in Teacher-Student Interaction
EDUC 826-5 The Reading Process
EDUC 827-5 Individual Differences in Learning Disabilities
EDUC 828-5 Instructional Practices in Reading
EDUC 829-5 Contemporary Issues in Learning Disabilities
EDUC 832-5 Teaching Composition: Research and Practice
EDUC 857-5 Issues and Topics in Environmental Education
EDUC 858-5 Contemporary Research and Classroom Practices in French Immersion

Arts Education
This program leads to a master of education course work/comprehensive exam (MEd) or MA degree. The MEd requires 35 credit hours and a final comprehensive examination including the following.

Foundational Studies
all of
EDUC 848-5 Ideas and Issues in Aesthetic Education
EDUC 849-5 Artists, Society and Arts Education
EDUC 850-5 Creativity and Education

Curriculum Areas
all of
EDUC 852-5 Education and Dramatic Art
EDUC 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. Students may move to the MA after completing four courses.

Comprehensive Examination/Thesis
A final comprehensive exam is required for MEd students. A thesis is required for MA students.

Secondary Mathematics Education
This cohort program, leading to the MSc (thesis) or MEd (course work/comprehensive exam) in the teaching of secondary school mathematics, is offered jointly by the Faculty of Education and the Department of Mathematics.

For the MSc (thesis) degree, as well as writing a thesis which will be supervised by a member of the Faculty of Education or the Department of Mathematics, students complete 25 credit hours (see below). Students pursuing the MEd (course work) option will, in addition to 25 credit hours, take a minimum of 10 credit hours of graduate electives in education and/or mathematics, and a comprehensive exam. Students will select a degree option in consultation with faculty members.

Core Courses
EDUC 844-5 The Research Basis of Mathematics Education
EDUC 845-4 Learning Mathematics with Computers
EDUC 846-4 Foundations of Mathematics Education
EDUC 847-4 Teaching and Learning Mathematics
MATH 603-4 Foundations of Mathematics
MATH 604-4 Geometry
MATH 605-4 Mathematical Modelling

Intermediate and Elementary Mathematics Education
This program leads to the MA or MEd course work/comprehensive exam degree and meets the needs of practising elementary and intermediate grade teachers. Students complete 25 credit hours in education and mathematics and a master's thesis (10 credits). MEd students complete 35 credit hours, of which 25 are core courses with a minimum of 10 elective hours in education and/or mathematics and a comprehensive exam. After the first four courses are completed, the student, in consultation with faculty members, will choose either the MA or MEd option.

Core Courses
EDUC 844-5 The Research Basis of Mathematics Education
EDUC 845-4 Learning Mathematics with Computers
EDUC 846-4 Foundations of Mathematics Education
EDUC 847-4 Teaching and Learning Mathematics
MATH 601-4 Discovering Mathematics I
MATH 602-4 Discovering Mathematics II

Electives
The remaining courses are selected from graduate level courses in the Faculty of Education or in the Department of Mathematics and Statistics.

Counselling Psychology
This program leads to an MA or an MEd degree. The MA program is for students interested in careers as counsellors in schools, colleges, and community agencies. Students pursue a general program with opportunities for specialization provided in course work and field work. Students in the counselling MA program must complete a minimum of 35 hours of course work and a thesis. All MA students must complete the core requirements listed below.

MA Core
EDUC 801-5 Counselling Practicum I
EDUC 802-5 Counselling Practicum II
EDUC 862-4 Individual Assessment Procedures
EDUC 864-5 Research Designs in Education
EDUC 866-5 Advanced Qualitative Research in Education
EDUC 867-5 Qualitative Methods in Educational Research
EDUC 873-4 Vocational Counselling
EDUC 874-5 Counselling Skills and Strategies
EDUC 898-10 Masters Thesis

MA students must also complete one methodology research course selected from the list below in consultation with the senior supervisor.

EDUC 863-5 Quantitative Methods in Educational Research
EDUC 864-5 Research Designs in Education
EDUC 866-5 Advanced Qualitative Research in Education
EDUC 867-5 Qualitative Methods in Educational Research
EDUC 975-5 Advanced Quantitative Methods in Educational Research

Psychology of Education
This program, leading to the MA degree, studies theories, basic and applied research, and research methods in the psychology of education. Students admitted to the MA program may apply to transfer to the PhD program in Psychology of Education upon successfully completing MA course work as described below and apply course credits and residence accumulated in the MA program to the PhD program. See “1.7 Residence and Course Requirements” on page 302. Students may apply for transfer credit if graduate work completed at another institution duplicates courses in this program.

Core (required courses)
EDUC 805-5 Social Development in the School Context
EDUC 827-5 Individual Differences in Learning
EDUC 840-0 Graduate Seminar
EDUC 860-3 Contemporary Psychology of Education and Instructional Applications
EDUC 864-5 Research Designs in Education
EDUC 865-5 Quantitative Methods in Educational Research
EDUC 867-5 Qualitative Methods in Educational Research

EDUC 862-4 Individual Assessment Procedures
EDUC 864-5 Research Designs in Education
EDUC 870-5 Theories of Counselling
EDUC 874-5 Counselling Skills and Strategies
EDUC 877-5 Contemporary School Counselling
EDUC 883-0 MEd Comprehensive Examination

In addition, MEd students must complete a minimum of four elective courses selected in consultation with the senior supervisor. Electives may be selected from the MA/MEd electives list.

MEd Comprehensive Examination (EDUC 883)
Students take a comprehensive examination after the completion of the course work and supervised field experiences. The examination will be set by the faculty members associated with the program, in association with the director, and will cover two areas: ethics and professional practice.

MA/MEd Electives
A course may not count as a core and an elective. Acceptable courses may include the following.
EDUC 803-5 Educational Program Supervision
EDUC 805-5 Social Development in the School Context
EDUC 819-5 Studies in Teacher-Student Interaction
EDUC 822-5 Evaluation of Educational Practice
EDUC 829-5 Contemporary Issues in Learning Disabilities
EDUC 833-5 Seminar in Social and Moral Philosophy and Education
EDUC 839-5 Western Perspectives on Childhood, Child-Rearing and Education
EDUC 860-5 Contemporary Psychology of Education and Instructional Applications
EDUC 863-5 Quantitative Methods in Educational Research
EDUC 866-5 Advanced Qualitative Research in Education
EDUC 867-5 Qualitative Methods in Educational Research
EDUC 871-5 Family Counselling
EDUC 873-4 Vocational Counselling
EDUC 876-5 Cognitive Intervention Research
EDUC 878-5 Group Counselling
EDUC 970-5 Systems and Paradigms in the Psychology of Education
EDUC 975-5 Advanced Quantitative Methods in Educational Research

EDUC 801-5 Counselling Practicum I
EDUC 802-5 Counselling Practicum II
EDUC 805-5 Social Development in the School Context
EDUC 827-5 Individual Differences in Learning
EDUC 840-0 Graduate Seminar
EDUC 860-3 Contemporary Psychology of Education and Instructional Applications
EDUC 864-5 Research Designs in Education
EDUC 865-5 Quantitative Methods in Educational Research
EDUC 867-5 Qualitative Methods in Educational Research
Electives
Students will select one additional graduate course relevant to their interests and the study of the Psychology of Education in consultation with and approved, in advance, by their pro-tem advisor.

Thesis
EDUC 898-10 Master’s Thesis

Individual Program
In exceptional cases, when no other regularly offered master’s program can accommodate special interests, an applicant may propose a unique curriculum called an Individual Program. The curriculum of an Individual Program must include a minimum of (a) 30 credit hours of course work plus EDUC 881 Master’s Project for a MEd Degree, or (b) 25 credit hours of course work plus EDUC 898 Master’s Thesis for a MA Degree.

Individual Program applicants must file with their application a plan of study and research. The plan should clearly and thoroughly described: (a) the inquiry to be pursued for the master’s project or thesis, (b) courses proposed and their sequence (using a form supplied), (c) a rationale for how the proposed courses contribute toward the master’s project or thesis, and in light of (a) – (c), (d) how the applicant’s interests are not met by a regularly offered master’s program. The plan must be developed with and approved by a faculty sponsor who automatically becomes the senior supervisor of the master’s project or thesis. A second person suitably qualified in relation to the project or thesis joins the supervisory committee normally before the completion of the fourth course in an Individual Program.

In addition to other criteria considered for admission, the director of graduate programs will adjudicate the plan of study and research regarding availability of resources to support it and whether it can be completed in reasonable time.

Doctoral Programs
Doctoral degrees signify the acquisition of advanced knowledge in a field of specialization and advanced competence in conducting significant and original education research. The EdD program emphasizes leadership in education. The PhD programs accentuate theoretical and professional studies plus advanced scholarly inquiry in education. Both degrees culminate in a comprehensive examination (EDUC 983) and a doctoral thesis (EDUC 899). Requirements for doctoral degrees vary by program.

Residence Requirements
See “1.7 Residence and Course Requirements” on page 302.

Comprehensive Examination
All doctoral candidates must take a comprehensive examination by enrolling in EDUC 983. This is a prerequisite to EDUC 899. Normally, the comprehensive exam is taken in the semester in which course requirements are completed or the immediately following semester. Students are advised to observe deadlines for adding courses for the semester in which they enrol in EDUC 983. The Faculty of Education Graduate Programs Policies, Procedures, and Protocols Handbook provides details about the comprehensive examination.

EdD and PhD Thesis
Normally, before the fourth program course, the student presents a doctoral thesis research plan to the pro-tem advisor or a tenured or tenure track Faculty of Education member whom the student proposes to be senior supervisor. Following the senior supervisor’s approval and at least one other member of the University faculty chosen in consultation with the senior supervisor, the supervisory committee is formed and the student proceeds to write the thesis. The thesis will be examined as in Graduate General Regulations 1.9 (page 303) and 1.10 (page 304).

For EdD students, the supervisory committee should include a third member who is a qualified professional educator from the world of practice.

Upon supervisory committee approval, the completed thesis is examined as in the Graduate General Regulations, sections 1.9 (page 303) and 1.10 (page 304).

Programs of Study
Arts Education
This program, leading to a PhD, is for those interested in becoming scholars and leaders in art education. Students are required to complete the following.

Educational Theory
EDUC 901-5 Seminar in the History of Educational Theory
EDUC 902-5 Interdisciplinary Seminar in Contemporary Educational Theory

Arts Core
EDUC 945-5 Doctoral Seminar in Arts Education

Curriculum Specialization
EDUC 910-5 Directed Readings
Thesis
EDUC 899-10 PhD Thesis

Courses in research methodology may be required depending upon the student’s research interests.

Curriculum Theory and Implementation
This program leads to the PhD degree. It requires successful completion of the following course work, amounting to a total of 20 credit hours beyond the requirements for the MA, MSc or MEd.

EDUC 899-10 Seminar in the History of Educational Theory
EDUC 902-5 Interdisciplinary Seminar in Contemporary Educational Thought
EDUC 911-5 Colloquium in Curriculum Theory I
EDUC 912-5 Colloquium in Curriculum Theory II

The supervisory committee may require further work in the Faculty of Education or other faculties. Students are encouraged to draw additional courses from related departments outside the Faculty of Education.

Mathematics Education
Curriculum Theory and Implementation PhD program candidates who wish to specialize in mathematics education must have prior knowledge of issues related to mathematics teaching and learning.

Students must complete the following.

EDUC 901-5 Seminar in the History of Educational Theory
EDUC 902-5 Interdisciplinary Seminar in Contemporary Educational Theory
EDUC 910-5 Directed Readings
EDUC 946-5 Doctoral Seminar in Mathematics Education

and one of
EDUC 911-5 Colloquium in Curriculum Theory (I)
EDUC 912-5 Colloquium in Curriculum Theory (II)

Psychology of Education
This PhD program studies theories, basic and applied research, and research methods in the psychology of education. The program does not prepare students for registration with the BC College of Psychologists. Students may apply for transfer credit if the course is deemed acceptable to the degree. Exact transfer credit equivalence is not required, providing the courses are assessed as such. Admitted students must satisfy all requirements for the MA program in the Psychology of Education. If EDUC 975 was taken in the MA program, it is waived from the core.

Core
EDUC 840-0 Graduate Seminar
EDUC 970-5 Systems and Paradigms in the Psychology of Education
EDUC 971-5 Advanced Topics in the Psychology of Education
EDUC 972-5 Colloquium in the Psychology of Education
EDUC 975-5 Advanced Quantitative Methods in Educational Research

Electives
Students will select two additional graduate courses relevant to their interests and the study of the psychology of education in consultation with and approved, in advance, by their pro-tem advisor.

Thesis
EDUC 899-10 Thesis

EdD in Educational Leadership
This program, leading to an EdD degree, is for educational administrators who work full time so classes are held on extended weekends and during the summer. This degree looks beyond educational leadership as the application of generic management techniques. It prepares leaders for situations where technique is insufficient and prepares educational leaders to deal with currently pressing issues and to understand deeper ethical, political, socio-cultural, technological, and educational matters.

Courses are divided into four areas of required courses as follows.

Intellectual Foundations (10 credit hours)
EDUC 901-5 Seminar in the History of Educational Theory
EDUC 902-5 Interdisciplinary Seminar in Contemporary Education Theory

Professional Foundations (20-25 credit hours)
EDUC 960-5 Doctoral Seminar. Ethics, Law and Professional Leadership
EDUC 961-5 Doctoral Seminar: Educational Governance, Reform and Diversity
EDUC 962-5 Organizational Leadership, Accountability, and the Public Interest
EDUC 983-5 Critical Approaches to Problem Definition

and one or more electives as required or approved by the senior supervisor (3 or 5 credit hours)

Research Methods Seminars (6 credit hours)
EDUC 950-3 Educational Research Paradigms A
EDUC 951-3 Educational Research Paradigms B

Thesis (10 credit hours)
Thesis Preparation Seminars (no credit)
EDUC 840-0 Graduate Seminar
Thesis
EDUC 899-10 Thesis

Graduate Courses
EDUC 702-2 Directed Readings
EDUC 703-3 Directed Readings
EDUC 705-2 Directed Readings
EDUC 705-3 Directed Readings
EDUC 710-714-3,4,5 Special Topics
EDUC 720-724-3,4,5 Special Topics
EDUC 801-5 Counselling Practicum I
Supervised clinical experience for students enrolled in the MEd or MA Counselling Psychology Program. Prerequisite: EDUC 870 and 874.

EDUC 802-5 Counselling Practicum II
Advanced supervised clinical experience for students enrolled in the MEd or MA Counselling Psychology Program. Prerequisite: EDUC 801.
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 Uses of Technology
EDUC 805-5 Social Development in the School Context
This course involves an examination of theoretical, empirical and practical literature on social and emotional development in young children and its application to education and school settings.

EDUC 806-5 Selected Problems in Higher Education
EDUC 809-5 Graduate Seminar
EDUC 811-5 Fieldwork I
EDUC 812-5 Fieldwork II
EDUC 813-5 Organizational Theory and Analyses
This course critically examines organizations in which educational leaders work from different theoretical perspectives and in light of research evidence. It also critiques several past and current reform initiatives, and explores specific topics in-depth. A central and pervasive question of the course concerns organizational purposes, especially with respect to learning, and how these purposes are served by organizational structures and processes.

EDUC 815-5 Administrative Processes
This course examines the administrative world in which educational leadership occurs, including: administrative ideologies, theories of practice and institutional arrangements; values analysis; and technical fields such as financial, legal and human resources. This is complemented by an introduction to current research findings and to distinct theoretical traditions (e.g. structural-functional, interpretive and critical) in which research examining administrative processes is conducted. Topical issues and problems will be explored within the conceptual framework of the course.

EDUC 816-5 Development of Educational Programs
Theories and practices for planning and developing programs in educational institutions.

EDUC 817-5 Policy Processes
This course examines three interrelated aspects of policy studies as a critical function of the educational leadership role: conceptual and theoretical foundations concerning policy, policy actors, and policy processes; current research in the field; and topical issues and problems. It also considers social, economic and political contexts (e.g. privatization, corporatization, pluralism) and how they affect education.

EDUC 818-5 Leadership Studies
This course examines three interrelated aspects of educational leadership studies of conceptual and theoretical foundations, with a particular emphasis on the ethics of leadership, current research in the field, including feminist and cultural critiques; and topical issues and problems of leadership practice. Considerations of leadership character and role, power and authority in organizational relationships, and organizational goal achievement are central to the course.

EDUC 819-5 Studies in Teacher-Student Interaction
Consideration of systems for analysing teacher interaction and their use in analysing the student's own classroom teaching. The course will also deal with models of instruction designed to achieve various categories of educational objectives.

EDUC 820-5 Educational Objectives and Teaching Strategies
Focuses on the development of appropriate teaching strategies to achieve particular educational objectives.

EDUC 821-5 Philosophical Issues in Classroom Practices
Philosophical examination of assumptions underlying practical problems in classroom teaching. Some of the main issues examined include: distinguishing teaching, indoctrination, and conditioning; the use of compulsion, manipulation, and discipline; student/teacher relationships; child-centered education; alternative education; punishment and behavior modification. It also focuses on assumptions underlying such practices as play, learning by discovery, individualized instruction, and open education.

EDUC 822-5 Evaluation of Educational Programs
Processes used in program evaluation, including test and other measurement devices; and political, social and philosophical issues relating to the evaluation of educational programs.

EDUC 823-5 Curriculum and Instruction in an Individual Teaching Specialty
An intensive examination of developments in a curriculum area selected by the student. In addition, the course will deal with major philosophical and historical factors that influence the present state and future directions of curriculum and instruction.

EDUC 824-5 Seminar in Second Language Teaching
Theories of sentence, discourse, and context in second language education; teaching scientific genres and humanities genres, use of dictionaries and glossaries, use of standardized and alternative forms of assessment.

EDUC 825-5 Second Language Acquisition and Schooling
Academic factors that impact language learning, the universal grammar model of language, speech perception and production in first and second languages.

EDUC 826-5 The Reading Process
This course has a decidedly theoretical emphasis. Topics for study include: reading as a physiological process; psychological models of word processing; models for language and reading comprehension. The literature for this course will draw heavily upon current educational, psycholinguistic and psychological writings. Prerequisite: EDUC 473.

EDUC 827-5 Individual Differences in Learning
Students will examine current conceptions of individual differences that characterize the heterogeneity of students' abilities in school. Educational implications will also be addressed.

EDUC 828-5 Instructional Practices in Reading
The history of reading materials and methods will be discussed, and past and present instructional practices in reading evaluated in terms of state-of-the-art knowledge of instructional research; methods of analyzing reading materials will be critiqued. Prerequisite: EDUC 826 or consent of the instructor.

EDUC 829-5 Contemporary Issues in Learning Disabilities
Select issues important and current in the learning disabilities field are examined in depth. The objective is to enable students to master a significant body of knowledge in the learning disabilities field, and to identify areas of interest for their eventual thesis research. Prerequisite: EDUC 422.

EDUC 830-5 Implementation of Educational Programs
Problems and practices associated with innovation and implementation including the nature of change in the educational context, the roles of teachers, administrators, change agents, and evaluators.

EDUC 831-5 Seminar in Philosophy and Educational Theory
Philosophical examination of issues related to the school as an educational institution with social and political connections. Issues examined include: the education/schooling/training distinction; the justification of education; compulsory curriculum; freedom and authority in education; equality of educational opportunity; legal-moral questions central to educational administration; teachers/parents/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 Perspectives on Technology-Supported Learning
Examines applications of technology in teaching and learning emphasizing the progression of theory and research in this area from the early 20th century through to the present to predictions about the future. Related fields of inquiry to be examined include: educational technology, artificial intelligence (AI), computer assisted instruction (CAI), computer-supported collaborative learning (CSCL), distance education, and socio-political perspectives on technology.

EDUC 852-5 Education and Dramatic Art
This course involves an exploration of basic issues and questions which underlie the nature and provision of drama education in the schools. It includes a critical examination of the claims made in the theoretical literature regarding the nature and aims of drama education and an exploration of the implications for drama education curriculum and pedagogy.

EDUC 853-5 Tools, Theories and Practices of Computer Supported Collaborative Learning
Computer-supported collaborative learning environments are designed with three principal objectives: to upgrade the conceptual quality of what is learned; to increase students' abilities to monitor, control and improve their own learning; and to provide improved support for social aspects of learning. In this course students will critically examine the theoretical underpinnings of the design of such learning environments, and examine and contribute to developing practices in K-12 classrooms and other educational settings that make use of them. (0-0-5)

EDUC 855-5 Multicultural and Race Relations Education: Policy Development and Program Implementation
Theory, research, policy development and program implementation in multicultural and race relations education encompass a wide spectrum of areas of educational inquiry.

EDUC 857-5 Issues and Topics in Environmental Education
Examines the origins of environmental education, the range of program offerings, and the educational concepts which appear to underlie them. Prerequisite: consent of the instructor.

EDUC 858-5 Contemporary Research and Classroom Practices in French Immersion
Students examine studies, reports and articles relating to French Immersion methodology, curriculum and program exploration. Students derive classroom applications and curriculum changes from these studies. Prerequisite: EDUC 481.

EDUC 859-5 Philosophy of Science and Perspectives on Education
An introductory examination of various philosophical positions about the nature of science, including logical positivism, naive realism, instrumentalism, relativism and social constructionism, and their relation to curriculum and instruction in science.

EDUC 860-3 Contemporary Psychology of Education and Instructional Applications
A survey of theory and empirical research on psychology as it relates to education. Topics include motivation, learning, group and peer interactions in classrooms, and classroom environments. In design projects, students examine and create educational activities based on research, and investigate individually chosen topics. Prerequisite: EDUC 220.

EDUC 862-4 Individual Assessment Procedures
An overview of assessment procedures used in educational and community counselling settings, including interviewing, standardized tests, and observational procedures. Review of assessment related issues such as diagnosis, ethics, bias, and personality and professional issues. Prerequisite: consent of the instructor.

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 866-5 Advanced Qualitative Research in Education
Students will study in depth various qualitative methodological approaches to educational research, will develop competence to contribute significantly to knowledge in their particular field of study, and will engage in intensive practice of various methodological approaches to qualitative research introduced in EDUC 867. Prerequisite: EDUC 864 and 867.

EDUC 867-5 Qualitative Methods in Educational Research
This course introduces students to qualitative research in education and examines topics such as identifying problems, using conceptual frameworks, coding, data analysis, drawing interpretations, and constructing arguments. Prerequisite: EDUC 864.

EDUC 868-5 Curriculum Theory and Art Education
The course examines and relates conceptions of creativity and response in the visual arts to the fundamental questions of curriculum theory.

EDUC 869-5 Music Education as Thinking in Sound
This course presents the theory and practice of music education based on theories of auditory perception, musical theory, and various cross-cultural perspectives on musical behavior.

EDUC 870-5 Theories of Counselling
Students examine analytic, phenomenological, existential, behavioral and cognitive approaches to counselling, and the philosophical and personality theories upon which they are based.

EDUC 871-5 Family Counselling
Students discuss models of family dynamics and instructional interventions applicable by school personnel in family counselling interactions. Concepts and techniques will be explicated through discussion and simulation. Prerequisite: EDUC 870.

EDUC 873-4 Vocational Counselling
Provides a sound theoretical basis for career counselling activities. Major vocational theorists will be discussed along with relevant assessment considerations. Skill will be developed in such areas as utilizing community resources, obtaining vocational information, building a career information centre, job search techniques, and procedures for enhancing occupational placement.

EDUC 874-5 Counselling Skills and Strategies
Counselling skills and strategies are analysed, practiced, and critically examined. Counsellor decision-making, counselling effectiveness, and professionalism in counselling are also considered. Prerequisite: consent of the instructor.

EDUC 876-5 Cognitive Intervention Research
This course examines issues in research designed to enhance learners' cognitive processes. This research is subsumed under the broad term 'cognitive interventions,' which in turn, refers to research purported to increase learners' success in learning. The issues examined include the historical context, problems and prospects of cognitive interventions. Prerequisite: EDUC 829.

EDUC 877-5 Contemporary School Counselling
An examination of contemporary approaches to school counselling. Program development, consultation skills, counselling interventions, and ethics of school counselling are considered.

EDUC 878-5 Group Counselling
An examination of contemporary approaches to group counselling. Prerequisite: EDUC 874.

EDUC 881-1 Master's Project
The project is a study that may take a variety of different forms including a survey, case study, extended essay, curriculum development project inter alia; central to its character is a concern with the application of relevant academic knowledge to professional practice. The project should normally be completed and approved in two semesters.

EDUC 883-0 Med Comprehensive Examination
The examination is graded on a satisfactory/unsatisfactory basis.
EDUC 898-10 Masters Thesis
The thesis is a research investigation designed to generate and/or examine critically new knowledge in the theory and/or practice of education. The thesis should normally be completed and approved in three semesters.

EDUC 899-10 Doctoral Thesis
Prerequisite: EDUC 983.

EDUC 901-5 Seminar in the History of Educational Theory
The historical roots of educational thought are examined from a broad cultural perspective. Major works in disciplines such as philosophy, psychology and sociology which have had significant impact on educational theorizing will be studied. Special attention will be paid to the relationship between theory and educational practice.

EDUC 902-5 Interdisciplinary Seminar in Contemporary Educational Theory
Contemporary educational theories and theories from supporting disciplines (e.g., psychology, sociology, philosophy) will be examined and analysed. The relationships among contemporary theories, current practice and educational change will be focal.

EDUC 903-5 Research Apprenticeship
The apprenticeship is designed to provide the student with practical experience in scholarly inquiry in close co-operation with a faculty member in the student's area of specialization.

EDUC 904-5 Fieldwork III
EDUC 905-5 Fieldwork IV
EDUC 907-908-5 Selected Topics
EDUC 910-5 Directed Readings
EDUC 911-5 Colloquium in Curriculum Theory (I)
EDUC 912-5 Colloquium in Curriculum Theory (II)
EDUC 945-5 Doctoral Seminar in Arts Education
The course provides a broad theoretical overview of problems and ideas associated with the nature and provision of arts education in the schools.

EDUC 946-5 Doctoral Seminar in Mathematics Education
This seminar is designed to extend and deepen students' understanding of the discipline of mathematics education. It will examine international developments, research programs, special interest groups, recent theories in learning and teaching mathematics, and issues in mathematics teacher education. Prerequisite: EDUC 846 and 847.

EDUC 950-3 Educational Research Paradigms A
The broad paradigms encompassing much current educational research are examined, with emphasis on their philosophical and assumptive 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.

EDUC 961-5 Educational Governance, Reform and Diversity
The nature and impact of recent wide-ranging systemic educational reform in several different countries are critically examined, through two major themes. One theme is the politics and dynamics of governance, with a particular emphasis on participatory forms of political life in a heterogeneous society. The other theme is the politics and culture of difference, and the development of community which respects these differences.

EDUC 962-5 Leadership, Accountability, and the Public Interest
The special responsibilities of leaders in educational institutions for accountability both to learners and to the wider community with respect to policies, practices and programs are the focus of this seminar. Contemporary approaches to program assessment and to ensuring cost-effectiveness in educational management are applied to cases emerging from student experience.

EDUC 963-5 Critical Approaches to Problem Definition
This course examines how problems in practice are identified, defined and understood from a variety of different theoretical perspectives. Within the common framework of the course, students will investigate a problem or issue of significance to their individual workplaces or to their individual research endeavors.

EDUC 970-5 Systems and Paradigms in the Psychology of Education
A survey of major 20th century systems and paradigms that underlie research and theories in instructional psychology; addresses learning, cognition, motivation, methods of inquiry, and other cornerstones of the field. Prerequisite: one of EDUC 826, 829, 860, 870 or equivalent graduate course.

EDUC 971-5 Advanced Topics in the Psychology of Education
Critical analysis and synthesis of recent theoretical and empirical research in psychology of education and cognate areas. Students who have taken EDUC 865 in previous semesters may not take this course for further credit. Prerequisite: EDUC 860.

EDUC 972-5 Colloquium in the Psychology of Education
Survey of methods for synthesizing knowledge gleaned from primary and secondary research, including meta-analysis and integrative reviewing. Assignments culminate in presenting a colloquium about a topic of the student's choice to the faculty.

EDUC 975-5 Advanced Quantitative Methods in Educational Research
Methods for analyzing multivariate data in educational research, meta-analytic methods, and applications and frailties of advanced quantitative analysis. Illustrations from educational research are used throughout. Prerequisite: EDUC 863 and 864 or permission of instructor.

EDUC 983-0 Doctoral Comprehensive Examination
The examination is graded on a satisfactory/unsatisfactory basis.

Field Programs
8559 Education Building, (604) 291-5830 Tel, (604) 291-5882 Fax, www.educ.sfu.ca/field

T.J. O’Shea BEng (McG), BEd (Sask), MEd (Manit), EdD (Br Col)

Graduate Diploma Offered
Advanced Professional Studies in Education

Graduate Diploma in Advanced Professional Studies in Education
This diploma program, administered through the Field Programs office, consists of a minimum of 30 credit hours in 500 level EDPR courses. (The total number of credit hours may vary, depending on the program content but will, in no case, be less than 30 credit hours of 500 level EDPR courses.) With the director of field programs' approval, up to eight credit hours of other acceptable course work may be used to complete the requirements for the diploma.

Graduate diploma programs are developed in co-operation with other educational partners (e.g. school districts and consortia, Ministry of Education regional offices) and all courses are offered at off-campus sites. Each program addresses a theme that is relevant to the educational community. Students normally progress through the program as a cohort. Significant portions of the program may be supported via the Internet. Students who are unable to follow a cohort through an entire theme-based program must complete a total of 30 credit hours, at least 18 of which must be in the given theme.

Admission to Diploma Program
The minimum requirements for admission are:
- a bachelor's degree from a recognized university
- a teaching certificate based on a recognized teacher preparation program, and
- submitted evidence of the student's ability to undertake advanced work in education.

Under exceptional circumstances, applicants without a teaching certificate but having a bachelor's degree and significant teaching or leadership experience in education (e.g. in a pre-school or post secondary setting) may be accepted into the program.

For further information, contact Field Programs, Faculty of Education, Simon Fraser University, Burnaby, BC, V5A 1S6, (604) 291-4892/3628 Tel, (604) 291-5882 Fax, fpa@sfu.ca

Graduate Diploma Courses
EDPR 501-520-2,3,4,5 Special Topics
These courses require students to investigate current theory, research and pedagogy related to a particular theme. Graded on a satisfactory/unsatisfactory basis. 0/2,3,4,5

EDPR 521-540-2,3,4,5 Special Topics
These courses involve students in critical examination of policy, curricular, instructional and assessment practices related to a particular theme. Graded on a satisfactory/unsatisfactory basis. 0/2,3,4,5

EDPR 541-550-2,3,4,5 Advanced Field Studies in Curriculum Development I
In these courses, students read for, plan and develop a conceptual framework for action that connects theme studies to the individual’s professional context. Graded on a satisfactory/unsatisfactory basis.

EDPR 551-560-2,3,4,5 Advanced Field Studies in Curriculum Development II
In these courses, students read for, plan and develop a conceptual framework for action that connects
theme studies to the individual’s professional context. Graded on a satisfactory/unsatisfactory basis.

**EDPR 561-570-2,3,4,5 Advanced Field Studies in Educational Practice I**
In these courses, students implement plans for action, conduct classroom inquiry, and document their individual learning related to the theme of the course sequence. Graded on a satisfactory/unsatisfactory basis.

**EDPR 571-580-2,3,4,5 Advanced Field Studies in Educational Practice II**
In these courses, students implement plans for action, conduct classroom inquiry, and document their individual learning related to the theme of the course sequence. Graded on a satisfactory/unsatisfactory basis.

**EDPR 581-590-2,3,4,5 Advanced Field Studies in Collaborative Inquiry I**
In these courses, students work in groups to investigate topics of mutual interest within the diploma theme, with an emphasis on their contributions to both the cohort learning group and the individual’s broader educational community. Graded on a satisfactory/unsatisfactory basis.

**EDPR 591-599-2,3,4,5 Advanced Field Studies in Collaborative Inquiry II**
In these courses, students work in groups to investigate topics of mutual interest within the diploma theme, with an emphasis on their contributions to both the cohort learning group and the individual’s broader educational community. Graded on a satisfactory/unsatisfactory basis.
Faculty of Science

P9451 Shrum Science Centre, (604) 291-4590 Tel, (604) 291-3424 Fax, www.sfu.ca/~science

Dean
W.S. Davidson BSc (Edin), PhD (Ou)

Associate Dean
R.W. Mathewes BSc (S Fraser), PhD (Br Col)

Director of Science Student Liaison and Alumni Development
J. Simms BSc (New Br), MSc (Wat)

Graduate Degrees Offered
Master of Environmental Toxicology
Master of Pest Management
Master of Science
Doctor of Philosophy

General Regulations
See “Graduate General Regulations” on page 299 for admission requirements, registration, residence requirements and degree completion time limits.

Admissions

Requirements for the MSc Degree
The minimum requirements are those stated in the Graduate General Regulations (page 299). Any additional requirements imposed by the supervisory committee must be satisfied. Individual departments may require additional courses at the graduate level. Students who, in the opinion of the supervisory committee, lack certain prerequisites for graduate courses may be required to include some undergraduate courses in their programs.

Requirements for the PhD Degree
A PhD candidate must present a thesis embodying original research results. In addition, 15 credit hours beyond the BSc degree is required. Of these, at least 12 must be graduate courses and the remaining three may be chosen from graduate or upper division undergraduate level within the candidate’s department or an ancillary department. These are minimum faculty requirements. Individual departments may have additional requirements.

Full-Time Study
Full-time study for the MET, MPM, MSc, and PhD normally is a period of intensive work, during which not more than 20 hours of employment per week may be undertaken by the candidate. This refers to clock hours either at external employment off campus or employment on campus as a teaching assistant or research assistant performing specified duties not directly related to the candidate’s program of study.

Supervisory Committee
For information on supervisory committees, see “Graduate General Regulations” on page 299.

Thesis
The thesis must be presented and lodged in the University library. Details concerning the final form for binding are available from the library.

PhD Examinations
Examinations may be oral and/or written and all committee members must certify the results. See “1.9.4 Preparations for Examination of Doctoral Thesis” on page 304 for further regulations.

Research Facilities
Faculty of Science research programs are housed in modern research laboratories and are serviced by a wide range of facilities and equipment. The research complement includes 158 faculty members, 60 post-doctoral fellows and research associates and 350 to 400 graduate students.

The facilities include a Molecular Beam Epitaxy facility, a Bruker FTIR-GC system, a number of NMR machines including a Bruker AMX 600 superconducting high field facility for ‘H and other nuclei, a Hewlett Packard 5985 GC mass spectrometer with data station, amino acid analyser facilities for DNA synthesis and automated DNA sequencing and quadruple gas analyser. X-ray generators with vertical and full circle goniometers, various electron microscopes and high power lasers are available. There are also comprehensive machine, glassblowing and electronic workshops.

Biological research is enhanced by fresh and salt water aquarium facilities, insectary, extensive radioisotope facilities, an 11 metre research vessel, and various boat and vehicle transport systems. The Bamfield Marine Station on Vancouver Island’s west coast, is available as a teaching and research facility for marine biology and oceanography. The marine station is operated jointly by the Universities of Alberta, British Columbia, Calgary, Simon Fraser University and the University of Victoria.

Experimental facilities are available at TRIUMF, a 500 MeV proton accelerator for the study, for example, of high energy nuclear reactions, muon chemistry and nuclear decay systems of exotic nuclei. TRIUMF is a joint venture of the University of Alberta, University of British Columbia, Simon Fraser University, the University of Victoria and Carlton University.

Department of Biological Sciences
B8255 Shrum Science Centre, (604) 291-4475 Tel, (604) 291-3496 Fax, www.sfu.ca/biology

Chair
N.H. Haunerland MSc, PhD (Mün)

Graduate Program Chair
M.M. Moore BSc, PhD (Br Col)

Faculty and Areas of Research
See “Department of Biological Sciences” on page 192 for a complete list of Biological Sciences faculty and also “Centre for Environmental Biology” on page 380 for a complete list of Environmental Biology faculty.

L.J. Albright – marine microbiology, fish diseases
A.T. Beckenbach – population genetics, biometrics
L.V. Bendell-Young – environmental toxicology
J.H. Borden – forest entomology, phenomones
B.P. Branchorst – developmental biology, molecular biology
F. Breden – population genetics, evolution of social behavior
G.J. Crespi – behavioral ecology
K.R. Delaney – neurophysiology
L.M. Dill – behavioral ecology
E. Elle – plant evolutionary ecology
P.V. Fankboner – pearl culture, marine invertebrate biology
A.P. Farrell – cardiovascular physiology, environmental toxicology
G.J. Gries – behavioral ecology, marine invertebrate biology
A.S. Harestad – wildlife biology

E.B. Hartwick – marine invertebrate ecology, cephalopod biology
N.H. Haunerland – biochemistry, insect physiology
C.J. Kennedy – aquatic toxicology
A.R. Kermode – plant molecular biology
F.C.P. Law – environmental toxicology
L.F.W. Lesack – ecosystem biogeochemistry, limnology, land-water interactions
R. Mathewes – paleoecology, palynology
J. Mattsson – Arabidopsis developmental genetics
A.R. Mooers – biodiversity, molecular analysis
M.M. Moore – toxicology, microbiology
R.A. Nicholson – pesticide biochemistry, toxicology
I. Novales-Flamamarie – visual ecology, neurotoxicology, evolution
E. Paixson – mathematical biology, cell modeling
A.L. Plant – root specific gene expression, osmotic stress, seed specific gene expression
Z.K. Punja – plant biotechnology and pathology
L.M. Quarabny – cell biology
J.E. Rahe – plant pathology, pest management
B.D. Rogger – population dynamics, insect behavioral ecology
T.D. Williams – physiological ecology
M.L. Winston – apiculture, social insects
R.C. Ydenberg – behavioral ecology

Associate Members
C. Crawford, Psychology
B. Defined, Archaeology
C. Krieger, Kinesiology
G.F. Tibbits, Kinesiology

Admission – MSc and PhD
See “Graduate General Regulations” on page 299 for admission requirements and “Centre for Environmental Biology” on page 380 for admission to the Master of Pest Management program and the Master of Environmental Toxicology program.

Biochemistry and Molecular Biology
See “Department of Molecular Biology and Biochemistry” on page 385 for graduate studies in molecular biology or biochemistry.

Biophysics
Students who wish to undertake interdisciplinary work in biophysics may apply to the Department of Biological Sciences or the Department of Physics. See “Graduate General Regulations” on page 299 for biophysics under special arrangements.

Post Baccalaureate Diploma in Environmental Toxicology
See “Environmental Toxicology” on page 195 for information about this program.

MSc and PhD Requirements
All MSc and PhD programs require a thesis based on original research.

Each PhD student must pass an oral candidacy exam prior to the end of the fourth program semester or the second semester after transfer from the MSc program. The exam concentrates on the student’s area of research and follows a written PhD research proposal submission. The exam is graded acceptable/ unacceptable. Students with an unacceptable grade must pass a second exam within six months; a second unacceptable rating requires program withdrawal.
If a student already has a master's degree, the PhD program requires a minimum of three courses totaling not less than eight credit hours. Of these, at least six are in graduate courses and the remaining hours may be chosen from courses at the graduate or upper division undergraduate level within the candidate's department, or in an ancillary department. Where advance approval is obtained, a PhD student may take up to one-half of the above course requirement at another university for credit toward the PhD degree at Simon Fraser University. PhD students entering directly from a bachelor's program or transferring from the MSc program must complete 15 credit hours in total (i.e. one additional three credit course beyond the University MSc requirement (see "1.7.2 Residence Requirement for the Master's Degree" on page 302). Additional course work may be set by the supervisory committee. For graduate program information, contact the chair, department graduate studies committee.

**Biological Sciences Graduate Courses**

**BISC 804-3 Plant Ecology**
Directed study and discussion of current literature related to terrestrial plant ecology particularly environmental relationships. Particular topics to be arranged.

**BISC 805-3 Comparative Endocrinology**
A comprehensive account of morphological and physiological aspects of endocrine systems in various groups of animals. Principles of methods and techniques in endocrinological research.

**BISC 806-3 Evolutionary Theory**
A consideration of recent advances and current controversies in our understanding of the development, diversification and adaptation of life through natural selection.

**BISC 807-3 Ecological and Evolutionary Physiology**
This course considers what physiology has to offer behavioral and evolutionary ecology (and vice versa), with a focus on whole organism or ‘integrative physiology.’ (3-0-0)

**BISC 812-3 Marine Research Techniques: Scientific Diving**
An introduction to the use of diving in marine/freshwater research, related underwater methodology, diving competency and current issues in marine biological research and scientific diving. (3-0-3)

**BISC 814-3 Aquatic Ecology**
Current problems in the ecology of marine and freshwater environments. Topics will be selected from recent developments in physiological ecology, energetics, population ecology and community studies.

**BISC 815-3 Contemporary Problems in Plant Physiology**
Directed studies in modern laboratory approaches to specific areas of research.

**BISC 816-3 Biology and Management of Forest Insects**
Bionomics, ecology, economic impact, and management of the major groups of forest insects, based on intensive reviews of information on representative species. Prerequisite: BISC 317 or permission of the department.

**BISC 817-3 Evolution of Social Behavior**
Study of the proximate and ultimate causes and consequences of alternative social systems in non-human animals. (3-0-0)

**BISC 824-3 Survival and Reproductive Strategies**
An examination of strategies for resource acquisition and allocation, and the behavioral, ecological and life history means whereby organisms maximize lifetime reproductive success. (3-0-0)

**BISC 827-3 Seminar in Evolutionary and Behavioral Ecology**
An introduction to the important issues, methods and philosophy of behavioral ecology, and discussion of current topics. Grading will be on an S/U basis. Prerequisite: BISC 304 and 410 or permission of the department.

**BISC 828-3 Models in Behavioral Ecology**
An intensive survey course of current modeling techniques used for analysis of problems in behavioral ecology. (3-0-0)

**BISC 829-3 Conservation Ecology**
This course will illustrate the value of applying ecological theory, particularly concerning life history and demography, to issues of management and conservation. Examination of life history characteristics and variability of individuals will demonstrate how knowledge of demography and population parameters are essential for effective conservation. Emphasis will be on vertebrate species. (3-0-0)

**BISC 833-3 Population Biology**
Consideration of the ecological and genetic processes acting at the population level. (3-0-0)

**BISC 839-3 Industrial Microbiology**
This course introduces students to the use of micro-organisms in biotechnology, e.g. in the environmental, pharmaceutical and chemical industries. The lectures will cover the unique physiology and biochemistry of industrial micro-organisms as well as discussing their use in various processes including industrial fermentation, bioremediation, chemical synthesis and protein production (e.g. vaccines) by recombinant organisms. (2-0-1) Prerequisite: a second or third year undergraduate microbiology course.

**BISC 841-3 Plant Disease Development and Control**
An examination of the major factors that lead to development of soil-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 antagonists 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 parasites. Emphasis will be on parasitic insects, 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: consent of the department.

**BISC 849-0 Master of Pest Management Thesis**
A supervised individual analysis in detail and depth of an aspect of pest management and the preparation of a scholarly paper on it.

**BISC 850-3 Weed Biology and Control**
A survey of the biological and ecological characteristics of weeds, the types and magnitudes of damage they cause, and the theory and principles of control.

**BISC 851-3 Vertebrate Pests**
An evaluation of the biology and of the economic and social impacts of vertebrates that are in conflict with human activities; and a discussion and evaluation of actual and potential control techniques as applied to such animals.

**BISC 852-3 Medical and Veterinary Entomology**
Analyses of problems in the management of insects and related organisms that directly harm or that carry diseases of man or livestock.

**BISC 854-3 Ecotoxicology**
The proposed course will detail the physiochemical factors that influence contaminant behavior in aquatic and terrestrial ecosystems. (0-0-3) Prerequisite: BISC 101, 312, CHEM 102, and 103. Recommended: BISC 414.

**BISC 855-3 Biochemical Toxicology**
This course examines the biodynamics and actions of toxicants on several key biological systems within living organisms at the biochemical and molecular levels. (3-2-0) Prerequisite: BISC 301 and 313.

**BISC 856-3 Industrial Biotechnology**
This course is intended to provide students with the theory and hands-on experience of several commonly used biotechnological techniques. (2-0-6) Prerequisite: BISC 221 and 303. Recommended: BISC 329.

**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.
Due March 1/02 extending over a six week period. (0-6-0)
Marine Station and are prepared to offer a course designed to take maximum advantage of the developments in the area of aquatic and marine biology. (0-6-0)

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. (0-6-0)

MASC 503-506 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. (0-6-0)

BISC 888-1 Directed Readings in Biology Programs of directed readings and critical discussions offered by staff members to individual students. A formal description of the study program is required (forms available from the graduate secretary). These forms must be approved by the departmental graduate studies committee at the beginning of the semester, prior to registration. (1-0-0)

BISC 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. (2-0-0)

BISC 890-3 Directed Readings in Biology Programs of directed readings and critical discussions offered by staff members to individual students. A formal description of the study program is required (forms available from the graduate secretary). These forms must be approved by the departmental graduate studies committee at the beginning of the semester, prior to registration. (3-0-0)

BISC 898-0 MSc Thesis BISC 899-0 PhD Thesis

Marine Science Courses
Marine Science courses, which may be included in a biology graduate program at Bamfield, BC, are offered in conjunction with certain other universities. The following courses are available for graduate course credit for MSc and PhD students on recommendation of the supervisory committee.

MASC 500-3 Directed Studies A graduate level course of directed studies under the supervision of a member of faculty. The study will involve a research project approved by the supervisor in the field of interest of the student, and will be designed to take maximum advantage of the laboratory and/or field opportunities offered by the Bamfield Marine Station.

MASC 501-502-3 Special Topics Courses offered, as opportunities arise, by distinguished scientists who are visiting the Bamfield Marine Station and are prepared to offer a course extending over a three week period.

MASC 503-3 Special Topics Courses offered, as opportunities arise, by distinguished scientists who are visiting the Bamfield Marine Station and are prepared to offer a course extending over a three week period. (0-3-0)

MASC 504-506-6 Special Topics Courses offered, as opportunities arise, by distinguished scientists who are visiting the Bamfield Marine Station and are prepared to offer a course extending over a six week period. (0-6-0)

Department of Chemistry
C8035 Shrum Science Centre, (604) 291-3590 Tel, (604) 291-3765 Fax, www.sfu.ca/chemistry
Chair B.M. Pinto BSc, PhD (Qu), FCIC
Graduate Program Chair G.W. Leach BSc, MSc, PhD (Tor)
Faculty and Areas of Research See “Department of Chemistry” on page 196 for a complete list of faculty.

A. Agnes – analytical chemistry
A.J. Bennet – organic chemistry
T.J. Borgford – biochemistry*
N.R. Branda – organic chemistry, materials chemistry
J.A.C. Cityburne – inorganic chemistry
R.B. Cornell – biochemistry*
J.M. D’Auria – nuclear chemistry
I.D. Gay – physical chemistry
R.H. Hill – inorganic chemistry
S. Holdcroft – polymer chemistry
C.H.W. Jones – radiochemistry
G.W. Leach – physical chemistry
D.B. Lenzoff – inorganic chemistry
P.C.H. Li – analytical chemistry
G.L. Malli – theoretical chemistry, chemical physics
P.W. Percival – physical chemistry, nuclear chemistry
B.M. Pinto – organic chemistry
E. Plettner – bio-organic chemistry
R.K. Pomeroy – inorganic chemistry
W.R. Richards – biochemistry*
D. Sen – biochemistry*
K.N. Slessor – bio-organic chemistry
J.J. Wilkie – theoretical chemistry
V. Williams – organic chemistry
P.D. Wilson – organic chemistry
Z.G. Ye – materials chemistry
H.Z. Yu – analytical chemistry
Associate Member D.H. Boal, Physics
*joint appointment with biochemistry

Degrees Offered
The department offers courses leading to the MSc and PhD degrees.

Degree Requirements

MSc Program
Admission
See “Graduate General Regulations” on page 299.

Course Work
The minimum requirement for the master’s degree is 12 credit hours of graduate courses.

Research
A major part of this program is devoted to original research. A thesis describing this must be submitted and defended at program conclusion.

PhD Program
Admission
See “Graduate General Regulations” on page 299.

Degree Requirements
Course Work
For students entering with a BSc or equivalent: 15 credit hours of graduate courses. For students entering with a master’s degree: six credit hours of graduate courses not including CHEM 801.

Research
A major portion of this program will be devoted to original research. A thesis embodying new and significant results must be presented and defended at the conclusion of the degree program.

Transfer from MSc to PhD Program
Transfer from the MSc to the PhD program without submitting an MSc thesis must satisfy University requirements. Evidence of research potential will be judged by the graduate program committee.

Biochemistry
See “Department of Molecular Biology and Biochemistry” on page 385.

Chemical Physics
Students who wish to undertake interdisciplinary work in chemical physics may apply to the Department of Chemistry or to the Department of Physics. See “Graduate General Regulations” on page 299 for chemical physics under special arrangements.

Co-operative Education Program
The Department of Chemistry offers a co-operative education option to allow students to gain work experience outside the academic sphere. Students who are currently enrolled in the department’s MSc program may apply for registration in CHEM 881 and 882. This option is only tenable after the completion of an MSc thesis and defence but before formal graduation. Registration in these courses requires the approval of the graduate program committee.

Graduate Courses

CHEM 740-3 Solid State Materials Chemistry
The study of the detailed chemistry of solid state inorganic materials in terms of crystal structures, bonding, preparative methods, analytical and characterization techniques, mixed valence states, solid solutions, defects and non-stoichiometry, molecular mechanisms of the optical, electronic, ionic, magnetic and dielectric properties, and materials applications in advanced technology. (3-1-0)

CHEM 742-3 Polymeric Materials
The course covers the detailed chemistry of polymers, including polymer structure, studies of polymer solutions, molecular weight determination, and the synthesis of polymers. In addition, topics of current interest in polymer science will be discussed. (3-1-0)

CHEM 744-3 Organic Materials Chemistry
This is an advanced level course in modern organic materials chemistry. Emphasis will be placed on the synthesis and properties of materials that are useful in the design of electrophotical devices, such as light emitting diodes (LEDs) and liquid crystal displays (LCDs). Topics to be discussed will include liquid crystals, conjugated polymers, and the assembly of thin film materials. A case study approach will be
employed in order to provide an overview of these areas of research, with examples taken from the primary literature. (3-1-0)

CHEM 750-3 Physical Organic Chemistry
An advanced treatment of mechanism and structure in organic chemistry and the use of physical methods as probes of structure, stereochemistry and conformation.

CHEM 752-3 Bio-organic Chemistry
An advanced treatment of the use of enzymes in organic synthesis, the use of stable and radio isotopes in the study of enzymatic processes, and the design of enzyme inhibitors.

CHEM 754-3 Carbohydrate Chemistry
A detailed treatment of the structure and reactions of monosaccharides, the use of carbohydrates as chiral templates in organic synthesis, advances in glycoside synthesis, the occurrence, chemistry, and conformational analysis of complex carbohydrates and their role in biological systems.

CHEM 755-3 Synthetic Organic Chemistry

CHEM 759-3 Special Topics in Organic Chemistry
An advanced treatment of specific topics related to the study of organic compounds. Topics which will be discussed will vary from one semester to the next.

CHEM 801-3 Student Seminar
Discussion of recent literature in chemistry through student seminars.

CHEM 819-3 Special Topics in Analytical Chemistry
In-depth coverage of a particular area of analytical chemistry. Example subject areas include separation science, mass spectrometry, optical spectroscopy, electrochemistry, or surface science. Occasionally the subject matter of this course will be a survey of recent advances in the field. (3-0-0)

CHEM 832-3 Organometallic Chemistry
An advanced treatment of 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 836-3 Special Topics in Inorganic Chemistry I
An advanced, in-depth treatment of a specialized area of inorganic chemistry.

CHEM 839-3 Special Topics in Inorganic Chemistry
An advanced, in-depth treatment of a specialized area of inorganic chemistry.

CHEM 842-3 Special Topics in Radiochemistry
Theory and practical techniques of the current uses of radioactive isotopes in systems of chemical interest.

CHEM 863-3 Magnetic Resonance
Principles, techniques and applications of NMR and ESR.

CHEM 864-3 Quantum Chemistry
Non-relativistic quantum mechanics. Atomic and molecular structure, perturbation theory, variation method.

CHEM 865-3 Electrochemistry
Modern techniques and concepts in electrochemistry. Topics include equilibrium and dynamic electrochemistry, ion transport and voltammetry. Electrochemical systems of increasing importance including chemically modified electrodes, fuel cells and solar energy conversion applications will also be discussed. (3-1-0)

CHEM 869-3 Special Topics in Physical Chemistry
A specialized area of physical chemistry will be selected from a list of topics.

CHEM 881-0 Co-op Practicum I
First semester work experience term for graduate students. Prerequisite: completion of MSc thesis including defence.

CHEM 882-0 Co-op Practicum II
Second semester work experience term for graduate students. Prerequisite: completion of MSc thesis including defence.

CHEM 890-0 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 used for credit towards the PhD degree in Chemistry if the student transfers into the PhD program.

CHEM 899-0 PhD Thesis

Department of Earth Sciences


Chair
E.J. Hickin BA, PhD (Syd), PGeo

Graduate Program Chair
D. Stead, BSc (Eve), MSc (Leeds), PhD (Nott), CEng

Faculty and Areas of Research
See “Department of Earth Sciences” on page 197 for a complete list of faculty.

D.M. Allen – hydrogeology
A.J. Calvert – geophysics
J.J. Clague – geologic hazards and Quaternary geology
L. Godin – structural geology and continental tectonics
E.J. Hickin – fluvial geomorphology and sedimentology
J.A. MacEachern – ichnology and sedimentology
D. Marshall – geochemistry
P.S. Mustard – evolution of sedimentary basins
M.C. Roberts – Quaternary depositional environments
D. Stead – engineering geology, rock mechanics, forestry geoscience
D.J. Thorkelson – cordilleran tectonics and volcanology
B.C. Ward – environmental and Quaternary geology

MSc Program
The Department of Earth Sciences offers a master of science with emphasis on earth surface processes and environmental geoscience, surficial and Quaternary geology and sedimentology.

Admission
See “Graduate General Regulations” on page 299 for admission requirements. 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 take EASC 600 and a minimum of 12 credit hours composed of at least four courses from the list below, or with the graduate chair’s approval, from related graduate courses 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 EASC courses. In addition, a thesis is required. The actual course selection will be a reflection of the student’s research interest and guidance from the advisor.

Research
Graduates will be required to conduct original research and report their results in a thesis.

Graduate Courses

EASC 600-0 Introduction to Graduate Studies
A required course designed to acquaint new graduate students with the research strengths of the program, research facilities in the University, and its vicinity. Procedures and policies relating to preparation, conduct and presentation of thesis research will be discussed. (seminar)

EASC 603-3 Field Techniques in Hydrogeology
This course is intended to complement the theoretical aspects of physical hydrogeology and aqueous geochemistry covered at an undergraduate (or early MSc) level by providing students with hands-on experience using hydrogeological equipment (data loggers, pumps, chemical sampling equipment), implementing sampling and testing protocols, and observing state-of-the-art monitoring and geophysical tools. The course entails preparatory research and data interpretation on the hydrogeology of the Fraser delta (including surficial geology, regional geochemistry and geophysical characteristics), a week at a hydrogeology field site on the Fraser River delta (early May), the extensive analysis and interpretation of data gathered during the field session complemented with regional data acquired during preliminary investigations, the development of a large-scale simulation model of the groundwater flow system at the site, and the completion of a comprehensive hydrogeological report. The course normally runs for about three weeks following spring session final examinations. Note: This course has limited enrollment. (2-0-2) Prerequisite: undergraduate courses in physical and chemical hydrogeology (or equivalent) and consent of the department.

EASC 604-3 Deformation Mechanisms and Continental Tectonics
This course will focus on increasing the level of understanding of the mechanisms by which rocks deform and the effect of environmental variables (effective pressure, temperature, strain rate, chemical environment, etc.) on these deformation mechanisms. Lectures will cover flow concepts applied to ductile deformation, grain-scale to crustal-scale strain partitioning, and models of exhumation of metamorphic rocks. The link between far-field effects such as lithosphere rheology, climate and erosion, and orogenic style will also be discussed. (2-0-2) Prerequisite: undergraduate level courses in structural geology and global tectonics, equivalent to EASC 204 and 309 (or permission of the instructor).

EASC 606-3 Advanced Field Methods in Earth Sciences
Focuses mainly on the field description, measurement and interpretation of geological, geochemical and geophysical features, and may concentrate on certain aspects of bedrock or surficial geology. Includes methods of data acquisition, display and modeling. Field exercises may be augmented by
directed readings and laboratory studies. Course costs depend on the location and duration of field work and the nature of related investigations. (2-0-2) Prerequisite: permission of the instructor.

**EASC 607-3 Exploration Seismology**
Application of seismic methods of the delineation of hydrocarbon deposits and crustal structure. Travel time expressions for a layered Earth; Zoeppritz' equations; 2-D and 3-D seismic surveying methods; reflection data processing, including deconvolution and migration; amplitude versus offset methods and direct hydrocarbon detection; seismic wave propagation in Earth's crust; refraction inversion; principles of seismic interpretation. (2-0-2) Prerequisite: EASC 417 or equivalent.

**EASC 608-3 Advanced Metamorphic Petrology**
Field relations, nature and origin of metamorphic and mafic rocks, graphical treatment and interpretation of mineral assemblages and heat-flow regimes in the framework of global tectonics, with special emphasis on derivation of pressure-temperature-fluid conditions ranging from low-grade rocks through granulites to partial melts. Laboratory: petrographic techniques applied to the study of rock suites. (2-0-2) Prerequisite: permission of the instructor.

**EASC 611-3 Sedimentology**
An advanced treatment of topics which may include processes of sedimentation, facies model concepts, applications of ichnology, and depositional environments with an emphasis on siliciclastic successions. Course content will be tailored to student interest, but generally will include both non-marine and marine processes of sedimentation and resultant depositional systems. The development of effective field criteria for the interpretation of the sedimentary record will be emphasized. (2-0-2)

**EASC 612-3 Stratigraphy**
Stratigraphic concepts of lithostratigraphy, biostratigraphy, chronostratigraphy and genetic stratigraphy. The course concentrates on genetic stratigraphy, with emphasis on allostratigraphy, genetic stratigraphic sequences and sequence stratigraphy. Students will critically assess each paradigm and its applicability to both the subdivision and the interpretation of the sedimentary record. Relative sea level changes and their effects on deposition will be discussed in relation to the preserved sedimentary record. Students will examine the utility of facies analysis in the various genetic stratigraphic frameworks and the viability of reconstructing the depositional history of sedimentary successions. (2-0-2)

**EASC 613-3 Groundwater Hydrology**
Advanced topics in physical hydrogeology, including fluids and porous media, saturated and unsaturated flow systems, mass transport and dispersion, and hydrogeological modeling. The course includes an introduction to numerical techniques for groundwater modeling, focusing on the understanding of fundamental principles and an appreciation of the role of models. The course assumes successful completion of at least one undergraduate hydrogeology course. (2-0-2)

**EASC 614-3 Subsurface Techniques**
Advanced topics in subsurface exploration methods. Methods of drilling; core description and analysis; well logging. (1-0-3)

**EASC 615-3 Applied Geophysics**
Instrumentation, application and limitations of electrical, seismic, radar and gravity methods in the exploration for mineral resources and in engineering applications. (1-0-3)

**EASC 616-3 Fluvial Systems**
Fluid mechanics of open channel flow; physical sedimentology and sediment transport in aqueous environments. (2-0-2) Prerequisite: appropriate standing in Applied Mathematics and in Physics.

**EASC 617-3 Quaternary Geology**
Environments of glacial and proglacial deposits. Quaternary stratigraphy and dating methods with emphasis on the Cordillera. (1-0-3)

**EASC 618-3 Tectonics of Sedimentary Basins**
Regional processes of subsidence and basin formation from a plate tectonics viewpoint. The course will examine the origins and general characteristics of convergent, divergent, intraplate and hybrid basins. Methods of discriminating basin origins from an understanding of depositional systems, stratigraphic analysis, provenance and compositional variations will be examined. (2-0-2)

**EASC 619-3 Environmental Geoscience**
An examination of the concepts, methods and techniques used in advanced case studies of environmental geology, in fields including forestry, environmental 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 orogenic float. (2-0-2) Prerequisite: undergraduate structural geology and petrology courses.

**EASC 622-3 Principles of Ichnology**
The conceptual framework of ichnology with particular emphasis on the ethological (behavioral) classification of biogenic structures, as well as its applications to the ichnofacies concept and paleoenvironmental interpretation of the sedimentary record. Environmental stresses and organism responses will be integrated with conventional sedimentology to highlight the complex inter-relationships between infauna and the environments they inhabit. The genetic stratigraphic applications of ichnology will also be addressed. (2-0-2) Prerequisite: advanced undergraduate sedimentology course

**EASC 623-3 Groundwater Resource Evaluation**
In addition to examining groundwater resources (exploration, evaluation and management), this course expands upon the theory and use of aquifer tests and their respective methods of analysis for evaluating groundwater resources. Advanced methodologies for partially penetrating wells, leaky aquifers, anisotropic aquifers, double porosity 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 704-3 Special Topics**
**EASC 705-3 Special Topics**
**EASC 706-3 Special Topics**
**EASC 707-3 Special Topics**
(2-0-2) Prerequisite: permission of the instructor.

**EASC 708-3 Special Topics**
(2-0-2) Prerequisite: permission of the instructor.

**EASC 709-1 Directed Readings**
(2-0-2) Prerequisite: permission of the instructor.

**EASC 710-2 Directed Readings**
(2-0-2) Prerequisite: permission of the instructor.

**EASC 711-3 Directed Readings**
(2-0-2) Prerequisite: permission of the instructor.

**EASC 898-0 MSc Thesis**
Admission Requirements

University admission requirements are given in the General Regulations, Graduate section. In addition, the program requires that, for clear admission, the applicant must have completed undergraduate level instruction equivalent to a total of 12 credit hours in ecology, entomology, plant pathology, and chemical pesticides. Applicants who lack some of the prerequisites may be admitted to the program but will be required to make up the deficiencies prior to graduation. Professional experience relevant to pest management can be considered in the case of applicants who do not meet formal admission standards. Normally, the CEB admissions committee will specify the appropriate qualifying conditions, if any, at the time of admission.

Program Requirements

Every MPM program includes the following courses.

Core Courses
- BISC 601-5 Urban and Industrial Pest Management
- BISC 602-5 Forest Pest Management
- BISC 603-5 Farm and Specialty Crop Pest Management
- BISC 604-5 Orchard Crop Pest Management
- BISC 605-5 Management of Animal Disease Vectors
- BISC 847-3 Pest Management in Practice

Elective Courses

MPM candidates must complete a minimum of four elective 800 level graduate courses from the list given below. Course selection must be approved by the senior supervisor. Up to six credit hours of non-PMR graduate courses may be substituted, subject to prior approval by the student's supervisory committee and the program director.

- BISC 816-3 Biology and Management of Forest Insects
- BISC 817-3 Social Insects
- BISC 841-3 Plant Disease Development and Control
- BISC 842-3 Insect Development and Reproduction
- BISC 843-3 Population Processes
- BISC 844-3 Biological Controls
- BISC 846-3 Insecticide Chemistry and Toxicology
- BISC 848-3 Nematology
- BISC 850-3 Weed Biology and Control
- BISC 851-3 Vertebrate Pests
- BISC 852-3 Medical and Veterinary Entomology
- BISC 884-3 Special Topics in Pest Biology and Management

Elective Courses

Students must complete one of
- BISC 856-3 Organic Chemistry II
- CHEM 282-3 Organic Chemistry II
- BISC 312-3 Environmental Toxicology I
- BISC 313-3 Environmental Toxicology II
- MBB 221-3 Cellular Biology and Biochemistry

Program Requirements

Each MET student must choose a senior supervisor after admission, in consultation with the director of the program. In accordance with university regulations, a supervisory committee must be formed by the beginning of the third semester of full time equivalent enrolment. As part of the requirements, students must complete a project on a specific aspect of environmental toxicology which may be based on original field, laboratory or library research. The student will be supervised on this project by the senior supervisor while enrolled in BISC 656. In addition to submission of a report at the completion of the project, the student will make an oral presentation to at least the supervisory committee and at least one other faculty member.

This program may be taken on a part time basis. Every MET program will consist of a minimum of 32 credit hours of graduate credit, including the following courses.

Core Courses
- BISC 650-3 Environmental Risk Assessment: Human Health Risk Assessment and Ecological Effects-based Risk Assessment
- BISC 651-3 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 652-3 Environmental Toxicology Testing: Ecological Effects-based Tests
- BISC 653-3 Mammalian Toxicology Tests I: Ecological Effects-based 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

Co-operative Education

This program has a co-operative education option that allows students to gain work experience outside the University. Award of the Master of Environmental Toxicology degree is contingent upon satisfactory completing this option.

Students registering in the co-op program must note the regulations governing minimum fee requirements. See “Graduate Fees” on page 306.

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.
Geography Program


Chair
(to be announced)

Graduate Program Chair
N.K. Blomley BSc, PhD (Brist)

Faculty and Areas of Research
See “Department of Geography” on page 154 for a complete list of faculty.

G.W. Bailey – physical climatology, ginseng research
T.A. Brennand – glacial geomorphology, quaternary environments, regional paleohydrology
S. Dragicevic – geographic information science, spatial analysis and modelling
E.J. Hickin – fluvial geomorphology
I. Hutchinson – quaternary environments, coastal studies
L.F.W. Lesack – ecosystem biogeochemistry, land and water interactions, limnology
W.L. Quinton – hydrology of cold regions, runoff processes
A.C.B. Roberts – cultural, historical, paleo environments, remote sensing, photogrammetry
M.C. Roberts – fluvial geomorphology, subsurface methods
M.G. Schmidt – soil science, forest ecology
N.C. Schuurman – geographic information systems, spatial data and integration

Degrees Offered
The Department of Geography offers a program leading to the MSc degree in the Faculty of Science with emphasis on earth surface processes and environmental geoscience, specifically in aspects of geomorphology, biogeochemistry, soils, climatology and hydrology; spatial information science, remote sensing, GIS and spatial analysis.

Students interested in pursuing a PhD degree in physical geography should see the Department of Geography entry in the Faculty of Arts section (page 344).

Admission
Normally, MSc candidates should have a BSc grade point average of 3.25 in geography or a related field to enter the program. Admission for MSc students is in the fall semester. Applications for fall admission should be completed by February 1 of that year.

MSc Committee
The MSc candidate, once admitted, works under the 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 drawn from outside the department, will be chosen by the beginning of the second semester.

Degree Requirements
All candidates for the MSc degree are expected to complete the degree requirements (30 credit hours) in six semesters. The MSc program requires the submission of a thesis (18 credit hours). The remaining 12 credit hours will be comprised of required and elective courses.

Course Work
Students complete 12 credit hours minimum (three courses) plus GEOG 600 and 601 which are non-credit courses, the grading of which is on a satisfactory/unsatisfactory basis. Attendance is compulsory in order to obtain a satisfactory grade.

Students normally complete GEOG 606 as part of the 12 credit hours. With the advisor's consent, the student can request this requirement be replaced by another course. The remaining seven credit hours are composed of two courses from the list below, or with the graduate chair's approval, from related graduate courses in other departments such as biological sciences, chemistry, physics, mathematics, earth sciences, resource and environmental management and computing science. Students with deficiencies may be asked to complete more course work.

Thesis
The MSc program requires the submission and successful defense of a thesis. Normally, MSc students will present their proposed research at a one-day conference (research day) to be held annually in the spring semester. A written proposal should be submitted to the student's supervisory committee, defended in colloquium and approved, by the end of the second semester and prior to the start of substantive research. The thesis normally involves the conceptualization of a problem and the collection, analysis and interpretation of empirical data. The recommended maximum length of an MSc thesis is 120 pages (including bibliography, but excluding appendices). The completed thesis will be judged by the candidate's examination committee at an oral defence.

Graduate Courses
For a full list of GEOG courses offered, see "Geography Graduate Courses" on page 345 in the Faculty of Arts section.

GEOG 600-0 Introduction to Graduate Studies: Fall Semester
Introduction to graduate studies in the Department of Geography at Simon Fraser University. Covering formal requirements and practical considerations.

GEOG 601-0 Introduction to Graduate Studies: Spring Semester
Completion of GEOG 600, with an emphasis on the preparation and presentation of the research proposal.

GEOG 606-5 Research Design and Analytical Techniques in Physical Geography
Research design, data collection and quantitative methods in physical geography.

The following courses are offered less frequently, dependent on student demand and faculty availability.

GEOG 611-4 Hydrology
Conceptual and methodological bases of current hydrologic research.

GEOG 612-4 Glacial Geomorphology
Glacial landform-process models; field study of glacial landforms and sediments.

GEOG 613-4 Fluvial Geomorphology
An examination of current conceptual and methodological issues in fluvial geomorphology based on analyses of the primary research literature.

GEOG 614-4 Climatology
Recent theoretical developments in physical climatology.

GEOG 615-4 Quaternary Environments
Recent developments in paleoecology and the study of Quaternary environments.

GEOG 617-4 Soil Science
Soil physics, soil chemistry, soil biology and/or forest soils.

GEOG 651-4 Advanced Spatial Analysis and Modeling
Perspectives on the description, analysis and prediction of geographical processes using spatial modeling and decision-making in a GIS environment.

GEOG 653-4 Theoretical and Applied Remote Sensing
Theory and applications of analytical processing procedures used with multispectral remote sensing data.

GEOG 654-4 Advanced Principles of Geographic Information Science
Examines data, data structures and computational methods that underlie GIS description and analysis. Illustrates the social science and science links between computers and geography.

GEOG 656-4 Aerial Reconnaissance for Remote Sensing
Theoretical and practical training in the acquisition of airborne multispectral remote sensing data.

GEOG 691-4 Directed Readings
Students may only take this course once during their program.

GEOG 697-0 MSc Thesis

Department of Mathematics


Chair
A.H. Lachlan BA, MA, PhD (Camb), FRSC

Graduate Program Chair
T.C. Brown BA (Reed), AM, PhD (Wash U)

Faculty and Areas of Research
See “Department of Mathematics” on page 202 for a complete list of faculty.

I. Chen – number theory, arithmetic geometry
K.K.S. Choi – number theory, algebra
R. Choksi – calculus of variations, partial differential equations, and applications to material science
A. Das* – variational techniques; interior solutions in general relativity
L. Goddyn – combinatorics
G.A.C. Graham – viscoelastic solid mechanics
P. Hell – computational discrete mathematics
M.C.A. Kropinski – numerical solutions of non-linear differential equations; fluid dynamics
A.H. Lachlan – mathematical logic
A.S. Lewis – analysis, optimization
P. Lisonek – computational discrete mathematics
M.B. Monagan – symbolic computation, algebra
D. Muraki – asymptotic analysis and modelling for the physical sciences, non-linear waves and dynamics, atmospheric fluid dynamics
K. Promislow – partial differential equations, non-linear waves, invariant manifolds
N.R. Reilly – algebra
R.D. Russell – numerical analysis; numerical solution of differential equations, dynamical systems
S. Ruuth – scientific computing, differential equations, dynamics of interfaces
C.Y. Shen – electromagnetic scattering; large scale scientific computing
B.S. Thomson* – analysis
M.R. Trummer – numerical analysis; differential equations, integral equations

Admission
See “Graduate General Regulations” on page 299 for admission requirements. Applicants are normally required to submit aptitude section scores and an
Appropriate advanced section of the graduate record exams of the Educational Testing Service. Applicants whose first language is not English will be asked to submit TOEFL results.

Co-operative Education Program
The department has introduced co-op education into its graduate program to allow students to gain work experience outside the academic sphere. Students who are currently enrolled in one of the department's MSc or PhD programs may apply to the department's graduate co-operative education committee.

Applied and Computational Mathematics

Admission
See "Graduate General Regulations" on page 299 for admission requirements.

Applicants are normally required to submit scores in the aptitude section and an appropriate advanced section of the Graduate Record Examinations of the Educational Testing Service.

Applicants with backgrounds in areas other than mathematics, (for example, a bachelor's degree or its equivalent in engineering or physics) may be considered suitably prepared for these programs.

MSc Program Requirements
A candidate for the MSc will normally be required to obtain a total of 28 credit hours beyond courses taken for the bachelor's degree. These 28 hours will consist of at least four courses chosen from the list of core courses below with at least one course from each of the pairs APMA 900,901; APMA 920, 922; APMA 930, 935; a further eight credit hours at the graduate level; and a further four credit hours which may be at the graduate level or at the 400 undergraduate level. The six core courses are

APMA 900-4 Advanced Mathematical Methods I
APMA 901-4 Advanced Mathematical Methods II
APMA 920-4 Numerical Linear Algebra
APMA 922-4 Numerical Solution of Partial Differential Equations
APMA 930-4 Fluid Dynamics
APMA 935-4 Mechanics of Solids

In addition to this course requirement (normally completed in five semesters), the student completes a project which involves a significant computational component and submits and successfully defends a project report. This project should be completed within about one semester.

PhD Program Requirements
A PhD candidate must obtain at least a further eight graduate level credit hours beyond the MSc requirements. Candidates who are admitted to the PhD program without an MSc are required to obtain credit or transfer credit for an amount of course work equivalent to that obtained by students with a MSc.

PhD candidates normally pass an oral candidacy exam given by the supervisory committee before the end of the fourth full time semester. The exam consists of a proposed thesis topic defence and supervisory committee questions on related proposed research topics. The exam follows submission of a written PhD research proposal and is graded pass/fail. Those with a fail take a second exam within six months. A student failing twice will normally withdraw.

A PhD candidate must submit and defend a thesis based on his/her original work that embodies a significant contribution to mathematical knowledge.

Applied and Computational Mathematics Graduate Courses

Note: course descriptions for MATH 800-899 appear in the Mathematics and Statistics section while those for STAT 801-899 can be found in the Statistics Program section, the courses listed below replace courses labelled MATH. Except for selected topics courses, students with credit for a MATH labelled course may not take the corresponding APMA labelled course for further credit.

APMA 900-4 Advanced Mathematical Methods I

Hilbert spaces. Calculus of variations. Sturm-Liouville problems and special functions. Green's functions in one dimension. Integral equations. Prerequisite: MATH 314 or equivalent. Students with credit for MATH 900 may not take APMA 900 for further credit. Recommended: MATH 419.

APMA 901-4 Advanced Mathematical Methods II


APMA 902-4 Applied Complex Analysis

Review of complex power series and contour integration. Conformal mapping, Schwarz-Christoffel transformation. Special functions. Asymptotic expansions. Integral transform. Prerequisite: MATH 322 or equivalent. Students with credit for MATH 836 or 902 may not take APMA 902 for further credit.

APMA 905-4 Applied Functional Analysis

Infinite dimensional vector spaces, convergence, generalized Fourier series. Operator Theory; the Fredholm alternative. Application to integral equations and Sturm-Liouville systems. Spectral theory. Prerequisite: MATH 900 or permission of the instructor. Students with credit for MATH 905 may not take APMA 905 for further credit.

APMA 910-4 Ordinary Differential Equations

The solutions and properties of ordinary differential equations and systems of ordinary differential equations in the real and complex domains. Prerequisite: MATH 415 or equivalent. Students with credit for MATH 842 or 910 may not take APMA 910 for further credit.

APMA 912-4 Partial Differential Equations

An advanced course on partial differential equations. Topics covered usually will include quasi-linear first order systems and hyperbolic, parabolic and elliptic second-order equations. Prerequisite: MATH 901 or permission of the instructor. Students with credit for MATH 845 or 912 may not take APMA 912 for further credit.

APMA 920-4 Numerical Linear Algebra

Direct and iterative methods for the numerical solution of linear systems, factorization techniques, linear least squares problems, eigenvalue problems. Techniques for parallel architectures. Students with credit for MATH 850 or 920 may not take APMA 920 for further credit.

APMA 921-4 Numerical Solution of Ordinary Differential Equations

Study of the practical numerical methods for solving initial and boundary value problems for ordinary differential equations. Students with credit for MATH 851 or 921 may not take APMA 921 for further credit.

APMA 922-4 Numerical Solution of Partial Differential Equations

Analysis and application of numerical methods for solving partial differential equations. Finite difference methods, spectral methods, multigrid methods. Students with credit for MATH 852 or 922 may not take APMA 922 for further credit.

APMA 923-4 Numerical Methods in Continuous Optimization

Numerical solution of systems of nonlinear equations, and unconstrained optimization problems. Newton's method, Quasi-Newton methods, secant methods, and conjugate gradient algorithms. Students with credit for MATH 853 or 923 may not take APMA 923 for further credit.

APMA 929-4 Selected Topics in Numerical Analysis

Study of a specialized area of numerical analysis such as computational fluid dynamics, approximation theory, integral equations, integral transforms, computational complex analysis, special functions, numerical quadrature and multiple integrals, constrained optimization, finite elements methods, sparse matrix techniques, or parallel algorithms in scientific computing.

APMA 930-4 Fluid Dynamics

Basic equations and theorems of fluid mechanics. Incompressible flow. Compressible flow. Effects of viscosity. Prerequisite: MATH 361 or equivalent. Students with credit for MATH 930 may not take APMA 930 for further credit. Recommended: MATH 462.

APMA 934-4 Selected Topics in Fluid Dynamics

Study of a specialized area of fluid dynamics such as hydrodynamic stability, multiphase flow, non-Newtonian fluids, computational fluid dynamics, boundary-layer theory, magnetic fluids and plasmas, bio- and geo-fluid mechanics, gas dynamics. Prerequisite: APMA 930 or permission of the instructor.

APMA 935-4 Mechanics of Solids

Analysis of stress and strain. Conservation laws. Elastic and plastic material behavior. Two and three dimensional elasticity, Variational principles. Wave propagation. Prerequisite: MATH 361 or equivalent. Students with credit for MATH 883 or 935 may not take APMA 935 for further credit. Recommended: MATH 468.

APMA 939-4 Selected Topics in Mechanics of Solids

Study of a specialized area of the mechanics of solids such as composite materials, micromechanics, fracture, plate and shell theory, creep, computational solid mechanics, wave propagation, contact mechanics. Prerequisite: APMA 935 or permission of the instructor.

APMA 981-4 Selected Topics in Continuum Mechanics

(4-0-0)

APMA 982-4 Selected Topics in Mathematical Physics

(4-0-0)

APMA 990-4 Selected Topics in Applied Mathematics

Mathematics

MSc Program Requirements
A candidate normally obtains at least 28 credit hours beyond courses taken for the bachelor's degree. Of these, at least 12 are graduate courses or seminars, and the remaining eight may be from graduate courses or seminars or 400 division undergraduate courses. The student must also submit a satisfactory thesis and will attend an oral examination based on that thesis and related topics.
Note: APMA 900-990 (see "Department of Biological Sciences" on page 376) and STAT 800-890 (see "Department of Statistics and Actuarial Science" on page 387) may be used to satisfy requirements for the master of science degree.

**PhD Program Requirements**
A candidate will generally obtain at least 28 credit hours beyond those for the bachelor's degree. Of these, at least 16 are graduate courses or seminars and the remaining 12 may be graduate courses, seminars or 400 level undergraduate courses. Students with an MSc in mathematics or statistics are deemed to have earned 12 of the 16 hours and eight of the 12 undergraduate or graduate hours required. Course work in all cases will involve study in at least four different areas of mathematics and/or statistics. Candidates will normally pass a two stage general exam. The first stage covers a broad range of senior undergraduate material. In the second, students present to their supervisory committee a written thesis proposal and then defend this at an open oral defence. The supervisory committee evaluates the thesis proposal and defence and either passes or fails the student. A candidate ordinarily cannot take either stage of the general examination more than twice. Both stages must be completed within six full time semesters of initial enrolment in the PhD program.

The supervisory committee may require proficiency in reading mathematical papers in either French, German or Russian. Students must submit and successfully defend a thesis which embodies a significant contribution to mathematical knowledge.

See "Graduate General Regulations" on page 299 for further information and regulations.

Note: APMA 900-990 (page 376) and STAT 800-890 (page 387) may be satisfy PhD requirements.

**Mathematics Graduate Courses**

**MATH 601-4 Discovering Mathematics I**
Arithmetic and Geometry form the core of the elementary school curriculum. The fundamental concepts in both these areas of mathematics will be approached through exploratory exercises and problems as well as in projects. The students will work both singly and in groups to explore the ideas of mathematics. The presentations will be non-theoretical. Prerequisite: acceptance into the master's program in mathematics education or permission of the department. Graduate students in Department of Mathematics cannot take this course to satisfy their degree requirements.

**MATH 602-4 Discovering Mathematics II**
Discrete mathematics is used in computer communications, scheduling and transportation problems. Statistics is encountered by each of us every day in the newspapers and on television as medical findings, sporting results and economic strategies are discussed. These are two of the most accessible areas of modern applied mathematics and many problems and the ideas behind their solution can be understood and appreciated by students with only a modest mathematical background. Several topics in these areas and their relationship to real world problems will be explored. The exploration will be done through a series of projects with students often working in teams and making presentations of their discoveries. The presentation will be non-theoretical. Prerequisite: MATH 601 and acceptance into the master's program in mathematics education or permission of the department. Graduate students in Department of Mathematics cannot take this course to satisfy their degree requirements.

**MATH 603-4 Foundations of Mathematics**
Crises in mathematics, their historical and philosophical background and their resolution. Prerequisite: acceptance into the MSc program in mathematics education or permission of the department. Graduate students in the Department of Mathematics cannot take this course to satisfy their degree requirements.

**MATH 604-4 Geometry**
Euclidean and non-Euclidean geometries. Klein's Erlangen program. Prerequisite: entrance into the MSc in mathematics education program or permission of the department. Graduate students in the Department of Mathematics 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 cannot take this course to satisfy their degree requirements.

**MATH 800-4 Pure Mathematics: Selected Topics**

**MATH 806-4 Mathematical Logic II**
First-order theories. Some syntactical theorems concerning provability, such as the equivalence and equality theorems; the completeness theorem and some of its consequences for equivalence of syntactical and semantical notions, and introduction to model theory; incompleteness of formal arithmetic.

**MATH 807-4 Mathematical Logic: Selected Topics**

**MATH 808-4 Mathematical Logic III**
Introduction to recursion theory. Church's Thesis, Godel-Rosser incompleteness theorem, undecidability: 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 Galois groups, valuation, Kummer extensions and Galois cohomology, further material in algebraic number theory.

**MATH 813-4 Algebra II**
Group theory. Generators and relations, normalizers and centralizers, composition series. Permutation groups, Sylow theory, abelian groups. Other topics covered will be the theory of p-groups, nilpotent and solvable groups, and some aspects of simple groups.

**MATH 814-4 Algebra: Selected Topics**

**MATH 815-4 Algebra III**
Rings and modules. Commutative and noncommutative arithmetic rings with ascending or descending chain condition, Jacobson radical, Chevalley-Jacobson density theorem, Wedderburn-Artin theorems, Goldie theorems, with applications to matrix groups and group algebras. As time permits, homological and local methods.

**MATH 816-4 Algebra IV**

**MATH 820-4 Graph Theory**
A first graduate course in graph theory dealing with some of the following: algebraic graph theory, extremal graph theory, coloring problems, applications of graphs, hypergraphs, and current research topics.

**MATH 821-4 Combinatorics**
An introduction to the theory of block designs, finite geometries and related topics.

**MATH 825-4 Enumeration**
Enumeration problems concerned with permutations, sequences, partitions, lattice walks and graphs, algebraic and analytic properties of generating functions, asymptotic analysis.

**MATH 826-4 Posets and Matroids**
An introduction to the theory of posets, geometric lattices and matroids.

**MATH 827-4 Discrete Mathematics: Selected Topics**

**MATH 831-4 Real Analysis I**
An intensive study of Lebesgue measure, integration and the 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, Schwartz-Christoffel formula; the symmetry principle, analytic continuation.

**MATH 836-4 Complex Analysis II**
Topics covered will include some of the following: entire functions, normal families, Hilbert space of analytic functions; conformal mappings of special functions; Picard's theorem. Prerequisite: MATH 836.

**MATH 839-4 Topology I**
A first graduate course in general topology, dealing with some of the following topics: set-theoretic preliminaries, topological spaces, filters and nets, connectedness notions, separation properties, countability properties, compactness properties, paracompactness, metrization, uniform spaces, function spaces.

**MATH 840-4 Topology II**
A second graduate course in general topology dealing with additional topics among those listed for MATH 839. Prerequisite: MATH 839.

**MATH 841-4 Topology: Selected Topics**

**MATH 890-0 Practicum I**
First semester of work experience in a co-operative education program. (0-0-0)

**MATH 891-0 Practicum II**
Second semester of work experience in a co-operative education program. (0-0-0)

**MATH 892-0 Practicum III**
Third semester of work experience in the Co-operative Education Program. (0-0-0) Prerequisite: MATH 891.

**MATH 893-0 Practicum IV**
Fourth semester of work experience in the Co-operative Education Program. (0-0-0) Prerequisite: MATH 892.
appropriate program of work to meet or exceed the advanced coursework in a related discipline. Applicants should normally have completed some

Faculty and Areas of Research
D.L. Ballie – developmental genetics, genomics
C.T. Beh – cholesterol molecular genetics and genomics
T. J. Borgford – protein structure and function
B.P. Brandhorst – developmental biology and gene regulation
F.S.L. Brinkman – bacterial genomics and bioinformatics
R.B. Cornell – membrane bound enzymes
W.S. Davidson – molecular, population and evolutionary genetics
N. Harden – developmental genetics, signal transduction
N.C. Hawkins – developmental genetics
B.M. Honda – molecular biology and gene regulation
M. R. Leroux – protein structure and function
M.W. Paetzel – crystallographic analysis of protein targeting and translational
F.F. Pio – physical biochemistry; x-ray crystallography
W.R. Richards – protein biochemistry; photosynthesis
J.K. Scott – immunology, immunology
D. Sen – nucleic acid biochemistry; chromosome structure
M.J. Smith – molecular phylogeny and development
J.L. Thewalt – membrane biophysics; nuclear magnetic resonance
P.J. Unrau – RNA-catalyzed chemical reactions; early metabolism; self-replicating systems
E.M. Verheyen – Drosophila developmental genetics; cell fate determination

Associate Members
E.A. Accili, Kinesiology
A.T. Beckenbach, Biological Sciences
A.J. Bennet, Chemistry
F. Breden, Biological Sciences
N.H. Haunerland, Biological Sciences
C. Krieger, Kinesiology
P.C.H. Li, Chemistry
M.M. Moore, Biological Sciences
B.M. Pinto, Chemistry
L.M. Quarmby, Biological Sciences
G.F. Tibbits, Kinesiology

Obtain information about the department and its faculty research from the MBB graduate secretary, Department of Molecular Biology and Biochemistry, Simon Fraser University, 8888 University Drive, Burnaby, BC, V5A 1S6. Telephone (604) 291-5631, E-mail mbb@sfu.ca

Admission
See “1.3 Admission” on page 299 for requirements. Applicants should normally have completed some advanced course work in a related discipline.

Degree Requirements
Students will be assigned a graduate supervisory committee which has the authority to specify an appropriate program of work to meet or exceed the minimum requirements stated below. All students are expected to attend MBB research seminar series and to participate regularly in a journal club.

MBB 806-3 PhD Graduate Research Seminar
Oral presentation and defense of a written PhD research proposal. Students will be examined on their progress and grasp of knowledge relevant to the proposed research and their capacity to complete the proposed thesis research. Open only to students in the molecular biology and biochemistry graduate program.

MBB 811-1, 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 immunity with emphasis on the molecular basis of immune recognition and response.

MBB 827-3 Mechanisms in Enzyme Catalysis
The study of enzyme mechanisms by a variety of techniques including spectroscopic, kinetic, radioisotopic exchange, and site-directed mutagenesis.

MBB 828-3 Spectroscopic Methods in Biochemistry
Application of spectroscopic methods including multidimensional NMR, fluorescence, circular dichroism, and FTIR for determination of biomacromolecule structure. Includes elements of protein conformation.

MBB 829-3 Special Topics in Biochemistry
Consideration of recent literature concerning selected contemporary research topics. Can be taken more than once with permission of the instructor.

MBB 831-3 Molecular Evolution of Eukaryote Genomes
Examination of the dynamics of change in eukaryotic nuclear, mitochondrial, and chloroplast genome structure and organization.

MBB 832-3 Molecular Phylogeny and Evolution
Examination of the basic methods applicable to analyses of molecular phylogeny and evolution.

MBB 833-3 Developmental Genetics
Selected topics in the developmental genetics of drosophila.

MBB 834-3 Topics in Developmental Biology
Selected topics including pattern formation, morphogenetic determinants, inductive interactions, and differential gene expression in embryos.
MBB 835-3 Genomic Analysis
Consideration of topics related to the structure and function of the genome with emphasis on genome mapping and sequencing projects, and computational methods for genomic sequence analysis.

MBB 836-3 Gene Expression
A consideration of the mechanisms and regulation of gene expression in eukaryotes and prokaryotes.

MBB 837-3 Molecular Genetics of Signal Transduction
Consideration of mechanisms of signal transduction using molecular genetic approaches with emphasis on the yeast Saccharomyces cerevisiae.

MBB 839-3 Special Topics in Molecular Biology
Consideration of recent literature concerning selected contemporary research topics. Can be taken more than once with permission of instructor.

MBB 871-1 Directed Readings in Molecular Biology and Biochemistry
Programs of directed reading and critical discussions offered by faculty or staff members to individual students according to their needs. Study programs must be approved by the molecular biology and biochemistry graduate studies committee.

MBB 872-2 Directed Readings in Molecular Biology and Biochemistry
Programs of directed reading and critical discussions offered by faculty or staff members to individual students according to their needs. Study programs must be approved by the molecular biology and biochemistry graduate studies committee.

MBB 873-3 Directed Readings in Molecular Biology and Biochemistry
Programs of directed reading and critical discussions offered by faculty or staff members to individual students according to their needs. Study programs must be approved by the molecular biology and biochemistry graduate studies committee.

MBB 898-0 MSc Thesis
MBB 899-0 PhD Thesis

Department of Physics

Chair
M. Plischke BSc (Montr), MPhil (Yale), PhD (Yeshiva)

Graduate Program Chair
H.D. Trotter BSc, MSc, PhD (McG)

Faculty and Areas of Research
See “Department of Physics” on page 208 for a complete list of faculty.

A.S. Arrott* – magnetism, liquid crystals
L.E. Ballentine – dynamical chaos, foundations of quantum mechanics
J.L. Bechhoefer – liquid crystals, soft condensed matter, pattern formation
D.H. Boal – statistical mechanics and biophysics
C. Bolognesi – semiconductor devices
B.P. Clayman – far-infrared properties of solids
J.F. Cochran* – surface impedance of metals, ferromagnetism
K. Colbow* – thin film semiconductors, microsensors, solid state gas sensors, hydrogen storage materials
E.D. Crozier – condensed matter, structure and electronic properties, EXAFS
A.E. Curzon* – scanning and transmission electron microscopy, energy dispersive x-ray analysis, materials science
J.S. Dodge – superconductivity, magnetism, optical spectroscopy
R.H. Enns – non-linear problems in optics and other areas of physics
R.F. Frindt – layered solids, intercalation solids
B.J. Friskin – soft condensed matter
S. Gygax* – superconductivity, low temperature physics
M. Hayden – experimental condensed matter physics, resonance imaging
B. Heinrich – molecular beam epitaxy, superconductivity, surface physics
D.J. Huntley* – luminescence dating, archaeometry
J.C. Irwin* – layered compounds and high temperature superconductors, Raman scattering
I. Herbut – condensed matter theory
K.L. Kavanagh – materials science
G. Kirczenow – 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. Plischke – condensed matter theory, statistical physics
K.E. Rieckhoff* – chemical physics, spectroscopy
J.E. Sonier – MuSR spectroscopy, high T_C superconductivity
M.R. Scheinfein – magnetic nanostructures
J.L. Thewalt – biophysics, NMR studies of membranes
M.L.W. Thewalt – semiconductor physics
H.D. Trotter – lattice quantum chromodynamics, phenomenology of strong and weak interactions, field theoretical study of non-Abelian gauge theories
M. Vetterli – intermediate energy and particle physics
K.S. Viswanathan* – high energy theory, classical and quantum gravity
S. Watkins – semiconductor physics
M. Worts* – solid state theory, statistical mechanics, surface physics, membranes, biophysics

Adjunct Faculty
St. J. Dixon-Waren – optoelectronic and microelectronic devices
B.K. Jennings – theoretical intermediate energy physics
J. Vrba – thin films, SQUID systems
R.M. Woloshyn – theoretical particle physics, lattice field theory

Associate Members
J.M. D’Auria, Chemistry
K. Delaney, Biological Sciences
D.E. Nelson, Archaeology
E.M. Voigt,* Chemistry

*emeritus

Degrees Offered
The Department of Physics offers programs leading to the MSc and PhD degrees in physics.

MSc Program

Admission
To qualify for admission, a student must have at least second class standing or equivalent, in honors physics, honors mathematics and physics, engineering physics, or electrical engineering. See “1.3 Admission” on page 299.

Degree Requirements

Course Work
The minimum requirement is 17 credit hours, of which at least 14 must be at the graduate level and will normally include

PHYS 801-2 Student Seminar
PHYS 810-3 Fundamental Quantum Mechanics
PHYS 821-3 Electromagnetic Theory
and one of
PHYS 811-3 Advanced Topics in Quantum Mechanics
PHYS 841-3 Equilibrium Statistical Mechanics

Additional undergraduate courses, including prerequisites to required graduate courses, may be required to remedy deficiencies in background.

Research
Part of the program is conducting original research. A thesis describing this research is submitted and defended at the conclusion of the program.

PhD Program

Admission
To qualify for admission, a student must have a master’s degree or the equivalent in physics. Also see “Graduate General Regulations” on page 299.

Degree Requirements

Course Work
The minimum requirement consists of nine hours of graduate credit beyond the master’s. Faculty of Science requirements must also be met.

Research
A major portion of this program is conducting original research. A thesis, embodying new and important results or original research, must be presented and defended at the conclusion of the degree program.

Admission from a Master’s Program to the PhD Program
A student may be admitted from an MSc to a PhD program with a CGPA that normally will be at least 3.67 calculated over a minimum of 15 graduate level credits, and approval of the student’s supervisory committee and senate graduate studies committee.

Language Requirement
In certain areas of research, familiarity with languages other than English may be important so a student’s supervisory committee may require a reading knowledge of one such language.

Biophysics
Students who wish to undertake interdisciplinary work in Biophysics may apply to the Department of Physics or to the Department of Chemical Sciences. Those who wish to work in biophysics under special arrangements should see “1.3.4 Admission to a Doctoral Program” on page 300.

Chemical Physics
Students who wish to undertake interdisciplinary work in chemical physics may apply to the Department of Physics or to the Department of Chemical Sciences. Those who wish to work in chemical physics under special arrangements should see “1.3.4 Admission to a Doctoral Program” on page 300.

Biochemistry and Molecular Biology
See “Department of Molecular Biology and Biochemistry” on page 385.

Graduate Courses

PHYS 801-2 Student Seminar
Discussion of recent developments in physics, based on student seminars. Attendance is required for all students proceeding toward MSc or PhD degrees in physics. Course offered regularly.

PHYS 810-3 Fundamental Quantum Mechanics
Review of foundations of quantum mechanics, states and observables, measurement theory, angular momentum, time reversal, stationary and time dependent perturbation theory, variational methods. Course offered regularly. Prerequisite: PHYS 415, or equivalent.
PHYS 811-3 Advanced Topics in Quantum Mechanics
A continuation of PHYS 810: scattering theory, spin statistics, creation and annihilation operators, diagrammatic perturbation theory, relativistic QM. Prerequisite: PHYS 810 or equivalent.

PHYS 812-3 Introduction to Quantum Field Theory
Lorentz group and representations, Dirac and Klein-Gordon Equations, Maxwell’s equations and quantization, perturbation theory, Feynman diagrams and rules, strong and weak interactions. Course offered occasionally. Prerequisite: PHYS 811 or equivalent.

PHYS 821-3 Electromagnetic Theory
Advanced topics in classical electromagnetic theory: review of Maxwell’s equations, wave propagation, radiation theory, special relativity and electromagnetic theory, magnetohydrodynamics and plasma physics, radiation damping. Course offered regularly. Prerequisite: PHYS 425, or equivalent.

PHYS 841-3 Equilibrium Statistical Mechanics
Review of ensembles and thermodynamics, ideal gases, imperfect classical gases, classical and modern theories of phase transitions, renormalization group. Course offered regularly. Prerequisite: PHYS 345, or equivalent.

PHYS 846-3 Nonlinear Physics
Nonlinear dynamics and chaos. Pattern formation and an introduction to turbulence. Prerequisite: PHYS 384 or equivalent.

PHYS 847-3 Topics in soft-condensed matter and biological physics
An introduction to one of several topics in soft-condensed matter and biological physics. Recent versions of this course have focused on polymers, liquid crystals, structures of biological membranes, and cell mechanics. Corequisite: PHYS 841.

PHYS 861-3 Introduction to Solid State Physics
Free electron theory, crystal structure, band theory, Bloch’s theorem, electron dynamics, phonons, semiconductors. Course offered regularly. Prerequisite: PHYS 465 or equivalent, and PHYS 415.

PHYS 862-3 Solid State Physics II
Special topics in solid state physics such as superconductivity, magnetism, optical properties of solids, electron correlations. Course offered regularly. Prerequisite: PHYS 861.

PHYS 863-3 Surface Science, Thin Films and Interfaces
Review of surface science techniques: Auger, XPS electron spectroscopies, low energy electron diffraction (LEED), high energy electron diffraction (RHEED), scanning tunneling microscopy (STM). Review of thin film deposition techniques: molecular beam epitaxy of metallic and semiconductor multilayer and superlattice structures. Physics and chemistry of surfaces and interfaces. Course offered occasionally. Prerequisite: PHYS 810, 821, 861 or permission of the department.

PHYS 871-3 Introduction to Elementary Particle Physics
Elementary particle phenomenology; classification of particles, forces, conservation laws, relativistic scattering theory, electromagnetic interactions of leptons and hadrons, weak interactions, gauge theories, strong interactions. Course offered occasionally.

PHYS 880-3 Applications of Group Theory to Physics
Elements of group theory, matrix representations, the Clebsch-Gordan series, applications of finite and continuous groups to problems in atomic, solid state and elementary particle physics. Course offered occasionally.

PHYS 881-3 Special Topics I
PHYS 882-3 Special Topics II
PHYS 883-3 Special Topics III
PHYS 884-2 Special Topics IV
PHYS 885-2 Special Topics V
PHYS 886-2 Special Topics VI

PHYS 898-0 MSc Thesis
PHYS 899-0 PhD Thesis

Department of Statistics and Actuarial Science

Chair
C.J. Schwarz BSc, MMath (Wat), MSc, PhD (Manit)

Graduate Program Chair
R.A. Lockhart BSc (Br Col), MA, PhD (Calif)

Faculty and Areas of Research
C.B. Dean – spatial statistics, disease mapping, statistics in health
J. Graham – statistical genetics
R.A. Lockhart – goodness-of-fit testing, inference for stochastic processes, large sample theory
B. McNeny – biostatistics, epidemiology and epidemiologic study design
R.D. Routledge – biometrics, estimating the sizes of animal populations
C.J. Schwarz – modelling of animal population dynamics, capture-recapture methods
R.R. Sitter – sample surveys, design of experiments, biostatistics, industrial statistics
M.A. Stephens – goodness-of-fit testing and directional data
T.B. Swartz – statistical computing, Bayesian methods and applications
K.L. Weldon – foundations of statistics, applied probability and simulation, graphics

Statistics

Admission
See “1.3 Admission” on page 299 for admission requirements. Applicants normally submit scores in the aptitude section of the Graduate Record Examinations of the Educational Testing Service. Applicants whose first language is not English normally submit the Test of English as a Foreign Language results.

Applicants with degrees in areas other than statistics are encouraged to apply provided they have some formal training in statistical theory and practice.

MSc Requirements
The program instructs students on a wide range of statistical techniques and provides experience in the practical application of statistics. The program teaches statistical expertise in preparation for a career in either theoretical or applied statistics.

Students in the program will be required to:

1. complete at least 30 credit hours of course work in Statistics and related fields beyond courses taken for the bachelor’s degree. Of these 30 hours, at least 24 are to be in graduate courses or graduate seminars, and the remaining six may be chosen from graduate courses or those 400 level undergraduate courses which may be taken for credit for the BSc in statistics. Normally these courses will include STAT 801, 811 and 812 and at least four of STAT 802, 803, 804, 805, 806, 870, 890, 891.
2. complete satisfactorily STAT 811 and 812
3. submit and defend successfully a project (as outlined in the Graduate General Regulations) based on some problem of statistical analysis. This problem will ordinarily arise out of the statistical consulting service.

Students with a good undergraduate background in statistics will normally complete the course work in four semesters. The project, including the defence, is expected to require two semesters or less. Students with backgrounds in other disciplines, or with an inadequate background in statistics, may be required to take certain undergraduate courses in the department in addition to the above requirements.

PhD Requirements
A candidate will generally obtain at least 30 credit hours in courses in addition to the course work required for the MSc degree. The candidate will normally complete a total of at least 70 credit hours. Students with backgrounds in other disciplines, or with an inadequate background in statistics, may be required to take certain undergraduate courses in the department in addition to the above requirements.

Co-operative Education
Students in the MSc or PhD program may obtain work experience during their graduate studies by participating in the co-operative education program. Employment lasting one or two semesters with government agencies, companies or other organizations employing statisticians is arranged for qualified students. Such employment often provides the student with considerable professional experience during their graduate studies.

Statistics Graduate Courses

STAT 602-3 Generalized Linear and Non-linear Modelling
A methods oriented unified approach to a broad array of nonlinear regression modelling methods including classical regression, logistic regression, probit analysis, dilution assay, frequency count analysis, ordinal type responses, and survival data. A project will be assigned related to the student’s field of study. Prerequisite: STAT 302 or 330 or permission of instructor. Open only to graduate students in departments other than Mathematics and Statistics.

STAT 650-5 Quantitative Analysis in Resource Management and Field Biology
The use of statistical techniques and mathematical models in resource management with special emphasis on experiment design, survey techniques, and statistical model construction. (5-0-0)

Prerequisite: A course in parametric and non-parametric statistics. This course may not be used for the satisfaction of degree requirements in the Department of Statistics and Actuarial Science.

STAT 801-4 Mathematical Statistics
STAT 802-4 Multivariate Analysis
An advanced course in multivariate analysis. Factor analysis, discriminant analysis, principal components, canonical correlations. Multivariate regression and analysis of variance.

STAT 803-4 Data Analysis
A problem based course emphasizing the exploratory aspects of statistical analysis with emphasis on modern computer oriented methods. Prerequisite: STAT 450 or equivalent or permission of the instructor.

STAT 804-4 Time Series Analysis
An introduction to time series models and their analysis. Both time-domain and frequency-domain techniques will be studied. Prerequisite: STAT 450 or equivalent or permission of the instructor.

STAT 805-4 Non-Parametric Statistics and Discrete Data Analysis
Order statistics, rank statistics, procedures based on the empirical distribution function. Asymptotic efficiencies, goodness-of-fit, contingency tables, log-linear models and further topics will be offered. Prerequisite: STAT 330 and 420 or equivalent or permission of the instructor.

STAT 806-4 Lifetime Data Analysis

STAT 811-2 Statistical Consulting I
This course is designed to give students some practical experience as a statistical consultant through classroom discussion of issues in consulting and participation in the department's Statistical Consulting Service under the direction of faculty members or the director.

STAT 812-2 Statistical Consulting II
Students will participate in the department's Statistical Consulting Service under the direction of faculty members or the director.

STAT 870-4 Applied Probability Models
Application of stochastic processes: queues, inventories, counters, etc. Reliability and life testing. Point processes. Simulation.
Centres and Institutes

Western Canadian Universities Marine Biological Society (Bamfield)
Director: Dr. A.N. Spencer, (250) 728-3301 Tel, (250) 728-3452 Fax
The Western Canadian Universities Marine Biological Society was founded in 1969 with the objective of operating a major research and teaching facility in coastal biology. The Bamfield Marine Station offers year round research facilities that enable resident and visiting scientists and students (MSc and PhD) to develop a range of research programs. Courses that lead to academic credit for undergraduate and graduate degree programs at member universities are given at the station. The station also runs a public education program from September through April.

Behavioural Ecology Research Group
Director: Dr. L.M. Dill, (604) 291-3664 Tel
The Behavioural Ecology Research Group was formally established in 1989, to pursue basic research in the field of behavioural ecology; to maintain and further develop an internationally recognized training centre for students in behavioural ecology, and related areas of inquiry; and to provide a service to government, industry, and other organizations, so that basic and applied problems in behavioral ecology can be tackled through collaborative research. Members are drawn from the Departments of Biological Sciences, Psychology and Archaeology.

W.J. VanDusen BC Business Studies Institute
Director: Dr. E. Love, (604) 291-4183 Tel, (604) 291-5833 Fax
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) 291-5299 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.

Centre d’études Francophones Québec-Pacifique
Director: Dr. G. Poirier, (604) 291-3544, (604) 291-5932
This is a research and documentation centre. Documentation mandate include the gathering and disseminating of information relating to French literatures, cultures and language of the Pacific region, as well as interdisciplinary research in literature, sociolinguistics, cinema and culture. The Centre supports and sponsors conferences, colloquia and visiting speakers. As the only research centre of its kind west of the Rockies, the activities and programs of the centre focus on the distinct culture of French speakers of British Columbia and the Pacific Rim. In addition, the centre acts as a liaison between the Centre d’études Québécoises (CETUQ) of the University of Montreal and the Pacific Region.

Chemical Ecology Research Group
Director: Dr. J.H. Borden, (604) 291-3646 Tel, (604) 291-3496 Fax
This research group was established in 1981 to provide an international graduate training centre in chemical ecology; to offer a service to government and industry; to isolate, identify and synthesize semiochemicals; and to apply research results to semiochemicals.

Centre for Coastal Studies
Director: Dr. P. Gallagher, (604) 291-4653 Tel, (604) 291-3851 Fax
The purpose of this centre is to promote interdisciplinary research, education and dialogue on Canada’s coastal ecosystems, particularly those in British Columbia. By linking social and natural science with local knowledge, the centre focuses on three key themes: marine conservation, sustainable coastal communities and economies, and building resource management capacity (government, community, academic).

Community Economic Development Centre
2100 East Academic Annex, (604) 291-5849 Tel, (604) 291-5473 Fax, cedc@sfu.ca E-mail, www.sfu.ca/cedc
Director: Dr. M. Roseland
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 credit and non-credit programs in community economic development. See page 130 and page 130 for credit information.

Co-operative Resource Management Institute
Director: R. Peterman, (604) 291-4683 Tel, (604) 291-4968 Fax
This institute is a unit on the Burnaby Mountain campus of Simon Fraser University that houses personnel from natural resource management agencies. The Institute can facilitate solutions to difficult multidisciplinary issues in resource management by providing an environment where personnel from different management agencies such as forestry, fisheries, and wildlife can work side-by-side along with SFU faculty, graduate students, post-doctoral fellows, and research associates on a daily basis. The university benefits from greater concentration of expertise in resource management on campus and from new opportunities for multidisciplinary, collaborative research programs.

International Centre for Criminal Law Reform and Criminal Justice Policy
Executive Director: F.M. Gordon, (604) 822-9875 Tel, (604) 822-9317 Fax
This International Centre, established in 1991 in Vancouver, BC, is a joint initiative of Simon Fraser University, the University of British Columbia and the Society for the Reform of Criminal Law. The centre is housed at the University of British Columbia. The International Centre has been established to encourage research initiatives in areas of transnational crime or comparative criminal justice policy; to contribute to graduate programming in international criminal law and international criminal justice; to promote democratic principles, the rule of law and respect for human rights in criminal law and the administration of justice in both the domestic and international arenas, and through these activities to contribute to the international criminal law and criminal justice agenda through the United Nations and other related agencies. The International Centre is an affiliated institute of the United Nations.

Institute for Studies in Criminal Justice Policy
Director: Dr. M.A. Jackson, (604) 291-4040 Tel, (604) 291-4140 Fax
The Institute for Studies in Criminal Justice Policy was established with the initial support of the Donner Canadian Foundation in 1980. The purpose of the institute is to contribute to the examination of criminal justice policy by providing a setting in which academics, justice system personnel and members of the community can assemble to apply scholarly research to policy development and analysis. The institute undertakes projects on its own initiative as well as under contract.
Criminology Research Centre
Director: Dr. W. Glackman, (604) 291-4041/4127 Tel, (604) 291-4140 Fax
The Criminology Research Centre was established in 1978 to facilitate criminological research by faculty and graduate students. Funds to establish and maintain the centre are provided by grants and contracts from provincial, federal and private sources. The centre publishes occasional working papers based on reports and other manuscripts generated by the various research projects, and also maintains a modest library for the use of faculty and students.

The Dialogue Institute
The purposes of The Dialogue Institute are to promote the study and practice of dialogue within and outside the University. The Institute is the University’s centre for research, learning and training efforts with respect to the Morris J. Wosk Centre for Dialogue, and the Institute is, in turn, supported by the Centre for Dialogue.

Centre for Education, Law and Society
Director: Dr. W. Cassidy, (604) 291-4484 Tel, (604) 291-3203 Fax
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. Projects range from the use of mock trials as teaching to the development of an interactive web site for social studies teachers. Among its goals are curriculum development across subject areas and grades and research into school culture. Four undergraduate courses and one graduate course are offered in law related education through the Faculty of Education. Three of the undergraduate courses are also available through the Centre for Distance Education. The centre attracts a number of graduate students interested in school law, curriculum and youth justice issues.

Centre for Experimental and Constructive Mathematics
Director: 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.

Feminist Institute for Studies on Law and Society
Co-directors: Dr. D. Chunn, (604) 291-4761 Tel, Dr. W. Chan, (604) 291-4469 Tel
The institute was established in 1990 to facilitate and continue the development of feminist analyses on law and society at Simon Fraser University. It is designed to provide an environment for creative interaction among scholars and community representatives who are involved in its work locally, nationally and internationally, and to bridge gaps between legal and social science research.

Gerontology Research Centre
Director: Dr. G. Gutman, (604) 291-5062 Tel, (604) 291-5066 Fax
Established in 1982, the Gerontology Research Centre promotes and conducts research on topics relating to aging and the aged, serves as a clearing house for information and provides consultation and technical assistance to the academic community, government, public and private organizations. The centre houses a specialized collection of research materials, maintains an active publications program, organizes workshops and conferences, and is a contributing member of two inter-university research consortia. Research activities focus on applied gerontology with concentrations in: aging and the built environment; health promotion and population health; prevention of victimization and exploitation of the elderly; older adult education; and changing demography and lifestyles. The associated gerontology program offers a post baccalaureate diploma in gerontology, a minor and a master of arts degree.

Institute of Governance Studies
Director: P.J. Smith, (604) 291-4994 Tel, (604) 291-4786 Fax
The institute is intended to further research on governance issues. Specific objectives include: (1) to provide a focus for research on issues and problems of governance — in Canada, at the municipal, regional/metropolitan, provincial and federal levels, in comparative domestic systems and in the newly emerging global order (2) to promote collaboration and research on issues of governance among scholars in a variety of disciplines located at Simon Fraser University (3) to promote an institutional focus for international scholarship concerning issues of governance (4) to provide a forum within the Vancouver metropolis, British Columbia and Canada for the presentation and dissemination of research and ideas on issues of governance (5) to provide a facility in which data for the study of contemporary governance and related public policy can be collected, catalogued and made readily accessible through data management and exchange (6) to provide a facility in which research and techniques can be made available for exchange with those having responsibility for contemporary governance.

Centre for the Study of Government and Business
The primary focus of the Simon Fraser University/University of British Columbia Centre for the Study of Government and Business will be on academic research. The initial three primary program areas are: privatization and contracting out in the public sector; competition policy and regulation of business; efficiency, effectiveness and productivity in government. Other areas of focus will also be developed. In addition to academic research carried by both business faculties and scholars in related disciplines in both universities, the centre also engages in conferences, seminars, workshops and a visiting scholar program.

Institute for the Humanities
Director: Dr. D. Grayston, (604) 291-5516 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 conferences, seminars, projects and publications in a range of interrelated fields in the humanities and social sciences. The audience for these activities will be found in the University and the community. The institute and the Department of Humanities are affiliated.

Centre for Innovation in Management
Director: Dr. E. Love, (604) 291-4183 Tel, (604) 291-5833 Fax
The Centre for Innovation in Management serves as a leading edge source of ideas and learning opportunities for business leaders and academics in North America in the area of stakeholder responsive and responsible management.

The centre conducts research aimed at understanding when, how and why a stakeholder orientation leads to business success and at the same time supports sustainable communities. It creates opportunities for dialogue and learning for business leaders, managers and academics on emerging ideas about stakeholder-oriented management and stimulates new thinking about the social and economic impact of stakeholder-oriented management through the collection, synthesis, publication and dissemination of cross-disciplinary research and best practise case studies.

Centre for Labour Studies
Director: Dr. M. Leier, (604) 291-5827 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 people and institutions of the Pacific Rim. Programs include international communication research and
between the academic, industrial and government
Northern British Columbia and Lethbridge University.
University of Calgary, Simon Fraser University, the
This institute is a collaborative effort established in
Pacific Institute for the Mathematical
processes and new devices of benefit across a wide
and multidisciplinary research leading to new
micromachining and microfabrication research by
The institute will stimulate, encourage and enhance
micromachining and microfabrication research by

Mental Health, Law and Policy Institute
Director: Dr. R. Roesch, (604) 291-3370 Tel,
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,
The institute will stimulate, encourage and enhance
micromachine and microfabrication research by
providing a focus and resource base for collaborative
and multidisciplinary research leading to new
processes and new devices of benefit across a wide
array of disciplines.

Pacific Institute for the Mathematical
Sciences
Director: Dr. P. Borwein, (604) 291-4376 Tel,
This institute is a collaborative effort established in
1996 by scientists from the University of Alberta, the
University of Calgary, Simon Fraser University, the
University of Victoria and the University of British
Columbia, with affiliations to the University of
Northern British Columbia and Lethbridge University.
Its mandate is to promote research in the
mathematical sciences, education and public
awareness regarding mathematics, and collaboration
between the academic, industrial and government
sectors involving the mathematical sciences.

Centre for Policy Research on Science
and Technology
Director: R. Smith, (604) 291-5116 Tel,
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.

Centre for Restorative Justice
Co-directors: Dr. R.M. Gordon, (604) 291-4305 Tel,
Dr. E. Elliott, (604) 291-4730 Tel, (604) 291-4140 Fax
The Centre for Restorative Justice was established in 2001
to provide a number of services and initiatives
related to the field of restorative and transformative
justice. The centre, which is housed in the School of
Criminology, conducts research on restorative justice
programs and practices and acts as a research
clearing house. The centre also organizes and
dconducts training courses in aspects of restorative
and transformative justice, as well as credit courses at
the introductory and advanced levels. The centre
organizes conferences including the annual Ron
Wiebe Memorial Lecture and Dialogue on Restorative
Justice. The centre has developed strong ties with the
Correctional Service of Canada, the BC Ministry of
the Attorney-General, and non-government
organizations involved in the restorative justice and
community justice fields.

Centre for Scientific Computing
Director: Dr. R. Russell, (604) 291-4819 Tel,
(604) 291-4947 Fax
Motivated by the expanding role played by scientific
computation and mathematical modeling in science and
engineering, the Centre for Scientific Computing
was formed to bring together interdisciplinary
research teams from the various faculties at Simon
Fraser University. The major purpose of the centre is
to provide SFU with a visible focus for computational
research both on the campus and in the wider Pacific
Rim research community. Specifically, the centre’s
goals are to facilitate discussion between scientific
computing research groups (through seminars,
workshops and conferences), to provide advanced
instruction in computational techniques and
applications (through graduate and post doctoral
programs), and to actively pursue joint research
ventures with industry, government and laboratories.

Centre for Scottish Studies
Director: Dr. S. Duguid, (604) 291-5515,
(604) 291-4504 Fax
The activities and programs of the centre promote
teaching, research and community programming in
the field of Scottish studies. The centre supports and
initiates research, publications, non-credit and credit
instruction, colloquia, conferences, visiting speakers
and international relationships. In the pursuit of these
objectives, the centre provides support to existing
individual, departmental and cross-departmental
activities at SFU in the area of Scottish studies.

Research Institute on Southeastern
Europe
Director: Dr. A. Gerolymatos, (604) 291-5597 Tel,
(604) 291-5837 Fax
The goals of this research institute will be to shed light
on the problems of the region, both in terms of its
historical and contemporary context. Among the
research themes that will be addressed are questions
of regional co-operation, defense and security,

historical background, as well as various socio-
economic and political issues that have challenged
the status quo of the states in the region.
The objective of the institute is to promote an
understanding of, and co-operation with, the countries
and peoples of southeastern Europe. To that end, the
institute will focus on a variety of initiatives including
research projects, conferences, publications,
community information programs, faculty exchanges
and other forms of information sharing.

Centre for Systems Science
Director: Dr. S. Atkins, (604) 291-4588 Tel,
(604) 291-4424 Fax
The Centre for Systems Science (CSS) is a
multidisciplinary research institute which supports
specialized research areas and advanced educational
programs in related disciplines which promise to offer
particular support for the development of
sophisticated industry for British Columbia. CSS
fosters basic and applied research within its three
research groups: intelligent systems (artificial
intelligence, robotics, cognitive science, neural
networks, expert systems, graphics and animation,
etc.), microelectronics (surface science, VLSI design
and test, quickchip), and computer and
communications (subsea communications, mobile
communications, communications policy, algorithms,
distributed computing, information systems, signal
processing, applications, etc.). CSS encourages
associations across departmental boundaries to
stimulate interest and knowledge of systems science and
help attract a significant level of research funding.
The centre represents the British Columbia Advanced
Systems Institute at Simon Fraser University and
collaborates with other research units at Simon
Fraser University, the University of British Columbia,
the University of Victoria, the British Columbia
Institute of Technology, and with BC industry and
government sectors.

Institute for Studies in Teacher Education
Co-directors: P. Grimmett, (604) 291-4937,
(604) 291-3203 Fax, Dr. M.F. Wideen
The general aim of the institute is to promote and
carry out research in the area of teacher education. It
also seeks to develop collaborative links with groups
within and outside the university community.

Centre for Tourism Policy and Research
Director: Dr. P.W. Williams, (604) 291-3103 Tel,
(604) 291-4968 Fax
This centre, established in 1989, provides leadership
in developing and delivering research and
professional education in the management of tourism.
The centre provides a fixed point for graduate studies
and professional development with a distinctively
integrated resource and business management
orientation, and it also encourages and conducts
policy, planning and management orientation, as well
as encourages and conducts policy, planning and
management research to enhance the sustained use
of the tourism resource base.

Tri-University Meson Facility (TRIUMF)
Director: Dr. A. Shutter, (604) 222-1047 ext. 6258 Tel
Contacts: Dr. W. Davidson, (604) 291-3771 Tel,
Dr. C.H.W. Jones, (604) 291-3583 Tel,
Dr. R.G. Korteling, (604) 291-3532 Tel
TRIUMF is Canada’s national laboratory for particle
and nuclear research and a laboratory of world class
standing. The facility is based on a 500 Me V H ion
accelerator which provides intense beams of
subatomic particles for use in a wide range of
research projects in nuclear and elementary particle
physics.
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
  - J. Cowperthwaite, February 2005
  - P. Eng, February 2005
  - E. Jaager, July 2004
  - N. Khosrowshahi, February 2005
  - J. Kowarsky, June 2003
  - R. Gordon, May 31, 2005
  - A. Higgins, May 31, 2005
  - M. Jackson, May 31, 2003
  - P. McFetridge, May 31, 2005
  - J. Peters, May 31, 2004
  - L. Weldon, May 31, 2003
  - (one vacant position)
- Elected by Faculty Members
  - C. Murray, May 2005
  - N. Olewiler, May 2005
- Elected by University Employees (excluding Faculty Members)
  - P. Johnston, May 2005
- Administrative Officer
  - A. Watt, Director, University Secretariat

**Senate**
- Ex Officio
  - Chancellor
- President and Vice-Chancellor – Chair
- Vice-President, Academic
- Vice-President, Research
- Associate Vice-President, Academic
- Dean of Applied Sciences
- Dean of Continuing Studies
- Dean of the Faculty of Arts
- Dean of the Faculty of Business Administration
- Dean of the Faculty of Education
- Dean of the Faculty of Science
- Registrar – Secretary of Senate
- University Librarian
- Appointed by Order-in-Council
  - D. McIntosh
  - B. Naef
  - D. Sekhon
  - R. Thandi
- Elected by the Faculties
- Faculty of Applied Sciences
  - J. Jones, May 31, 2003
  - J. Vaisey, May 31, 2005
- Faculty of Arts
  - S. Alo, May 31, 2004
  - C. Gerson, May 31, 2005
- Faculty of Business Administration
  - G. Mauser, May 31, 2005
  - J. Zaiychkowsky, May 31, 2003
- Faculty of Education
  - A. Horvath, May 31, 2005
  - J. Van Aalst, May 31, 2004
- Faculty of Science
  - N. Haunerland, May 31, 2004
  - C. Jones, May 31, 2005
- Elected by Faculty Members Jointly
  - S. Atkins, May 31, 2005
  - J.M. D’Auria, May 31, 2004
  - A. Gill, May 31, 2004
  - R. Gordon, May 31, 2005
  - P. Grimmett, May 31, 2003
  - K. Gupte, May 31, 2005
  - J. Heaney, May 31, 2004
  - A. Higgins, May 31, 2005
  - M. Jackson, May 31, 2003
  - P. McFetridge, May 31, 2005
  - P. Percival, May 31, 2003
  - J. Peters, May 31, 2004
  - R. Russell, May 31, 2004
  - L. Weldon, May 31, 2003
  - (one vacant position)
- Elected by Students
  - C. Apaak, May 31, 2003
  - B. Bourke, May 31, 2003
  - C. Garcia, May 31, 2003
  - D. Chen, May 31, 2003
  - J. Silveira, May 31, 2005
- Elected by Convocation
  - A. Chan, May 31, 2002
  - V. Dunsterville, May 31, 2005
  - J. McArthur, May 31, 2005
  - S. Wessel, May 31, 2005
- Elected by Students
  - C. Amaak, May 31, 2003
  - B. Bourke, May 31, 2003
  - D. Chen, May 31, 2003
  - C. Garcia, May 31, 2003
  - B. Jansen, May 31, 2003
  - M. Kemper, May 31, 2003
  - K. Phipps, May 31, 2003
  - T. Poletz, May 31, 2003
  - (two vacant positions)

**Academic and Administrative Officials**
- Chancellor
  - M.K. Wong BA (Br Col), LLD (S Fraser), CM
- President and Vice-Chancellor
  - M. Stevenson BA (Witwatersrand), MA (WMich), PhD (Northwestern)
  - Provost and Vice-President, Academic
  - J.H. Waterhouse BSc, MBA (Alta), PhD (Wash)
  - Vice-President, External Relations
  - D.J. Mitchell BA, MA (S Fraser)
  - Vice-President, Finance and Administration
  - P.M. Hibbits BA (Tor), MBA (York)
  - Vice-President, Research
  - B.P. Clayman BS (Rensselaer), PhD (C’nell)
  - Associate Vice-President, Academic
  - W.R. Krane BA (Windsor), MA, PhD (York)
  - Associate Vice-President, Administration
  - J.E.R. Johnson BSc(CE) (Manit), MBA (S Fraser), PEng
  - Associate Vice-President, Policy, Equity and Legal
  - J.A. Osborne LLB (Edin), MA (Tor), LLM (Br Col)
  - Associate Vice-President, Simon Fraser University at Harbour Centre
  - W.G. Gill BA, MA, PhD (Br Col)
  - Executive Director, President’s Office
  - G. Macdonald BA (Br Col), MA (S Fraser)
  - Executive Director, SFU International
  - N. Angerilli BSc, PhD (S Fraser)
  - Chief Information Officer
  - J. Cranston BSc, MBA (Qu)
  - Dean of Applied Sciences
  - B.S. Lewis BA (Hamilton Coll), MA, PhD (Iowa)
  - Dean of Arts
  - J.T. Pierce BA (Tor), MA (Wat), PhD (Lond)
  - Dean of Business Administration
  - C.E. Love BEng, MBA (McM), PhD (Lond)
  - Dean of Continuing Studies
  - J.C. Yerbury BEd, MA, PhD (S Fraser)
  - Dean of Education
  - (to be announced)
  - Dean of Graduate Studies
  - J.C. Driver MA (Camb), PhD (Cal)
  - Dean of Science
  - W.S. Davidson BSc (Edin), PhD (Qu)
  - Dean of Student Services and Registrar
  - W.R. Heath BSA (Guelph)
  - Director of Academic Computing Services
  - L. Tolan
  - Acting Director of Admissions
  - D. Whiteley BA (Northeastern), MA (S Fraser), PhD (Br Col)
  - Director of Alumni Relations and Community Giving
  - J. Saito BBA (S Fraser)
  - Director of Alumni and Volunteer Relations
  - J. Horne BGS, MALS (S Fraser)
  - Director of Analytical Studies
  - W.J. Wattamaniuk BEng, MSc, PhD (Alta)
  - Director of Campus Community Services
  - N. Coutu
  - Director, Campus Security
  - N. Coutu
  - Director of Ceremonies and Events
  - M. Pankratz
  - Director of Childcare Services
  - S. Davidson
  - Director, Communication Services
  - B. Henry BA, MBA (Br Col)
  - Director of Co-operative Education
  - N. Johnston BSc (Wat), MSc (S Fraser)
  - Director, Centre for Distance Education
  - J. Collinge BA, MA, PhD (S Fraser)
  - Director, Centre for Students with Disabilities
  - B. Morton BEd (Alta), MSc (Calg)
  - Director of Health and Counselling Services
  - L. Pelletier BA (Wat), BEd (Qu), MHCSc (Tor)
  - Director of Human Resources
  - B.L. Anderson BCom (Alta), MA (Illinois)
  - Director, Mobility and International Co-operation, SFU International
  - R. Martin BA, MA (S Fraser)
  - Director, Project and Support Services, SFU International
  - C. Dagg BA (Br Col)
Director of Media and Public Relations
K. Aberle

Director, Records and Registration
D. Whiteley BA (Northeastern), MA (S Fraser), PhD (Br Col)

Director, Recreational Services and Athletics
W. Wedman BA (S Fraser), MA (Oxf)

Director, Registrar Services, Simon Fraser University at Harbour Centre
R.B. MacLeod BComm (Mt. Alison)

Director, Residence and Housing
J. Flakowski BFA (Sir G Wms)

Director, Student Academic Affairs
S. Dench BA (Vic, BC), MA (S Fraser)

Director, Student Academic Resources
C. French BA (S Fraser)

Director, Student Services Systems
A. Carabine BSc (S Fraser)

Director, Student Recruitment
J. Macnab BA (Trent), BEd (Qu)

Director, University Secretariat
A. Watt BA (Hull)

University Archivist and Information Privacy Co-ordinator
I. Forsyth BA (McG), MA (W Laurier)

Library
University Librarian
L. Copeland BSc (Tor), MA (Brandeis), MLS (Columbia)

Associate University Librarian
T.M. Mundie BA, MLS (Br Col)

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

Head, Collections Management Division
G. Bird BA (Cornell), MLS (Br Col)

Head, Document Delivery Services Division
S. Mackenzie BA, MLS (Br Col)

Head, Loans Division
G. Pomerleau

Head, Processing Division
M.L. Harris BA (WOnt), BLS (Br Col)

Head, Reference Division
E. Fairey BA, MA (Br Col), MLS (Tor)

Acting Head, Systems Division
M. Jordan BA (PEI), MA (McM), MLS (Br Col)

Head, Special Collections and Rare Books Unit (vacant)

Contemporary Literature Collection Librarian
T. Power BA (S Fraser), MLS (Br Col)

Collections Librarian
M. Bubber BFA (Sask), MLS (WOnt)

Collections/Liaison Librarian
N. Saklikar BA (S Fraser), MLS (Br Col)

Maps/Data/GIS Librarian
W.G. Piovesan BA (S Fraser), MLS (Br Col)

Senior Cataloguers
D.D. Gordon BA (Acad), BLS (Br Col), MA (S Fraser)
L. Polson BA (Br Col), MLS (McG)

Serials Supervisor
P. Gallilee BA (Alta), MLS (Br Col)

Reference Liaison Librarians
M. Bodnar BA (S Fraser), MLS (Br Col)
G. Coleman BA (Tor), MLS (Br Col)
J. Corse CA, MA (Edin), MLS (Br Col)
N. Gick BSc, MLS (Br Col)
P.E. Groves BA (Watt), MLS (Br Col)
C. Goldsmith BA, MLS (Br Col)
M. Nelles BSc (S Fraser), MLS (Br Col)

S. Roberts BA (Sask), MLS (WOnt)
H-A Tingley BA, BLS (Br Col)

Librarians, Belzberg Library
M. McIntosh BA (Calg), MLS (Alta)
N. Smart BA (McG), MLS (Br Col)
C.E. Swoveland BA (Calif), MLS (Br Col)

Operations Manager, Library Systems
N. Baldwin

Excellence in Teaching Awards
1982
P.E. Kennedy, Economics
A. Lebowitz, English
T.J. O’Shea, Education

1983
M.J. Gresser, Chemistry
L.M. Prock, Education

1984
R. Coe, English
I. Gordon, Business Administration
K. Silverman, Centre for the Arts

1985
R.H. Dunham, English
K.N. Stessor, Chemistry

1986
A. Aberbach, History
R. Mathewes, Biological Sciences
R. Menzies, Criminology

1987
F. Fisher, Biological Sciences
T. Kirschner, Languages, Literatures, and Linguistics
R. Koepke, History

1988
A. Harestad, Biological Sciences
N. Robinson, Education
S. Wasserman, Education

1989
N. Dyck, Sociology and Anthropology
D. Krebs, Psychology
R. Pomeroy, Chemistry

1990
C.I. Dyck, History
T. Grieve, English
R. Peterman, Resource and Environmental Management

1991
C. Banerjee, Biological Sciences
R. Schwindt, Economics
M. Wexler, Business Administration

1992
L. Boland, Economics
M. Gates, Sociology and Anthropology
S. Wendell, Women’s Studies

1993
G. Gries, Biological Sciences
M. Manley-Casimir, Education
C.R. Day, History
G. Pomerleau

1994
J. Dahn, Physics
A. MacKinnon, Education
J. Sturrock, English

1995
C. Day, Resource and Environmental Management
M. Moore, Biological Sciences
H. Trottier, Physics

1996
A.L. Liestman, Computing Science
S. Roberts, English
D.A. Ross, Political Science

1997
M. Jackson, Criminology
J. Giltrow, English
J.S. Craig, History

1998
L. Dill, Biology
G. Poole, Psychology
D. Zapfe, Contemporary Arts

1999
J. Busumptwi-Sam, Political Science
S. Holdcroft, Chemistry
B. Truax, Communication

2001
C.R. Day, History
G. Leach, Chemistry
P. Howard, Communication

2002
M. Laba, Communication
W. Cleveland, History
T. McMullan, Biological Sciences

Endowed Chairs and Professors
Burnaby Mountain Endowed Professors
M. Thewalt, Physics

Burnaby Mountain Endowed Chairs
J. Han, Computing Science
R. Grauer, Business Administration
J. Martin, Education
D. Allen, Economics
K. Akins, Philosophy
G. Anderson, Criminology
M. Howlett, Political Science

Centre for Education, Law and Society
W. Cassidy, Education

Endowed University Professor (vacant)
Jack and Nancy Farley Endowed University Professor
J. Parr, History

Forest Renewal BC
D. Stead, Earth Sciences

Hellenic Canadian Congress of BC Endowment
A. Gerolymatos, History

Gordon M. Shrum Endowed Chair
J. Clague, Earth Sciences

Telus Endowed University Professor
R.G. Harris, Economics

J.L. Wighton Professorship
A. Parameswaran, Engineering Science

Ming and Stella Wong Endowed Chair in International Business
R.L. Tung, Business Administration

J.S. Woodsworth Chair (vacant)
Ruth Wynn Woodward Endowed Chair
D. Brand, Women’s Studies

Deana Wosk Professor of Arts and Culture (vacant)
J.L. Wright Professor of Engineering Science
A. Parameswaran, Engineering Science

Sponsored Chairs and Professors
Canada Research Chairs
J.M. Borwein, Mathematics
N.R. Branda, Chemistry

D.L. Basille, Molecular Biology and Biochemistry
R.M. Peterman, Resource and Environmental Management
M.K. Egan, Education
P.H. Winnie, Education
M.R. Scheinfein, Physics
C. Loenberger, Biological Sciences
Educational Systems

Grubel, H.G., Economics 147
Gibbons, M., Education 185
George, D.A., Engineering Science 121, 325
Gibbons, M., Education 185
Grubel, H.G., Economics 147
Gygar, S., Physics 208, 386

Professors Emeriti

A
Adam, H., Sociology and Anthropology 171
Ailsapah, B.R., Mathematics 202, 382
Amer, E., Psychology 170
Arnosoff, S., Chemistry 196
Arrott, A.S., Physics 208, 386

B
Bakan, P., Psychology 170
Banister, E.W., Kinesiology 124
Bell, T.N., Chemistry 196
Bhakthan, N.M.G., Kinesiology 124
Bell, T.N., Chemistry 196
Bakhtan, N.M.G., Kinesiology 124

Calvert, T.W., Computing Science, Engineering Science, Kinesiology 117, 121, 124, 322
Candelaria, F.H., English 148
Carlsson, R.L., Archaeology 132, 334
Chapman, A.E., Kinesiology 124
Cheng, P.L., Business Administration 180
Chow, Y.L., Chemistry 196
Cria, A., Political Science 167
Cochran, J.F., Physics 208, 386
Colbow, K., Physics 208, 386
Coleman, P.F., Education 185, 368
Cook, F., Biological Sciences 192
Copes, P., Economics 147
Crampton, C.B., Geography 154
Crawford, C.B., Psychology 170
Cunningham, F.F., Geography 154
Cupeman, V., Engineering Science 121, 325
Currie, J.R., English 148
Curtin, A.E., Physics 208, 386
Cushley, R.J., Molecular Biology and Biochemistry 205

D
Das, A., Mathematics 202, 382
Davis, S., Philosophy 166
Davison, A.J., Kinesiology 124
Day, C.R., History 157
Day, J.C., Resource and Environmental Management 330
Diamond, A.L., Psychology 170
Dickie-Clark, H., Sociology and Anthropology 171
Druhle, L.D., Biological Sciences 192

E
Einstein, F.W.B., Chemistry 196
Elliot, J.R., English 148
Ellis, J.F., Education 185
Ethereington, L.D., Business Administration 180

F
Fattah, E.A., Criminology 143
Finlayson, T., Biological Sciences 192
Fisher, F.J.F., Biological Sciences 192
Fleming, J., English 149
Foley, J.A., Linguistics 163
Funt, L., Chemistry 196

G
Garcia, J., Latin American Studies 162
Garland, I., Contemporary Arts 137
George, D.A., Engineering Science 121, 325
Gibbons, M., Education 185
Grubel, H.G., Economics 147
Gygar, S., Physics 208, 386

Harden, E.F., English 148
Harrop, R., Computing Science, Mathematics 117, 202, 322
Herzog, J.P., Business Administration, Economics 147, 180
Holmes, R.A., Business Administration, Economics 147, 180
Huntley, D.J., Physics 208, 386

Ingram, E.R., History 157
Irwin, J.C., Physics 208, 386

Jameson, R.W., Archaeology 132, 334
Kazepides, A.C., Education 185
Khan, M.H., Economics 147
Kirchner, G., Education 185
Kirschner, D.S., History 157
Kirschner, T.J., Humanities 160
Kitchen, J.M., History 157
Knetsch, J.L., Economics, Resource and Environmental Management 147, 330
Korting, R.G., Chemistry 196

Lardner, R.W., Mathematics 202
Lebowitz, A., Women's Studies 176
Lebowitz, M.A., Economics 147
Lipsky, R.G., Economics 147

Mackauer, J.P.M., Biological Sciences 192
MacPherson, A., Geography 154
Marcia, J.E., Psychology 170
Maud, R.N., English 148
McClaren, M., Education 185, 368
McKeown, B.A., Biological Sciences 192
McWhinney, E., Political Science 167
Merler, G., French 151
Mills, J., English 148
Modigliani, V., Psychology 170
Morrison, S.R., Physics 208, 386

Newton, R.C., History 157

Oehlischlager, A.C., Chemistry 196

Page, M., English 148
Palmer, L.H., Physics 208, 386
Paranjpe, A.C., Psychology 170
Pokee, T.K., Geography 154

Quo, F.Q., Political Science 167

Resnick, L., Philosophy 166
Riekhoff, K.E., Physics 208, 386
Robin, M., Political Science 167
Ross, W.D., Kinesiology 124
Rudrum, A., English 148

Schooner, B., Business Administration 180
Shapiro, S.J., Business Administration 180
Sharma, H., Sociology and Anthropology 171
Shutler Jr., R., Archaeology 132
Singh, M., Mathematics 202
Somjee, A.H., Political Science 167
Srivasatava, L.M., Biological Sciences 192
Stark, M.N., Business Administration 180
Steig, S., English 148
Stephens, M.A., Statistics and Actuarial Science 175, 210, 387
Sterling, T.D., Computing Science 117, 322
Strand, K., Economics 147
Strate, G., Contemporary Arts 137
Strayer, J.N., Psychology 170
Sutton, D., Chemistry 196
Swartz, N.J., Philosophy 166

Thomason, S.K., Mathematics 202
Thomson, B.S., Mathematics 202, 382
Trevitt, J.V., Education 185
Turnbull, A.L., Biological Sciences 192

Verbeek, N.A.M., Biological Sciences 192
Vidaver, W.E., Biological Sciences 192
Viswanathan, K.S., Physics 208, 386
Voigt, E.M., Chemistry 196

Wagner, P.L., Geography 154
Walkey, J., Chemistry 196
Wassermann, S., Education 185, 368
Webster, C.D., Psychology 170
Webster, J.M., Biological Sciences, Environmental Science, Biology 192, 380
Weinberg, H., Kinesiology 124
Weinkam, J.J., Computing Science 117
Whitaker, I.R., Sociology and Anthropology 171
Wildeen, M.F., Education 185, 368
Wilson, J.W., Geography 154
Wolfe, S., Chemistry 196
Wood, S.T., Geography 154
Wortis, M., Physics 208, 386
Wylie, R.W., Sociology and Anthropology 171

Yang, D., Archaeology 132, 334

Z
Zaslove, J., English, Humanities 148, 160

Faculty

Abramson, N.A.R., Business Administration 180, 361
Acilli, E.A., Geography 154, 344, 382
Agnes, G., Chemistry 196, 378
Akins, K., Philosophy 166, 351
Alberding, N., Physics 208
Albright, L.J., Biological Sciences 192, 376
Alder, G., Psychology 170
Alexander, B.K., Psychology 170, 354
Allen, D.M., Earth Sciences 197, 379
Allen, D.W., Economics 147, 338
Aloi, S.A., Contemporary Arts 137, 335
Amundsen, C.L., Education 185, 368
Anderson, G.S., Criminology 143, 336
Anderson, P.S., Communication 115, 320
Anderson, R.S., Communication 115, 320
Andollatto, D., Economics 147, 338
Angus, I., Humanities 160
Anthony, J., Kinesiology 125
Arilovic, J., Economics 147, 338
Armstrong, L., History, Humanities 158, 160, 347
Arya, J.C., Mathematics 203
Asmundson, R.C., Kinesiology 125
Atkins, M.S., Computing Science 117, 322

Bai, H., Education 185, 368
Bailey, W.G., Geography 154, 344, 382
Ball, S., Education 185, 368
Bailie, D.L., Molecular Biology and Biochemistry 205, 385
Baker, G., Computing Science 118
Balka, E., Communication 115, 320
Ballentine, L.E., Physics 208, 386
Banerjee, C.M., English 149, 340
Barron, R., Dean of Education, Education 185, 368
Bart, B., Computing Science 118
Barholomew, K., Psychology 170, 354
Batchelor, R.U., Chemistry 196
Bawa, P.N.S., Kinesiology 124, 320
Beale, A.C.M., Communication 115, 320
Bechhofer, J.L., Physics 208, 386
Beckenbach, A.T., Biological Sciences 192, 376
Beh, C.T., Molecular Biology and Biochemistry 205, 385
Bell, D.A., Education 185
Bendell-Young, L.I, Biological Sciences 193, 376
Bendell-Young, L.I, Environmental Biology 380
Bennett, A.J., Chemistry 196, 378
Becker, I., Statistics and Actuarial Science 211
Berenbrink, P., Computing Science 118, 322
Simon Fraser University Downtown

1 Simon Fraser University at Harbour Centre
2 Morris J. Wosk Centre for Dialogue
3 Segal Centre for Graduate Management Studies

Parking
| Special Fees | 47, 306 |
| Special Students, Qualifying | 307 |
| Specialist Program in Multimedia Computing | 119 |
| Sponsored Chairs and Professors | 393 |
| Standing Required for Continuance | 45 |
| Statement of Grades | 44 |
| Statistical Consulting Service | 17 |
| Statistics and Actuarial Science, Department of | 210, 387 |
| Statistics Honors Program | 211 |
| Actuarial Science Major Program | 211 |
| Management and Systems Science Program | 211 |
| Statistics | 387 |
| Co-operative Education | 387 |
| MSc Requirements | 387 |
| PhD Requirements | 387 |
| Statistics Graduate Courses | 387 |
| Statistics Honors Program | 212 |
| Statistics Major Program | 212 |
| Statistics Minor Program | 212 |
| Undergraduate Courses | 294 |
| Statistics Canada, Notification of Disclosure of Personal Information | 2 |
| Statistics Program (Faculty of Arts) | 175 |
| Extended Minor Program | 176 |
| Honors Program | 176 |
| Major Program | 176 |
| Minor Program | 176 |
| Statistics, Department of Actuarial Science and Co-operative Education | 213 |
| Student Academic Resources | 25 |
| Student Activity Fee | 47, 306 |
| Student Conduct | 299 |
| Student Loans, International | 109 |
| Student Misconduct, Penalties for Acts of | 43, 299 |
| Student Programming Office | 9 |
| Student Services and Recreation-Athletics Fees | 47 |
| Student Society, Simon Fraser | 16, 17 |
| Students with Disabilities, Centre for | 10 |
| Students, Visiting | 34 |
| Studies in Publishing, Canadian Centre for | 389 |
| Studies in Teacher Education, Institute for | 391 |
| Submission Fee, Late | 307 |
| Supervisory Committee, Change in the | 302 |
| Supplementary Course Fees, Mandatory | 47, 306 |
| Surrey, Simon Fraser University | 20 |
| Co-operative Education | 20 |
| Information Technology | 20 |
| Interactive Arts | 20 |
| TechOne | 20 |
| Systems Option | 123 |
| Systems Science Program, Management and | 202, 211, 212 |
| Honors Program | 212 |
| Major Program | 211, 212 |
| Systems Science, Centre for | 391 |

**T**

- Teacher Education, Institute for Studies in 391
- Teachers Qualification Service 190
- Teaching Enhancement Program 13
- Teaching ESL Linguistics, Certificate in 5, 19, 128, 164, 214
- Technical Services 13
- Technology, Centre for Policy Research on Science and 391
- Technology, Innovation, Management and Entrepreneurship (TIME) Centre 19
- TechOne 20
- Teck Gallery 19
- Theatre
  - Theatre Extended Minor 142
  - Theatre Major Program 140
- Undergraduate Courses 240
- Thesis to the Library, Submission of the 304
- Thesis, Classification of the 304
- Thesis, Doctoral 303
- TIME Centre 19
- Tourism Policy and Research, Centre for 391
- Toxicology, Environmental 195, 381
- Toxicology, Post Baccalaureate Diploma in Environmental 5, 19, 191, 215
- Transcripts 47, 305
- Transfer Credit 30, 45
- Transfer Credit and Residency Requirements 116, 118, 121, 125
- Transfer Credit Guide 34
- Transfer Credit, Duplicate 40
- Transfer, University 34
- Tri University Meson Facility (TRIUMF) 391
- Trimester 27
- TRIUMF 391
- Tuition Deposit for Continuining Students, Payment of the Registration 48
- Tuition Fee Certificates (T2202A) 49, 307
- Tuition Fee Schedule 47, 306
- Tuition Refund Policy and Course Drop Penalties 49

**U**

- Undergraduate Courses 219
- Undergraduate Fees 47
  - Special Fees 47
  - Special Notice Regarding Fees, Fall 2002-3 and 2003-1 47, 306
  - Student Services and Recreation-Athletics Fees 47
  - Tuition Fee Schedule 47
- Undergraduate Semester in Dialogue 218
- Courses 245
- UniverCity Community Corporation, Simon Fraser 17
- University Administered External Awards 314
- University Degree Holders, BC 34
- University Transfer 34
- Urban Research Studies, Institute for Canadian 389
- Urban Studies Graduate Courses 345
- Urban Studies, Certificate in 5, 19, 128, 156, 214
- Urban Studies, Graduate Diploma in 345
- Urban Studies, Post Baccalaureate Diploma in 215

**V**

- VanDusen BC Business Studies Institute, W.J. 19, 389
- Violence Against Women and Children, Centre for Research on 19
- Visiting Students 34
- Visual Art
  - Undergraduate Courses 241
- Visual Art Extended Minor 142
- Visual Art Major Program 141
- Volunteer Centre 10

**W**

- W.J. VanDusen BC Business Studies Institute 19, 389
- Waiver, Fee 307
- Web Application 29
- Western Canadian Universities Marine Biological Station 389
- Withdraw, Required to 45
- Withdrawal, Extended 45
- Withdrawals, Program/Course Changes and 41
- Withdrawals, Repeated 45
- Women Entrepreneurs, Scotiabank Resource Centre for 19
- Women’s Centre 16
- Women’s Studies, Certificate in 5, 19, 128, 214
- Women’s Studies, Department of 176, 359
- Certificate in Women's Studies 128
- Certificate Program 179
- Co-operative Education 179
- Extended Minor Program 179
- Graduate Courses 359
- Joint Major in Criminology and Women’s Studies 177
- Joint Major in English and Women’s Studies 177
- Joint Major in History and Women’s Studies 177
- Joint Major in Humanities and Women’s Studies 178
- Joint Major in Sociology or Anthropology and Women 178
- Joint Major in Women’s Studies and Psychology 178
- Major Program 176
- Master’s Program 359
- Minor Program 179
- Supervisory Committee 359
- Undergraduate Courses 295
- Women’s Studies, Joint Major in Criminology and 177
- Women’s Studies, Joint Major in History and 177
- Women’s Studies, Joint Major in Humanities and 178
- Work-study Program 109
- Wosk Centre for Dialogue, Morris J. 18

**Y**

- Yukon Applicants, British Columbia and 32