



Toll free 1-877-867-StFX(7839)
PO Box 5000, Antigonish, Nova Scotia, Canada B2G 2W5

www.stfx.ca

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Students and other readers will appreciate that matters dealt with in this Academic Calendar are subject to continuing review. The university reserves the right to alter anything described herein without notice other than through the regular process of the university. The university cannot accept responsibility or liability to any person or persons who may suffer loss or who may be otherwise adversely affected by such changes. The Academic Calendar takes precedence over all other publications.

In the interpretation of academic regulations, the University Senate is the final authority. The registrar will assist students in interpreting academic regulations; however, it is the responsibility of students to see that their academic programs meet university regulations.

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Mailing Address

St. Francis Xavier University
PO Box 5000
Antigonish, Nova Scotia, Canada
B2G 2W5

StFX Switchboard

Phone: 902-863-3300

Admissions Office

Toll free 1-877-867-StFX(7839)
Phone: 902-867-2219
Fax: 902-867-2329
Email: admit@stfx.ca

Registrar's Office

Toll free 1-888-Reg-StFX(735-7839)
Phone: 902-867-2160
Fax: 902-867-5458
Email: registr@stfx.ca



The Academic Calendar is available online at
www.stfx.ca/calendar/

CALENDAR OF EVENTS 2009 - 2010

JUNE 2009

- Mon. 22** Last day of spring examinations
Thu. 25 Professors to submit grades by 9 a.m.

JULY

- Mon. 6** Summer classes begin
Wed. 15 Final date to apply for degree or diploma to be conferred at Fall Convocation

AUGUST

- Mon. 17** Last day for summer examinations
Mon. 24 Professors to submit summer grades by 9 a.m.

SEPTEMBER

- Tue. 1 International Students arrive to attend the welcome program, the full schedule at www.sfx.ca/services/international-student-office
Sun. 6 New students arrive before noon. Orientation program begins. Students will receive first week schedule listing events, times and locations. New students only may check into residence after 9:00 a.m.
Mon. 7 Orientation program, deans' information session and academic advising for all new students.
Tue. 8 Orientation program and academic advising continues. Students register in courses at pre-assigned times on Tue. or Wed. Registration for B.Ed students in Xavier Hall.
Wed. 9 Orientation program and registration continues. Returning students may check into residence after 9:00 a.m. Xaverian Welcome ceremony for new students in the evening.
Thu. 10 Fall term classes begin
Sun. 13 Opening Mass of the Holy Spirit 5 p.m.
Tue. 15 General faculty meeting 7:30 p.m.
Mon. 21 Last day to add first term or full year courses
Tue. 22 Faculty of Science meeting 7:30 p.m.
Fri. 25 Faculty of Arts meeting 2:15 p.m.
Wed. 30 Final date for approval of senior honours and advanced major thesis topics and supervisors
For Fall Convocation, final date for:
• seniors to submit senior theses
• graduate students to submit theses

OCTOBER

- Tue. 6 University Senate meeting 3:45 p.m.
Mon. 12 Thanksgiving Day, no classes
Tue. 13 October quiz period begins, ends Oct. 26
Thu. 15 Final date to apply for degree or diploma to be conferred at Spring Convocation
Mon. 26 Final day for tuition refunds for first term
Fri. 30 Professors to submit October quiz grades by 9 a.m.

NOVEMBER

- Mon. 2 University Senate meeting 7:30 p.m.
Wed. 4 Last day to drop first-term courses
Fri. 6 UCR applications due by noon
Wed. 11 Remembrance Day, no classes
Mon. 16 University Council for Research meeting
Tue. 24 University Senate meeting 3:45 p.m.
Mon. 30 Final day for tuition refunds for full year courses

DECEMBER

- Thu. 3 Feast Day of St. Francis Xavier, Alumni Memorial Mass
Fri. 4 Last day of classes for first term
Sat. 5 Fall Convocation
Tue. 8 Term examinations begin
Thu. 17 Christmas recess begins after last examination
Mon. 21 Professors to submit term grades by 9 a.m.

JANUARY 2010

- Mon. 4** Second term classes begin
Mon. 11 Last day to drop full year courses or add second-term courses
Mon. 18 University Senate meeting 3:45 p.m.
Fri. 22 Faculty of Arts meeting 2:15 p.m.
Tue. 26 Faculty of Science meeting 7:30 p.m.
Sun. 31 Final date for submission of application to the B.Ed. program

FEBRUARY

- Tue. 9 University Senate meeting 7:30 p.m.
Mon. 22 Final day for tuition refunds for second term courses

MARCH

- Mon. 1** Midterm recess begins
Mon. 8 Classes resume
Last day to drop second term courses
Fri. 5 UCR applications due by noon
Final date for nominations for faculty research award
Tue. 9 University Senate meeting 3:45 p.m.
Mon. 15 Formal Academic Advising Period Begins
University Council for Research meeting
Thu. 25 Student Research Day
Wed. 31 For Spring Convocation, final date for:
• seniors to submit senior theses
• graduate students to submit theses
Final date for sophomores to apply for honours and advanced major programs

APRIL

- Fri. 2** Good Friday, no classes
Mon. 5 University Senate meeting 7:30 p.m.
Wed. 7 Last day of classes
Mon. 12 Final examinations begin
Thu. 22 Last day of examinations
Mon. 26 Professors to submit final grades by 9:00 a.m.
Spring classes begin
Fri. 30 Spring Convocation list published

MAY

- Sun. 2** Spring Convocation



Quaecumque Sunt Vera

Whatsoever things are true

The St. Francis Xavier University motto is taken from the letter of Paul to the Philippians. The following is an excerpt from the epistle.

*I want you to be happy, always happy in the Lord; I repeat, what I want is your happiness. Let your tolerance be evident to everyone: the Lord is very near. There is no need to worry; but if there is anything you need, pray for it, asking God for it with prayer and thanksgiving, and that peace of God, which is so much greater than we can understand, will guard your hearts and your thoughts, in Christ Jesus. Finally, brothers and sisters, fill your minds with **everything that is true**, everything that is noble, everything that is good and pure, everything that we love and honour, and everything that can be thought virtuous or worthy of praise.*

Phil. 4: 4-9



A TRADITION OF EXCELLENCE

St. Francis Xavier University is widely recognized as one of the top post-secondary institutions in Canada. Since its founding in 1853, StFX has helped shape the world in which we live. From its halls have come a prime minister, provincial premiers, Rhodes scholars, scientists and religious and business leaders. Today, StFX continues to offer what so many of Canada's top students want: a high quality education focused primarily on the undergraduate, in a vibrant residential setting. StFX continues to meet the needs of its students through outstanding teaching, exceptional hands-on research experience, the very best in residential living, and unique opportunities to make a contribution to communities at home and abroad.

St. Francis Xavier University's Strategic Plan, which represents the ideals for which the university strives, and reflects its proud traditions, emphasizes commitment to the highest standards for its faculty and students. It stresses that excellence in its teaching and research programs is more important than growth in size of the institution. Our niche is to be an excellent, mid-size liberal arts university, with high academic standards and a character attractive to those who hold and respect social and religious values. Through the development of the whole person, we will continue to provide society with the leaders of tomorrow.

The development of the whole person requires attention to the quality of the cultural, spiritual, social, and recreational life of our students and not solely to the teaching and learning process. We look to our students to conduct themselves responsibly and we strive to provide an environment in which they can develop. Whether they are in residence on campus or in the local community, we are concerned about their quality of life.

Today, St. Francis Xavier University is a leading national university with a longstanding tradition of academic excellence, service to society and innovation in teaching. StFX takes pride in the Catholic heritage and character that have formed a vital part in its history and mission, and is dedicated to providing its students with a post-secondary education that is intellectually stimulating and personally enriching within an atmosphere of inclusiveness for students, faculty and staff of diverse backgrounds.

The university brings together over 4,500 full and part-time students from across Canada and around the world for quality programs in the traditional

arts and sciences, including professional and applied studies in Education, Engineering, Nursing and Business and Information Systems, as well as through the world-famous Coady International Institute. StFX students have the opportunity to excel in an intimate learning environment that nurtures the development of the whole person. The unique StFX brand of education offers small classes, innovative teaching methods and exceptional opportunities for personal growth in a close-knit campus community.

StFX students and faculty are engaged with the world around them. Through international internships, service learning experiences, international research partnerships and community outreach initiatives, our students and professors are making meaningful contributions to communities at home and abroad. It's all part of an educational experience built on the values of social justice and equality.

Today, StFX is in the midst of a major campus renewal. We are upgrading teaching and research facilities and strengthening the residential campus. This is the most ambitious facilities renewal program for StFX in the past 40 years.

StFX professors rank among Canada's top teachers and researchers. These exceptional faculty members, most with doctorates and many with teaching awards, inspire students to achieve their potential. Through small classes students get to know their professors - and each other. The result is individual attention, lively classroom discussions, and the opportunity for students to reach their personal best.

Arts

The Arts Faculty includes programs in the social sciences and the humanities. Through their teaching and research, faculty members lead our students on a journey that is intellectually broadening, socially awakening and culturally rich. StFX Arts graduates have an understanding of the world, an appetite for learning and an ability to solve problems. They are prepared to assume leadership roles in our rapidly changing society.

Business and Information Systems

The Faculty of Business is the home of the Gerald Schwartz School of Business and Information Systems. StFX keeps pace with the changing way the world does business by connecting theory with practice as a vital



component of the learning process. This is why the Schwartz School offers a variety of hands-on learning experiences, international exchanges and a co-op option. The business and the information systems programs uniquely integrate the liberal arts tradition. The information systems department is one of only two Canadian university programs that have official accreditation in management information systems from the Canadian Information Processing Society. Grads of both programs are consistently sought out by major firms and corporations.

Education

StFX's School of Education believes that learning is a lifelong endeavour. Faculty work hard in building collegial, professional relationships with their students, practicing teachers and those in a variety of educational organizations. A distinguishing feature of the school is that it educates teachers in priority needs areas through specialized cohort programs such as French language, math, and Aboriginal studies.

Science

The Science Faculty includes both the theoretical and applied sciences and professional programs in Engineering, Human Kinetics and in the School of Nursing. The Faculty includes accomplished scientists who conduct teaching and research of the highest standard. In doing so, they provide a solid academic foundation for bright minds that go on to award-winning research, further study and exciting scientific careers. They also make important contributions to scientific discovery in Canada.

History of StFX

StFX traces its origin to a small school of higher studies established by Most Rev. Dr. Colin F. MacKinnon at Arichat in 1853. The previous year, on his consecration to the See of Arichat, Bishop MacKinnon was placed in charge of an extensive diocese with a relatively large but widely dispersed Catholic population. To solve the urgent need for pastoral clergy, he founded an institution of general education. The initial student body numbered only 15. Two years later, in 1855, the institution was relocated in Antigonish with Dr. John Schulte as the first rector, succeeded by Most Rev. Dr. John Cameron.

By 1856, an ambitious curriculum had been developed in nine subjects, taught by six professors to 49 students, and the institution was then known as St. Francis Xavier's College. The original building stood at the centre of the Antigonish community and served for 25 years as the home of the college. Dr. Cameron's appointment to the Diocesan See in 1877 spurred further development, including a relocation to the southern boundary of Antigonish and the erection of the first wing of Xavier Hall in 1880. These 100 acres are the university's home today.

Full university powers were conferred upon the college by an act of the provincial legislature in 1866. A board of governors was appointed and incorporated under another act in 1882. This granted to the board general control over the direction and internal affairs of the institution.

The early graduates of StFX received a Bachelor of Arts degree. This academic program was broadened through the energy of new faculty, well qualified in both the humanities and natural sciences, and encouraged always by Bishop Cameron. A Master of Arts degree was first awarded in 1890 and a Bachelor of Letters was available by 1899. Just prior to the turn of the century, the university had departments of law, commercial studies and a faculty of applied science, the first in Nova Scotia. Bachelor of Science degrees were awarded by 1904.

The foresight of Bishop Cameron led him to invite to Antigonish the Sisters of the Congregation of Notre Dame of Montreal, to staff a school for young women. This St. Bernard's Academy became affiliated with the university in 1894 as Mount Saint Bernard College. In 1897 St. Francis Xavier became the first Catholic coeducational university in North America to grant degrees to women. Members of the Congregation joined the faculty in later years. Women represented a small fraction of the student body for more than 100 years, but by 1985, they equalled men in numbers.

On the occasion of the university's golden jubilee, the chancellor, Bishop Cameron, declared, "No multi-millionaire laid its foundations in wealth and

built the university's walls from his own private fortune. But it boasts a more precious and, let me add, a more secure foundation: the loving hearts of a loyal people." The well-being of StFX lay in the generous hands of the Scots, Irish and Acadians of eastern Nova Scotia. The priest faculty for over 100 years toiled essentially without remuneration. No university owes more to its loyal people, the alumni, than does StFX. The gracious campus, the many academic programs and the research endeavors were possible only through their support, as very little assistance was received from the public, through governments, prior to the 1960s. Today StFX alumni remain dedicated and committed to their alma mater.

Under the inspiration of Dr. Cameron in 1900, the Congregation of the Sisters of St. Martha was founded on the campus. Their specific task was to provide household management of the university. Within a very few years, the sisters' apostolic mandate broadened to include nursing care, and formal nursing programs at St. Martha's Hospital were affiliated with the university for 65 years. In the trying years after World War I, and in the depression decade especially, the university would not have survived without the labor of the priest faculty and the unselfish devotion of the Sisters of St. Martha. Today the presence of the Marthas is still felt on campus with the establishment of Wellspring Centre, a homey, relaxing place of welcome and friendship. Staffed by the Sisters of St. Martha, it offers to the university community an environment for interaction and dialogue, quiet reading, reflection and prayer. Wellspring is located on the second floor of Morrison Hall.

A decade after the First World War, influential priest faculty, led by Dr. J.J. Tompkins, became concerned that StFX should relate more closely to the circumstances of ordinary people. Their view was that those outside the formal academic setting could, by study and cooperative action, find the power to solve economic and other problems through social reform. The product of their effort became known as the Antigonish Movement. The formal structure within the movement crystallized as the university's Extension Department in 1928. Its first director was Dr. M.M. Coady. As a result of this work, by the end of the Second World War, a formidable number of co-operative projects, leadership training programs, consumer, producer and credit co-operatives, and agricultural associations developed, bringing with them a new measure of social and economic vitality. Leaders from the developing world began to come to the university to study in the Extension program. To satisfy this quest for information the Coady International Institute was established in 1959. To date, over 3,500 graduates of the institute hold economic and social development positions around the globe.

The rapid growth in student numbers following World War II, especially in the Cape Breton industrial area, prompted the extension of academic programs beyond the home campus. Xavier College was established in Sydney in 1951 to offer the first two years of degree programs. This campus not only grew rapidly over the next two decades, but the demands for technology training prompted both the government of Nova Scotia and the university to amalgamate the Nova Scotia Institute of Technology with Xavier College. The College of Cape Breton was born of this union in 1974 and it granted degrees in affiliation with StFX. These degrees, based on both traditional academic and innovative technological programs, were awarded until 1982. In that year, by provincial act, a charter was awarded to the college creating a wholly separate institution of higher education, the University College of Cape Breton.

Since its founding, StFX has remained true to its commitment to the development of the whole person in service to humanity.



1. ADMISSION PROCEDURES AND REQUIREMENTS

- 1.1 Admission Procedures
- 1.2 Admission to University Programs
- 1.3 Admission from Nova Scotia Grade 12
- 1.4 Admission from Other Provinces
- 1.5 Admission from the United States
- 1.6 Admission from Other Systems of Education
- 1.7 Admission to the Bachelor of Science in Nursing
- 1.8 Admission to the Bachelor of Education Program
- 1.9 Admission to Graduate Programs

1.1 ADMISSION PROCEDURES

Address all applications and inquiries concerning admission to:
 The Admissions Officer, St. Francis Xavier University
 PO Box 5000
 Antigonish, NS B2G 2W5
 Phone: 1-877-867-7839, 902-867-2219
 Fax: 902-867-2329
 E-mail: admit@stfx.ca

Applications for admission should be made on the appropriate form, which includes two letters of reference at the applicant's discretion and a resume indicating their personal, extra-curricular, and work experience. A non-refundable application fee of \$40 (subject to change) is required. All applicants should request their high school counsellor to submit a school transcript. Transfer students must submit official university or college transcripts. Students from the United States must submit Scholastic Achievement Test (SAT) scores or ACT Assessment scores by July 15.

The admission procedure is complete when the candidate has returned a confirmation form together with the appropriate fee. Admissions decisions are final.

All information supplied by an applicant may be used by the university in its normal course of business. St. Francis Xavier University (StFX) is required to abide by Freedom of Information and Protection of Privacy legislation (FOIPOP) and the Personal Information Protection and Electronic Documents Act (PIPEDA) as they apply to universities.

Entrance Scholarships

All applicants from high school with superior grades will be considered for entrance scholarships. See section 2.4 for information on university scholarships.

Transfer Candidates

The university may admit and grant advanced standing to a student who has attended another college or university. Official documents of all previous academic work must be submitted whether or not advanced standing is sought. Failure to supply such documents is considered grounds for subsequent academic dismissal.

Canadian Community Colleges

Applicants who have earned a diploma, completed two years of study at a community college, and achieved an overall minimum average of 75 may be granted up to 30 credits. Credits may count as electives or, if areas of study can be matched to appropriate courses offered at StFX, credits may count as courses in specific subjects.

Ontario College System

Applicants who have earned a diploma, completed three years of study at a college, and achieved an overall minimum average of 75 may be granted up to 30 credits. Credits may count as electives or, if areas of study can be matched to appropriate courses offered at StFX, credits may count as courses in specific subjects.

Mature Students

Candidates who have not fulfilled the normal admission requirements and who have been out of school at least three years may be considered for admission. Candidates are required to submit transcripts of all previous academic work, letters

of reference from employers, and an outline of future plans. Each applicant is considered on an individual basis.

Program for Students with Disabilities

StFX welcomes students with disabilities and offers a student-centered program of support. Students with disabilities are responsible for identifying and providing documentation of their disability to the co-ordinator of the program. Students are encouraged to make contact as soon as possible. For further information, call the co-ordinator at 902-867-2370.

1.2 ADMISSION TO UNIVERSITY PROGRAMS

The university reserves the right to reject any application for admission on the basis of the applicant's overall academic record even if the entrance requirements are satisfied.

In special circumstances, a student lacking the specified requirements may be admitted. The university takes into consideration the overall demographics of its constituency.

Senate regulations limit enrollment in some programs. Admission to these programs is competitive and possession of the minimum requirements does not ensure acceptance into the program.

1.3 ADMISSION FROM NOVA SCOTIA GRADE 12

Applications from students with averages of 75 or higher are processed as soon as documentation is complete. When a student's average is less than 75, the application may not be considered until June 15.

- a) Applicants are normally required to have the following:
 - i) a minimum average of 70 in grade 12, to include English each year; no grade less than 65 in a course required for admission; and
 - ii) credit for five university preparatory courses in each of grade 11 and grade 12.

The following university preparatory subjects are acceptable: English, entrepreneurship, geography, global history, global geography, history, mathematics (algebra, trigonometry, geometry, functions/relations), modern languages, classical languages, economics, biology, chemistry, earth sciences, and physics. Two of the five subjects may be in a university preparatory subject not listed above.

- b) In addition to English, all programs require additional grade 12 credits as specified in the chart on page 3.
- c) Admission to the music program is a two-part process. Students must apply to and be accepted by both the university and the music department.

Candidates must contact the music department to arrange for an audition or receive information regarding a taped audition. Call 902-867-2106 or write to the Department of Music, St. Francis Xavier University, PO Box 5000, Antigonish, NS, B2G 2W5. Only after acceptance to the university and completion of a successful audition are candidates fully enrolled in the music program. Successful candidates receive letters of acceptance from both the university and the music department.
- d) Students are initially admitted to the Bachelor of Arts (BA) with major undeclared:
 - i) Majors are offered in anthropology, aquatic resources, Catholic studies, development studies, Celtic studies, economics, English, French, history, mathematics, statistics, and computer science, music, philosophy, political science, psychology, religious studies, sociology, Spanish, and women's studies.
 - ii) Students are expected to declare major and minor subjects by registration for the third year. Students may choose the four-year BA advanced major or honours program during their second year of study.
- e) Students are initially admitted to the Bachelor of Business Administration (BBA) and Bachelor of Information Systems (BIS) programs in the Faculty of Business with major undeclared. Students wishing to declare a major do so prior to registering for their third year.

The BBA degree with major or honours is offered in accounting, enterprise development, finance, information systems, leadership studies and

marketing. The BIS degree with major and honours is offered in enterprise systems and information systems.

- f) The Bachelor of Science (B.Sc.) degree with advanced major or honours is offered in biology, chemistry, computer science, economics, earth sciences, mathematics, physics, and psychology. A B.Sc. major degree is also offered in these subjects and aquatic resources, but not in economics or psychology. Students may choose the B.Sc. advanced major or honours during their second year of study.
- g) Students applying for the Bachelor of Science in Nursing (B.Sc.N.) have five options: the basic program for students direct from high school, the accelerated post-degree option, the fast-track option, or the part-time post RN option. See the table on page 3 and section 1.7 for program descriptions and entrance requirements. Students accepted into any B.Sc.N. program are required to have current certification in Level C CPR and standard first aid. Candidates for the nursing program must be screened through the child abuse register of their home province and Nova Scotia, and have a criminal records search completed at their nearest detachment of the RCMP. Students must submit proof of certification in Level C CPR and standard first aid; documentation of their current child abuse register search and criminal records check; and a copy of their birth certificate to the admissions office by August 1. Prior to entering the program, students should have their immunizations up to date. Hepatitis B immunization and tuberculin (two-step Mantoux) testing are also required.
- h) Advanced Placement (AP): The AP program is accepted for admission on the same basis as Nova Scotia grade 12. Students who have completed courses in the AP program may be granted advanced standing for individual AP courses for which a grade of 3 or higher has been achieved.
- i) International Baccalaureate (IB): The IB program is accepted for admission on the same basis as Nova Scotia grade 12. For students who complete the IB Diploma, admission to the university requires a minimum of 24 points including bonus points. Due to limited enrollment, a higher score will be required for admission to some programs. Advanced standing may be granted for individual higher level subjects for which a grade of 5 or higher has been achieved.
- j) Early fall admission: Students who have a grade 11 average of at least 80 may be considered for early fall admission before their first set of grade 12 marks is available. Due to limited enrollment, a higher average is required for some programs based on Grade 11 marks. Students applying for early fall admission should include their final grade 11 marks and a school-approved list of courses they are taking in grade 12 (both semesters) with their application. Grade 12 courses must be consistent with the guidelines listed above. For further information, contact the admissions office.



FACULTY OF ARTS CHART Four-year programs unless otherwise stated

Program	Description	High School Requirements
Bachelor of Arts with Major	Offered in anthropology, aquatic resources, Catholic studies, Celtic studies, computer science, development studies, economics, English, French, history, mathematics, music, philosophy, political science, psychology, religious studies, sociology, women's studies. Students may choose the advanced major or honours degree during their second year of study.	English and four university preparatory courses in grade 12. See 1.3 d.
Bachelor of Arts in Human Kinetics	The study of human movement from an arts (humanities and social sciences) perspective prepares students for a variety of options: employment and careers in health and fitness, or further studies in education, occupational therapy, sport sociology, sport history, sport philosophy or sport psychology. Students must choose a major, advanced major or honours in kinesiology, or a major, advanced major or honours in pre-education during their second year of study.	English; one of math (grade 12 recommended), biology, chemistry or physics; and three other university preparatory courses in grade 12. Limited enrollment
Bachelor of Arts in Music Diploma in Jazz Studies (two years)	Students in the BA in Music often continue their studies in education. This program combines composition, arranging and performance. The diploma is for students who wish to enter the field of commercial music. The first and second years of the Bachelor of Arts in Music, the Bachelor of Music and the Diploma in Jazz follow a common curriculum in jazz studies. Students apply for admission to the Bachelor of Arts in Music with Advanced Major or Honours, or the Bachelor of Music with Honours during their second year of study.	Academic entrance requirements for both music programs are the same as those described above for the BA. Admission depends on the student's performance during an audition, which may be performed in person or submitted on a CD or tape. See 1.3 c. Limited enrollment

FACULTY OF BUSINESS CHART Four-year programs

Program	Description	High School Requirements
Bachelor of Business Administration	Students may choose the general degree; the degree with major in aquatic resources; major in accounting, enterprise development, finance, information systems, leadership studies and marketing; honours in accounting, enterprise development, finance, information systems, leadership studies and marketing; or joint honours in business administration and economics. Co-op programs are available.	English, math and three other university preparatory courses in grade 12. Limited enrollment
Bachelor of Information Systems	Designed to prepare graduates for positions such as systems analyst, applications programmer or information systems specialist. Students may choose the major or honours in enterprise resource planning, e-business, or management information systems during their second year of study. Co-op programs are available.	English, math and three other university preparatory courses in grade 12. Limited enrollment

FACULTY OF EDUCATION CHART Two-year program

Program	Description	High School Requirements
Bachelor of Education	A professional degree program that prepares graduates to enter the school system as teachers, at either the elementary or the secondary level.	Completion of an undergraduate degree (BA, B.Sc. or equivalent). Minimum average of 70 in senior year of the undergraduate program. Limited enrollment

FACULTY OF SCIENCE CHART Four-year programs unless otherwise stated

Program	Description	High School Requirements
Bachelor of Science with Major	Major degree program offered in: aquatic resources, biology, chemistry, computer science, earth sciences, mathematics, and physics. During their second year of study, students may choose the advanced major, joint advanced major, honours or joint honours program in the above subjects and in economics and psychology but not aquatic resources.	English; pre-calculus math; two of biology, chemistry or physics; and one other university preparatory course in grade 12. See 1.3 f. Limited enrollment
Bachelor of Science in Human Kinetics	The scientific study of human movement prepares students for a variety of options: employment and careers in the health and fitness sector; studies at the graduate level in biomechanics, motor control, or exercise physiology; and admission to programs such as education, physiotherapy, athletic therapy, or medicine. Students must choose a major, advanced major or honours in kinesiology, with a minor in human nutrition or health sciences, or a major, advanced major or honours in pre-education during their second year of study.	English; two of math (grade 12 recommended), chemistry, biology or physics; and two other university preparatory courses in grade 12. Limited enrollment
Bachelor of Science in Human Nutrition	The program prepares students for a range of career possibilities in the field of nutrition and foods as well as advanced studies. Students may choose the advanced major or honours program during their second year of study. Students may meet the requirements for the Integrated Dietetic Diploma program and for the Graduate Dietetic Internship program.	English; math; two of biology, chemistry or physics (normally biology and chemistry); and one other university preparatory course in grade 12. Limited enrollment
Bachelor of Science in Nursing (four years plus two spring sessions)	The program prepares nurses to think critically and creatively by providing a sound education in nursing science, related sciences, and the humanities. Students may choose the advanced major or honours program during their second year of study. Graduates practice nursing in acute care or community settings, through teaching and leadership. See 1.7 for other program options.	English, math, chemistry, either biology or physics, and one other university preparatory course in grade 12. See 1.3 g. Limited enrollment
Engineering Diploma (two years)	Upon completion of the diploma, students continue their studies at Dalhousie University, or transfer the credits earned to any other university of their choice, to complete the remaining requirements for the Bachelor of Engineering degree.	English; pre-calculus math; chemistry; physics; and either biology or one other university preparatory course in grade 12. Limited enrollment

GRADUATE STUDIES

See chapter 8

DIPLOMA IN ADULT EDUCATION

See section 4.2

DIPLOMA IN MINISTRY

See section 4.3

1.4 ADMISSION FROM OTHER PROVINCES

The requirements for admission from high schools in other provinces are stated below. The courses required for university programs are specified in the chart on page 3.

Alberta

Applicants must have grade 12 with subject distribution and minimum averages as for Nova Scotia. All five courses must be at the 30 or 31 level.

British Columbia, Manitoba, New Brunswick, Northwest Territories, Nunavut, Prince Edward Island, Saskatchewan, and Yukon

Applicants must have grade 12 with subject distribution and minimum averages as for Nova Scotia.

Newfoundland and Labrador

Applicants must meet the same course requirements and minimum averages as Nova Scotia students. Courses needed to satisfy entrance requirements must be at the 3000 level and students must achieve at least 11 credits.

Ontario

Ontario secondary school students must have a minimum of six grade 12 courses (consisting of U and M levels, with preference given to those with four or more U-level courses) to include the program-specific requirements outlined on page 3, and must have completed the Ontario Secondary School Diploma (OSSD) or equivalent to be considered for admission.

Quebec

Quebec applicants who have completed senior matriculation or one year of CEGEP will be considered for entry into the first year of a program. Applicants who have completed the two-year CEGEP program with an average of at least 70, and who receive the DEC, will receive 30 credits and be considered second year in a four-year degree.

1.5 ADMISSION FROM THE UNITED STATES

High school graduates who have completed 16 academic subjects will be considered for admission to a four-year degree. The 16 courses must include four English courses and the program-specific subjects listed in the following table.

Program (four years unless otherwise indicated)	Additional Subjects
Bachelor of Arts	see 1.3 d
Bachelor of Arts in Human Kinetics	3 sciences and/or mathematics
Bachelor of Arts in Music	see 1.3 c
Bachelor of Music	see 1.3 c
Diploma in Jazz Studies (two years)	see 1.3 c
Bachelor of Business Administration	3 mathematics
Bachelor of Information Systems	
Bachelor of Science	4 mathematics and 4 science
Bachelor of Science in Human Nutrition	
Bachelor of Science in Nursing (four years and one intersession)	
Diploma in Engineering (two years)	
Bachelor of Science in Human Kinetics	4 science and/or mathematics

1.6 ADMISSION FROM OTHER SYSTEMS OF EDUCATION

International applications will be considered on an individual basis. Applicants should contact the admissions office before March 1; all documentation must be received by April 30.

For applicants from a British system of education, all students must have completed English and four other academic courses with a minimum grade of B at the ordinary level. In addition, two General Certificate of Education (GCE) advanced-level examinations or the equivalent, with grades of A, B, or C, are normally required for admission to any program. A student who has successfully completed one year of study in an academic program beyond the GCE at the ordinary level may be considered for admission. English, mathematics, two sciences, and one other academic subject are required for admission to programs

in the Faculty of Science. Students may also be granted advanced standing in certain programs.

For applicants whose first language is not English, or whose normal language of instruction has been other than English, a test of English language proficiency may be required. The Test of English as a Foreign Language (TOEFL) or its equivalent is recommended. If TOEFL scores are submitted, then a minimum score of at least 580 on the paper-based test, 236 on the computer-based test or 92 on the IBT (internet based TOEFL) is required. Other acceptable tests and the minimum scores include the MELAB (90), IELTS (6.5) or the CAEL (70).

1.7 ADMISSION TO THE BACHELOR OF SCIENCE IN NURSING

Besides the basic four-year degree program described on page 3 for students applying from high school, other students may apply for the accelerated post-degree option, the fast-track option, or part-time post-RN option. Admission is competitive and enrollment is limited. Students applying to re-enter the nursing program should submit an application by May 15.

Program	Description	Admission Requirements
Accelerated Post-Degree 72 credits (may not be offered every year)	For students who have completed degrees in science, human nutrition, kinesiology, or related programs. Students can complete the nursing course components in 20 months.	Completed undergraduate degree with six credits introductory chemistry, three credits cell biology, three credits microbes in human biology, six credits human anatomy and physiology, six credits introductory psychology, six credits developmental psychology, and a minimum of 18 credits of art/science electives to include introductory philosophy or religious studies and 12 credits open electives. Enrollment limited to 25.
Fast Track 132 credits	With successful completion of the fast track nursing courses from April to June, students can progress into the second year of the basic B.Sc.N. program and complete it in three additional years of study, plus one spring session.	Six credits introductory chemistry, three credits cell biology, three credits microbes in human biology, six credits introductory psychology, and six credits equivalent to RELS 120: Religion, Spirituality, and Health.
Post-RN 75 credits By distance, with limited opportunity for courses on campus	Designed around core nursing competencies with extensive flexibility that enables students to select courses meeting their professional interests and practice needs.	Completion of an approved registered nursing program and current RN license.

1.8 ADMISSION TO THE BACHELOR OF EDUCATION PROGRAM

Admission to the B.Ed. program is limited. Consideration is given to those who have successfully completed an undergraduate degree, provided references, and had experience related to a career in teaching. Admission is competitive and the possession of minimum requirements does not ensure acceptance into the program.

See chapter 6 for admission and program requirements.

1.9 ADMISSION TO GRADUATE PROGRAMS

The requirements for admission to graduate programs are given in chapter 8.

2. GENERAL INFORMATION

2.1 Undergraduate Registration Fees

- 2.1.1 Tuition Fees
- 2.1.2 Other Registration Fees
- 2.1.3 Refunds
- 2.1.4 Students' Union Fees
- 2.1.5 Payment Regulations
- 2.1.6 Non-Payment of Tuition, Registration, Residence or Meal Plan Fees
- 2.1.7 Other Undergraduate Fees
- 2.1.8 Tuition and Fees for Graduate, Distance, Diploma in Adult Education and Diploma in Ministry Programs

2.2 Residence and Meal Plans

- 2.2.1 Application for Residence
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2.3 Student Services

- 2.3.1 Athletic and Recreational Programs
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- 2.3.7 Financial Aid Office
- 2.3.8 Health Services
- 2.3.9 Special Advisors and Contact Persons
- 2.3.10 Students with Disabilities
- 2.3.11 Wellspring Centre
- 2.3.12 Writing Centre

2.4 University Scholarships and Bursaries

- 2.4.1 Major and Entrance Scholarships
- 2.4.2 Major Scholarship Recipients 2007-2008
- 2.4.3 University In-Course Scholarships
- 2.4.4 Bursaries
- 2.4.5 Federal and Provincial Student Aid Programs

2.5 University Prizes

2.1 UNDERGRADUATE REGISTRATION FEES

2.1.1 Tuition Fees

The tuition fees shown here are for 2008-2009 in Canadian dollars and are subject to change. An addendum to this Academic Calendar will show the fees for 2009-2010. For the most current and up to date information on tuition fees and refunds please refer to the accounting services online resources at www.stfx.ca/campus/admin/accounting-services/

Tuition fees including tuition, laboratories, library, and university health service are:

Fewer than 24 credits	\$ 218.34 per credit
24 to 30 Credits	\$6205.00
Above 30 Credits	\$6205.00 plus \$198.34 per credit

Students with disabilities enrolled in fewer than 30 credits qualify for the per credit rate upon recommendation of the Program for Students with Disabilities.

2.1.2 Other Registration Fees

Up to 18 credits, a pro-rated students' union fee is assessed at \$2.44 per credit hour. For 18 or more credits, the fee is a flat rate of \$146.12.

Students registered in 18 or more credits automatically make a contribution of \$25.00 to the university's capital campaign.

Students registered in 18 or more credits are automatically enrolled in the St. Francis Xavier University health care plan and dental plan, which supplements but does not replace the provincial health care plan and charged to the student account. The fees for 12 months are as follows:

Canadian students	\$147.17 (single), \$330.47 (family)
International students	\$701.97 (single), \$2692.79 (family)
Dental Plan	\$125.00

If a student is already covered under an extended health plan (this does not mean a provincial health care plan), they may opt out of the plan and receive a refund of the health care plan fee. To opt out students must show proof of comparable health care coverage and sign a waiver form at the health care office by September 26, 2009.

Beginning in 2007-2008, students registered in 18 or more credits are automatically enrolled in the St. Francis Xavier University dental plan. The dental plan fee is automatically charged to your student account. Students may opt out of this plan and receive a refund of the dental plan fee by signing a waiver form at the health care office by September 28, 2008. Proof of other comparable coverage is not required. The fee for a single person for 12 months is \$125.00.

While a member of the StFX students' union benefit plan, a student's StFX ID number, name, gender, and date of birth are used by the insurance company and the plan administrator to determine eligibility for benefits and are used only for this purpose. Personal data is stored securely, and is used sparingly to fulfill the requirements of the plan and the law. Without this data, a student is still covered for benefits; however, claims may not be adjudicated. For further information or to revoke permission to use this information, call the plan administrator at 902-867-2495, or e-mail suhealthplan@stfx.ca

Up to 24 credits, a pro-rated technology fee is assessed at \$10.00 per credit. For 24 or more credits, the fee is a flat rate of \$300.00.

Students who are not Canadian citizens or permanent residents are required by the government of Nova Scotia to pay an international student fee in addition to tuition. Up to 24 credits, a pro-rated fee is assessed at \$206.84 per credit. For 24 or more credits, the fee is a flat rate of \$6,205.00.

All fees are subject to change.

Notes:

- a) Students who audit courses (not for credit) are charged one-half of tuition and registration fees.
- b) Senior citizens (age 65 and over) are not charged tuition or registration fees.

A summary of tuition and registration fees is as follows:

Fees (Cdn \$)	Credits Up to 17.99	Credits 18 to 23.99	Credits 24 to 30	Credits Over 30
Tuition	per credit 218.34	per credit 218.34	6205.00	6205.00 + per credit 198.34
Technology	per credit 10.00	per credit 10.00	300.00	300.00
Students' Union	per credit 2.44	146.12	146.12	146.12
Capital Campaign	--	25.00	25.00	25.00
Health Care Plan	--	Cdn 147.17	147.17	147.17
	--	Intl 701.97	701.97	701.97
Dental Plan		125.00	125.00	125.00
International Fee	per credit 218.34	er credit 218.34	6205.00	6205.00

Total of All Fees for Full Time, 24 to 30 Credits

Canadian Student	\$ 6948.29
International Student	\$ 13,708.09

2.1.3 Refunds

For students who drop one or more course(s) or withdraw from the university, refunds are applied according to the date, within the applicable term, on which the drop(s) occur(s) or the student withdraws. The percentage of the refund reduces on a weekly basis until the end of the applicable refund period. The final dates on which students will receive refunds are indicated in the calendar of events at the front of the Academic Calendar, for first term, second term and full year courses.

The refunding process applies the appropriate refund percentages to the credit-hour value of courses that are dropped and then sums all of the student's credit hours to determine the correct tuition and fee assessment.

For examples of refunding, select the links at student accounts, then refunds on the accounts receivable web page at <http://www.stfx.ca/campus/admin/accounting-services/>

2.1.4 Students' Union Fees

The students' union is the autonomous, democratic student organization at StFX. The union represents students' interests and provides a wide variety of academic, social, issue-oriented, and cultural services for students. Fees are collected at the request of the union and are administered by students.

Students' Union fees fund the following:

	full-time	part-time per credit
Students' union general budget	96.95	1.33
Bloomfield Centre/Students' Union building	35.00	0.55
House dues (for students living in on-campus residence except Somers and Powers Hall)	60.00	--
Capital campaign fee	25.00	--
Athletic fee	7.00	0.29
Refugee student support	2.50	--
	<u>\$ 226.45</u>	<u>\$ 2.44</u>

The general budget covers: student societies; the student newspaper, radio station, yearbook, and handbook; orientation; the walk-home program, off-campus housing service, and tutoring service; activities and concerts; membership in the Canadian Campus Business Consortium (CCBC); the film and lecture series; lobbying and publicity; issue awareness campaigns; the resource centre; elections; the campus police force; and general operations.

2.1.5 Payment Regulations

Students can check their fee account and make credit card payments online at <http://mesamis.stfx.ca/reports/login.asp> by using their student number and PIN to access this information. Refunds on student accounts will reflect the method of payment.

Cheques should be made payable to St. Francis Xavier University. All fees are subject to change at any time. Payment can also be made by Visa, MasterCard, American Express, debit card, telebanking or online banking. A portion of the fees is due and payable at registration in September and the balance at registration in January. New students are required to pay first-term fees during the orientation session at the Millennium Centre in September.

Recipients of university scholarships may deduct one-half the value of their scholarship from fees required in September. The balance of the scholarship is applied to fees due in January. Students should note that no reduction in fees is allowed for late entrance.

Monthly late payment fee: a late payment fee of one percent per month, or 12 percent per annum, will be charged on overdue accounts as of the last banking day of each month. The charge will begin in the first semester at the end of September, and in the second semester at the end of January.

Students are expected to be familiar with and to understand all regulations in the StFX Academic Calendar, in particular to understand that adding and dropping courses or withdrawing from the university affects a tuition fee account. Students must ensure that tuition fees are paid in full without any notice from the university, and pay the fees regardless of receipt of a bill. A student who for any reason is unable to pay fees by the due dates should contact the business office regarding a possible deferment.

Students whose fees will be paid by an external sponsor must provide proof of funding to the business office prior to the payment deadline dates.

2.1.6 Non-Payment of Tuition, Registration, Residence or Meal Plan Fees

Students with a balance of fees owing from a previous term will not be permitted to register for a subsequent term unless they have made satisfactory arrangements with the business office.

The university reserves the right to cancel the registration of students who fail to pay any fees owing to the university. The university reserves the right to refuse to let students sit for examinations if their fees to the university are overdue. The university will not release a transcript unless arrangements satisfactory to the business office have been made by the student for the payment of any outstanding fees. The university is not responsible for deadlines missed by students who do not pay their fees on time.

The university reserves the right to cancel residence and meal contracts for non-payment of fees.

2.1.7 Other Undergraduate Fees

All fees are subject to revision.

Application fee for admission to undergraduate and B.Ed. programs	\$40.00
Late payment fee (each term) (see note a)	25.00
Confirmation payment:	
New and B.Ed. students (see note b)	300.00
New B.Sc.N. students (see note c)	100.00
Transcript of record (each copy)	5.00

Unwarranted breakage of or damage to StFX University property will be charged to the student responsible.

Notes:

- A late payment fee of \$25 is charged in the first term if payment is delayed beyond September 30, and in the second term if payment is delayed beyond January 29.
- A student who declines an acceptance within 30 days of paying a \$100 confirmation fee qualifies for an \$85 refund. No refunds are made after 30 days or after August 1. The B.Ed. confirmation fee is non-refundable.
- See b above except that no refunds are made after July 1.

2.1.8 Tuition and Fees for Graduate, Distance, Diploma in Adult Education and Diploma in Ministry Programs

For information about tuition, fees and refunding policy for graduate studies, distance education, the Diploma in Adult Education and Diploma in Ministry programs, refer to the information available from the applicable program office.

2.2 RESIDENCE AND MEAL PLANS

Students in residence agree to be governed by the StFX University Community Code and the Residence Life Community Standards, and to assume responsibility for their own actions or those of their guests, for their room and, along with other residents, for the common areas and assets of their house.

No refunds of fees, for residence or food service, will be made if students are temporarily absent from residence. This includes absences for academic reasons such as practice teaching. Refunds are processed only after the appropriate paperwork has been completed and room keys have been returned.

All inquiries about residence or meal contracts should be made to Residence Services, Morrison Hall, e-mail: residence@stfx.ca, phone: 902-867-5106

2.2.1 Application for Residence**New, Re-Entry, Mature, Exchange and Transfer Students**

Once a student applies to attend StFX, they will receive a residence questionnaire from the admissions office. New students direct from high school are guaranteed a space in residence if they confirm their acceptance to the university, submit the residence questionnaire and pay the \$400 deposit before March 1. After March 1 your application to residence will be placed in a priority queue. The deposit does not become owing until the student has been accepted to the university. The total deposit is applied toward the student's residence and board fees. In the case where a student wishes to cancel their residence contract, refer to section 2.2.4 Cancellation of Residence Applications and Contracts.

Returning Students

Returning students may reapply for residence using the online applications according to the dates established by the residence services office. Detailed information on the room assignment process for returning students can be found on the university website under residence services (www.stfx.ca/services/residence). Once a room assignment is offered and the contract is submitted by the student, a cancellation fee will apply if the student wishes to cancel their residence contract. The cancellation fee will be applied to the student's account according to the fee schedule listed in section 2.2.4 Cancellation of Residence Applications and Contracts.

2.2.2 Residence and Meal Fees and Regulations

All students living in residence (with the exception of the apartment-style and Governors Hall residences) are required to participate in a combined room and board plan. Students living in apartment-style and Governors Hall residences must make a minimum commitment to the food service program usually in the form of declining cash balance (DCB), though they have the option of any of the meal plans. Off-campus students may purchase a meal plan and/or DCB or buy meals on a cash basis. See the food service brochure or visit the residence website for details www.stfx.ca/services/residence.

2.2.3 Duration of Residence Occupancy**New, Re-Entry, Mature, Exchange and Transfer Students**

The University shall permit the resident to occupy their assigned room from Sunday, August 30, 2009 until 24 hours after their final exam in December or by noon on December 17, 2009* whichever date and time is earlier and Sunday,

January 3, 2010 until 24 hours after their final exam in April or by noon on April 23, 2010* whichever date and time is earlier.

Returning Students

The University shall permit the resident to occupy their room from Wednesday, September 2, 2009 until 24 hours after their final exam in December or by noon on December 17, 2009*, whichever date and time is earlier and Sunday, January 3, 2010 until 24 hours after their final exam in April or by noon on April 23, 2010*, whichever date and time is earlier.

Note: Students may be permitted to occupy their room on dates outside of those identified above; however, they will be required to sign additional contract(s) and may be subject to additional charges.

*These dates are subject to change pending Senate approval.

2.2.4 Cancellation of Residence Application and Contract

Where the resident notifies the university in writing prior to opening that he/she does not intend to take their assigned room in residence, the University will process the deposit or cancellation fee according to the following schedule:

Cancellation Date	New Students		Returning Students
	Refund	Portion of deposit lost	Cancellation fee
On or before June 15	\$300	\$100	\$100
June 16 - July 15	\$200	\$200	\$200
July 16 - August 15	\$100	\$300	\$300
After August 15	\$0	\$400	\$400

Where the resident notifies the university in writing that they wish to decline their room assignment either after the resident takes up his/her room or after the day when the resident was expected to take occupancy, the following provisions shall apply.

The resident assumes full responsibility for room and meal plan fees for the 2009-2010 academic year except in the following cases:

- In the case of an involuntary withdrawal from residence, the University shall credit to the resident 85% of the remaining room and meal plan fees. No credit is given after February 15, 2010; or
- In the case of the resident withdrawing from the University (not from residence only) up to and including November 15, they will receive a 100% credit for the remaining room and meal plan fees from the date they vacate the premises. If the resident withdraws in the first term after November 15 they will be charged room and meal plan fees for the first term. If the resident withdraws in the second term up to and including February 15, the resident will receive a 100% credit for the remaining room and meal plan fees from the date the resident vacates the premises. If the resident withdraws in the second term after February 15, the resident will be charged with room and meal plan fees to the end of the academic year according to the 2009-2010 St. Francis Xavier University Academic Calendar. Residents are required to vacate their residence within 24 hours of academic withdrawal; or
- In the case where the resident is released from this contract due to compassionate or other grounds at the sole discretion of the University.

The university reserves the right to cancel any residence contract on the basis of violation of policies outlined in the Residence Life Community Standards and/or violation of the University Community Code and/or drug policy and/or alcohol policy for residence and dining hall.

2.3 STUDENT SERVICES

The StFX student services department strives to maintain an inclusive and welcoming environment. Along with residence and food service, programs are provided to help students develop their capabilities and interests as fully as possible within the university community. In addition to the services identified below, the student services department works with the students' union to co-ordinate the first-year orientation program.

Contact information for each service is published in the brochure, *People to Help You*, which is updated annually and is available through the office of the vice-president, through student services, in the dean of students' office, and on the StFX website.

2.3.1 Athletic and Recreational Programs

The university has a wide variety of athletic and recreational programs.

The campus recreation program provides all students with opportunities to participate in different forms of physical activity through intramural sports, which offer competitive leagues and tournaments; non-credit instruction in a variety of physical activities; self-directed activities; and sport clubs.

StFX has a long and distinguished record in intercollegiate athletics, offering students with superior athletic ability an opportunity to develop and utilize their talents in competition with students from other universities within the Atlantic University Sport and Canadian Interuniversity Sport organizations. There are women's teams in basketball, cross-country, hockey, rugby, soccer track and field and volleyball; and men's teams in basketball, cross-country, hockey, football, and soccer. StFX Club sports include men's rugby, men's lacrosse, men's baseball, cheerleading and track and field.

2.3.2 Career Planning and Employment Services

The Student Career Centre (SCC) empowers students to succeed in the workplace, in résumé writing, interview skills, and networking. The SCC library contains current career information, including company brochures, annual reports, federal and provincial government publications, career books and serials.

The SCC connects students with local and national organizations and assists employers in recruiting personnel. Opportunities for on-campus, summer, part-time, and graduate employment are posted throughout the year, and students are encouraged to check the centre early and regularly. Under the direction of a certified portfolio practitioner, students will have the opportunity to create and develop an individual career portfolio in a 10-week program (cost TBA).

The SCC is located in Camden Hall 115, Mount Saint Bernard and may be reached at 867-2296 or by e-mail at scc@stfx.ca

2.3.3 Chaplaincy Services

In keeping with the university's Catholic Christian character, a university chaplain and an associate chaplain co-ordinate a team ministry, which gives interested students an opportunity for religious expression. Part-time ministers of the Anglican, Pentecostal, Presbyterian, Evangelical, and United churches co-ordinate activities for students of their denominations.

2.3.4 Counselling Services

The StFX counselling centre provides a variety of services to help students to handle the personal challenges of university life. Professional counsellors can work with students on all personal issues which may include homesickness, anxiety, depression, stress, eating disorders, academic struggles and career preparation. Counselors facilitate individual educational workshops such as study skills, organizing student time, adjustment to campus life and overcoming procrastination. All contact with the counseling centre is strictly confidential.

Please contact the counseling centre to make arrangements for graduate school admission tests.

2.3.5 Dean of Students

The dean of students manages the day-to-day responsibilities for university student discipline on non-academic matters as are defined in the community code of conduct (<http://www.stfx.ca/pdfs/community-code.pdf>). In addition the dean also works with the students' union on quality of life issues for students both in residence and off campus. The dean is responsible for Mature, International and Black students, Campus Security and the Student Career Centre.

2.3.6 Office of Human Rights, Equity and Sexual Harassment Prevention

All members of the university including students, staff and faculty have the right to live, learn and work in an environment that promotes equity and is free from harassment, including sexual harassment, and discrimination on human rights grounds, as described in the Nova Scotia Human Rights Act, 1991. In support of ensuring a campus free of discrimination and harassment, and of creating a collegial study, work and living environment where all individuals are treated with respect and dignity, the StFX

Discrimination and Harassment Policy applies to all members of the university community, to visitors and to contractors.

The office of human rights, equity and sexual harassment prevention (human rights office) assists with the resolution of discrimination and harassment issues, including arranging for informal or formal procedures for resolving concerns and complaints. The human rights office also offers education and training on a wide variety of human rights and diversity issues, and advocates for educational and employment equity.

The human rights office is located in the Bloomfield Centre room 424. To contact Maureen Shebib, the Human Rights, Equity & Sexual Harassment Advisor, phone 867-5306 or 867-3934 for an appointment, or email at mshebib@stfx.ca.

The Discrimination and Harassment Policy can be found on the human rights' office website at <http://www.stfx.ca/campus/stu-serv/equity> or the human resources website at <http://www.stfx.ca/administration/hr>.

2.3.7 Financial Aid Office

The university maintains a financial aid office during the academic year to advise students regarding government student loans, help students with financial planning, administer the university bursary program, and provide information on scholarships and awards from sources outside the university.

2.3.8 Health Services

The StFX Health Centre encourages students to take care of their body while expanding their mind. The Health Center offers holistic health care services that include general physicians, nurses, and alternative health care providers. The nurses provide ongoing residence and off campus consultations as well as health promotion sessions. Students can take advantage of special services like immunization clinics, liquid nitrogen treatment, sexual health information, flu and travel vaccines. At StFX student wellness is at the core of a positive student experience.

2.3.9 Special Advisors and Contact Persons

Student services provides points of contact and assistance for special groups of students. These include the Aboriginal student advisor, Black student advisor, international student advisor, mature student advisor, and LGBT advisor for lesbian, gay, bisexual, and transgender students. There is also a contact person for students with disabilities.

2.3.10 Students with Disabilities

StFX welcomes students with disabilities and offers a student-centered program of support. These supports can include; counseling, advocacy, tutoring, exam accommodation, registration assistance, assistive technology training, peer support, physical accessibility arrangements, transition workshops, speakers bureau and note taking assistance.

The program is located on the 4th floor of Bloomfield Center in the Tramble Rooms and is under the direction of the Coordinator Mary Ellen Clancy, and Acting-Coordinator Elizabeth Kell, along with Disability Resource Facilitator Linda Penner and Resource Educator Duffy McDonald. Contact us at (902)867-5349, email tramble@stfx.ca.

2.3.11 Wellspring Centre

The Sisters of St. Martha staff Wellspring Centre, a comfortable, relaxing environment for reflection, interaction, prayer, support, personal and spiritual growth.

2.3.12 Writing Centre

Writing centre services complement course work by assisting students in developing their academic skills. Students can arrange one-to-one appointments by calling the writing centre at 902-867-5221. In an appointment the Writing Centre instructor and student discuss ways to improve the student's writing. This may be at any stage in the writing process. Writing Centre appointments may also focus on improving other academic skills such as note-taking, time management, oral presentations, and exam preparation.

In addition, the instructors at the centre assist students through the following fee-for-service programs:

eXcel: A Success Program for First-Year Students

No matter how well students perform in high school, university presents a new set of challenges. This first-year-experience program introduces entering students to strategies that will help them receive the highest quality university education possible. eXcel is not a tutorial service or a remedial program. Instead, it enables students to develop or enhance their skills and become self-directed, responsible learners. The classes are once a week during both terms. In addition, students meet individually with their instructors several times during the academic year. Although eXcel is a non-credit program, successful completion of this course will be noted on the student's academic transcript. The course fee and other details are available on the Writing Centre's website.

APEX: Academic Program of Excellence

This is a mandatory university program for students accepted and placed on probation by StFX or another institution and students re-admitted after suspension or dismissal as a result of a previous year's academic performance. See section 3.12. Students are required to register for and participate in this course. Classes are once a week during the fall term. One-to-one appointments throughout the academic year provide opportunities for students to be advised on their specific learning strategies.

Students who have completed APEX but have still not met the university's grade requirements must register for APEX-2, a series of one-to-one appointments throughout the academic year. Course fees and other details are available on the Writing Centre's website. Upon application by a student, the committee on studies of the appropriate faculty may excuse the student from taking APEX.

LEAP: Learning English for Academic Purposes

These interactive classes and practical sessions are designed for students at StFX whose first language is not English and who are now living and studying in English. LEAP is not an English-as-a-second-language (ESL) course; rather, the LEAP curriculum concentrates on reading critically, writing analytically, and applying these skills to academic material. Classes provide students with the opportunity to listen, learn, and put their academic skills into practice. LEAP-1 is a four-week intensive course in August; LEAP-2 and LEAP-3 are offered during the fall and winter terms respectively. Course fees and other details are available on the Writing Centre's website.

For detailed information on these courses, refer to the Writing Centre's website: www.stfx.ca/resources/writingcentre

2.4 UNIVERSITY SCHOLARSHIPS AND BURSARIES

The purpose of the university scholarship program is to recognize superior scholastic achievement on the part of high school graduates and in-course students. Awards are offered to students selected by the university scholarship awards committee and are tenable only at StFX University. If a student is eligible for more than one university-nominated scholarship, s/he will receive the largest to which s/he is entitled.

The university gratefully acknowledges the generosity of the persons and organizations whose contributions made possible the following scholarships, awards, and bursaries:

Adult Education Access Award
 Dr. Louis J. Allain Scholarship
 Daniel W. & Marjorie E. Almon Scholarship
 Alumni Scholarship Endowment
 Ambrose Allen Bursary
 Christopher Amirault Award
 Anderson Environmental Scholarship
 Douglas Anderson Business Award
 Antigonish Diocese CWL Bursary
 Justin Avery Memorial Award
 Bank of Montreal Scholarship
 Rev. R.V. Bannon Scholarship Fund
 Barrick Gold Scholarship
 Bauer Bursary Fund
 Rev. Donald Belland Bursary
 Bergengren Credit Union Scholarship
 Rod & Betty Bilodeau Bursary
 Birks Foundation Bursary
 Michelle Birks Memorial Bursary
 Black Student Bursary in Education
 Harry and Martha Bradley Scholarship
 Bishop Bray Foundation Scholarship
 Cecilia Brennan Bursary
 Jacqueline Brougham Award
 Jo M. Brown Scholarship in Nursing
 Claude Brunelle Memorial Scholarship
 CJFX Scholarship
 Rev. J.V. Campbell Bursary
 Cape Breton Scholarship and Bursary Fund
 Dr. J.J. Carroll Scholarship
 Catholic Women's League Scholarship
 Celtic Travel Bursary
 Central Home Improvement Warehouse Scholarship
 Chevrolet High Note Student Bursary
 Dr. Leo P. Chiasson Scholarship
 A.W. (Bill) Chisholm Bursary
 Donald A. Chisholm Memorial Scholarship
 Rev. J.C. Chisholm Scholarship in Biology
 Rev. John Archie Chisholm Memorial Scholarship in Celtic Studies
 J. Fraser Chisholm Scholarship

Rev. John W. Chisholm Fund
 Joseph D. Chisholm Scholarship
 Mary Ann Chisholm Nursing Bursary Award
 Rod Chisholm Scholarship
 Rosemary Landry Clark Memorial Award
 Rev. Dr. E.M. Clarke Scholarship in Pure and Applied Sciences
 Class of 1965 Fund
 Paul Cogger Memorial Scholarship
 Gerald P. Coleman Q.C. Award
 Louis Connolly Fund
 Daniel Cordeau Scholarship
 Arlene Power Corey Memorial Fund
 Rev. Cornelius B. Collins Scholarship
 Rev. Cornelius J. Connolly Bursary
 Rev. Cornelius J. Connolly Scholarship
 General Romeo Dallaire African Leadership in Education Award
 John & Selena Daly Scholarship
 James E. & Mary D. Deagle Endowment
 Edward P. Delaney Bursary
 Edward P. Delaney Scholarship
 Democracy 250 Leadership Bursary
 Development Studies Internship Bursary
 Alphonse Desjardins Commemorative Scholarship
 L.A. DeWolfe Memorial Scholarship
 Diploma in Ministry Bursary
 Dr. John Dobson Memorial Award in Adult Education
 Rev. John Dougher Bursary
 Alexander Doyle Memorial Scholarship
 Rev. D.A. Doyle Scholarship
 The Sir James Dunn Foundation Internship Scholarship
 Trudy Eagan Women in Business Award
 Faculty Staff Scholastic Award
 J. Wallace Farrell Memorial Scholarship
 Margaret Martell Farrell Scholarship
 Margaret Martell Farrell B.Ed. Award
 Rev. Peter Fiset Fund
 Irene & Joseph Francis Memorial Award
 Roger Franklin Memorial Scholarship
 Hugh Allen Fraser Scholarship
 Fund for French Scholarships
 Douglas P. Furlott Award
 Gaelic Scholarship Fund
 Danny Gallivan Memorial Scholarship
 Wilfred J. Garvin Scholarship
 General Motors of Canada Ltd. Women in Science Bursary
 General Motors of Canada Ltd. Women in Science Scholarship
 Dr. A. Marie Gillan Award in Adult Education
 Anne Gillis (of Glen Alpine) Award
 Donald and Margaret Gillis (of Glen Alpine) Award
 Sister Henrietta Gillis Award for Education
 Joseph and Tessie Gillis Fund
 Margaret Gillis (of Glen Alpine) Award
 Mary Gillis (of Glen Alpine) Award
 John and Sarah Gillis-Campbell Award
 Mary Margaret Gillis-Campbell Award
 Colin and Christine Gillis-Chisholm Award
 Joan Gillis-Lang Award
 Margaret C. Gillis-MacDonald Award
 Mary Ann Gillis-MacIsaac (of Glen Alpine) Award
 Glen Scholarship
 Fred Gormley Scholarship
 Jeff Graham Memorial Scholarship
 Mary Jane Graham Bursary
 Daniel and Emeline Grant Scholarship
 Rev. J. Edward Grant Bursary
 Ray Greening Memorial Scholarship
 The Gulf Canada Scholarship
 Dr. H.B. Hachey Scholarship
 A.G. Hamilton Scholarship
 Thomas J. Hayes Scholarship
 Dr. H. Stanley and Doreen Alley Heaps Scholarship
 Heaslip/Macdonald Award Fund
 Bernard M. Henry Scholarship
 Rosemary & Stephen A. Holton Scholarship
 Phil Hughes Leadership Award
 Philip H. Hynes Memorial Scholarship
 IBEW Local 625 Nursing Award
 Dr. A.A. Johnson History Award
 Julie Anne Award
 B.J. Keating Memorial Award
 Gisela Keck Outstanding Achievement Award
 Rev. George Kehoe Memorial Bursary
 Alexander and Mary Kell Memorial Scholarship
 Angus Kell Memorial Bursary
 Thelma May Kempfer Award
 M. Colleen Kennedy Memorial Bursary
 Margaret Kennedy Scholarship
 Killam American Bursary
 Rev. Martin Luther King, Jr. Award
 Rev. John B. Kyte Scholarship
 Dr. & Mrs. Francis E. Lane Scholarship
 Joan Gillis Lang Fund
 Livingstone-Topshee Award
 Don Loney Scholarship
 Rev. Dr. Dan MacCormack
 Senator John MacCormick Scholarship
 MacDonald-MacIntyre Scholarship
 Anastasia MacDonald Bursary
 Angus R. MacDonald Memorial Bursary
 Rev. B.A. MacDonald Scholarship Fund
 Rev. Hugh John MacDonald Memorial Fund
 James M. MacDonald Bursary
 Kathryn M. MacDonald Scholarship
 M. & N. MacDonald Bursary
 John H. MacDougall Engineering Bursary
 Allan J. MacEachen Fellowship in Celtic Studies
 Angus MacGillivray Bursary
 Cotter MacGillivray Bursary
 Roddie MacInnis Memorial Bursary
 Rev. R.K. MacIntyre Scholarship
 Rev. Charles MacIsaac Memorial Bursary
 Donald F. MacIsaac Memorial Scholarship
 John C. MacIsaac Foundation Scholarship
 Mary McNair MacIsaac Bursary
 Minnie MacIsaac Award
 J. Elizabeth Mackasey Memorial Award for Education
 Michael and Jean MacKenzie Award
 Hugh MacKinnon Scholarship
 Dr. Cecil MacLean Award
 Donald and Ethel Lyle MacLean Scholarship
 Monsignor Donald A. MacLean Scholarship
 Rev. Leonard (Butch) MacLean Bursary
 Roderick D. MacLean Award
 Joseph & Mary (MacNeil) MacLellan Bursary
 Rev. J.D. MacLeod Bursary Fund
 Joan M. and Douglas MacMaster StFX University Award
 Daniel and Mary MacNeil Fund
 John V. MacNeil Fund
 Archie and Catherine MacPhee Memorial Bursary in Catholic Studies
 Joseph B. MacSween Award
 Rev. Rod J. MacSween Scholarship
 Married Students Bursary
 James A. Martin Award
 Emerson Mascoll Bursary
 Dr. James McArthur Memorial Fund
 Harrison McCain Foundation Scholarship
 Senator J.P. McCarthy Scholarship
 Dr. Daniel McCormick Scholarship
 Irene McFarland Memorial Bursary
 Frederick J. McInerney Scholarship

Rev. Roderick McInnis Fund
 Rev. Leo G. McKenna Scholarship Fund
 Jack McLachlan Fellowship in Biology
 Mary McNair MacIsaac Bursary
 William Ian Meech and Lloyd Remington Meech Memorial Scholarships
 Memorial Scholarship for a Woman in Engineering
 Dr. Edward J. Meyer Memorial Scholarship
 Yancy Meyer Memorial Bursary
 Dr. Marguerite Michaud Scholarship
 Myles Mills Class of 1959 Leadership Award
 Morrisey Sisters Endowment Fund
 Moncton Student Fund
 Benedict M. Mulroney Scholarship
 Donald and Barbara Munroe Scholarship
 Robert J. and Gertrude Gillis Munroe Scholarship
 Daniel Joseph Murphy Fund
 Nasha Murphy Memorial Award
 William and Jenny Murphy Award
 Rev. J.B. Nearing Scholarship
 Rev. Dr. P.J. Nicholson Scholarship
 Paul and Miki Norris Bursary
 Nova Scotia Power Scholarships
 Daniel and Margaret O'Brien Bursary
 Dr. Ed O'Connor Scholarship
 Commodore Bruce S. Oland Scholarship
 Philip W. Oland Scholarship
 Barry O'Leary Leadership Award
 Rudy Pace Memorial Jazz Bursary
 Pluta Family Bursary
 Prodigy Consulting Scholarship
 Rev. Donald M. Rankin Scholarship
 RBC Leadership Award
 Dr. Abraham Risk Award
 Helen & Cyril Ross Bursary
 Bruce and Dorothy Rossetti Scholarship
 Dr. Ria Rovers Memorial Scholarship
 Royal Bank Scholarship
 B.A. Ryan Scholarship
 Claire Sampson Nursing Scholarship
 James P. Sawler Scholarship
 Tom & Lieselot Scales Bursary
 T.J. Sears Family Scholarship
 Service Learning Bursary
 Sisters of St. Martha Scholarship in Nursing
 Sisters of St. Martha Single Mother Bursary
 C. Gordon Smith Scholarship
 St. Francis Xavier University Alumni Scholarships
 St. Francis Xavier Association of University Teachers Bursary
 J. Jarvis Stewart Bursary
 Hon. John B. Stewart Scholarship for Political Science
 StFX Halifax Alumni Kehoe Bursary
 John L. Stoik Scholarship
 Students for Life Bursary
 Students' Union Bursary
 Marjorie McLeod Sullivan Bursary
 Fred L. Taylor Memorial Scholarship
 TD Bank Scholarship in Jazz Studies
 Allard Tobin Fund
 Dr. J.J. Tompkins Memorial Scholarship
 Rev. John F. Toomey Bursary Fund
 Rev. John F. Toomey Scholarship Fund
 Judge D. Tramble Bursary
 Arthur P.H. Tully Fund
 Katherine Tully Scholarship
 Paul Wacko Scholarship
 Ada MacNeill Wallace Bursary
 Martin J. Walsh Bursary
 Katherine Wdowiak Memorial Award
 James and Mary Whelan Scholastic Award
 Rev. Robert Wicks Fund

Angus F. and Jean A. Young Award
 John H. Young Award
 Young Family Award

2.4.1 Major and Entrance Scholarships

StFX is founded on the values of academic excellence, leadership, and service to others. The StFX National Entrance Scholarship program reflects these qualities. Students' efforts in achieving a high school average of 85 or greater in their grade 12 year are recognized with a guaranteed minimum award.

All scholarships are awarded on the grade 12 average of either December exams or first-semester final grades in grade 12. Scholarship averages are based on available marks of the five required courses for the program to which the student is applying. The deadline for all scholarships is March 1. All applications for renewable scholarships require the following:

- A grade 12 high school transcript with an average of 85% or higher;
- A detailed résumé, including a description of extra-curricular activities and awards;
- Two letters of recommendation from high school teachers, one of which must be from the current year.

\$32,000 StFX President's Scholarships

These awards recognize outstanding academic achievement. They are for entering students who demonstrate the qualities and values honoured at StFX: high academic success, leadership, and dedication in service to others. These scholarships are based on grade 12 December exams or first-semester grade 12 results. They are renewable for four years at \$8,000 per year. The deadline for application is March 1.

\$24,000 Philip W. Oland Scholarships and J.P. McCarthy Scholarships

Students with the highest scholastic standing and demonstrated leadership ability are eligible for these scholarships. A nomination letter from their principal or guidance counsellor is required for this scholarship. These scholarships are based on grade 12 December exams or first-semester grade 12 results. Philip W. Oland Scholarships are available to students from the Atlantic provinces only while the J. P. McCarthy Scholarships are open to entering students from across Canada. These scholarships are renewable for four years at \$6,000 per year. The deadline for application is March 1.

\$24,000 StFX Canadian Scholarships

These scholarships are awarded based on academic achievement and the province of origin of the student. Based on grade 12 December exams or first-semester grade 12 results, these scholarships are renewable for four years at \$6,000 per year. The application deadline is March 1.

\$24,000 StFX International Scholarships

These scholarships are awarded based on academic achievement in the country of origin of the student. Based on grade 12 December exams or first-semester grade 12 results, these scholarships are renewable for four years at \$6,000 per year. The application deadline is March 1.

\$12,000 StFX Merit Scholarships

These scholarships are awarded to outstanding students in arts, science, or the Gerald Schwartz School of Business and Information Systems. Based on grade 12 December exams or first-semester grade 12 results, these scholarships are renewable for four years at \$3,000 per year. The application deadline is March 1.

\$4,000 StFX Guaranteed Scholarships

These entrance scholarships are awarded to all applicants with an average of 90% or higher, based on grade 12 December exams or first-semester grade 12 results. These scholarships are renewable for four years at \$1,000 per year. The application deadline is March 1.

\$3,500 StFX Guaranteed Scholarships

These entrance scholarships are awarded to all applicants with an average of 85 to 89.9 per cent, based on grade 12 December exams or first-semester grade 12 results. These scholarships are renewable for four years at \$500 for the first year and \$1,000 per year for three additional years. The application deadline is March 1.

International Baccalaureate (IB) Scholarships

Students who successfully complete the IB Diploma will be eligible for StFX guaranteed scholarships. Applicants with 24 to 29 points will be awarded an

entrance scholarship of \$500. Those who receive more than 29 points will be awarded an entrance scholarship of \$1000. All IB applicants for all renewable scholarships are eligible to apply.

2.4.2 Major Scholarship Recipients, 2008-2009

StFX President's Scholarship

Ceira Elisabeth Young, Calgary, AB
Shawn Albert Brophy, Antigonish, NS

Philip W. Oland Scholarship

Stephen William Pierce, Lower Woodstock, NB
Elizabeth A Faour, St John's, NL

J.P. McCarthy Scholarship

Michael Brian Jeffrey Cadegan, Glace Bay, NS
Jordan Caroline Carmichael, Margaree Valley, NS
Emily Frances Kehoe, Port Williams, NS
Molly Elizabeth MacKenzie, Pictou, NS
Erica Ruth MacLean, Inverness, NS

International Scholarship

Christine Krause, Oberhausen, Germany

Joan and Douglas MacMaster Scholarship

Shayla MacDonald Mootz, The Woodlands, Texas

Barry O'Leary Scholarship

Joseph Andrew Thibault, Ottawa, ON

Canadian Scholarship

Kaleena Rachile Johnston, Powell River, BC
Thomas James Lattimer, Delta, BC
Meghan Anne Pike, Winnipeg, MB
Katelyn Rose Barnes, Bass River, NB
Mariah Lauren T. Giberson, Moncton, NB
Michelle Therese Begin, Halifax, NS
Joram Wendell Benham, Sable River, NS
Emily Anne Burke, Amherst, NS
Adam Peter Hinchey, Antigonish, NS
Joshua Brian Sharpe, Pictou, NS
Victoria Jacqueline Adams, Oakville, ON
Bailey Eva Louise Rudnick, Ottawa, ON
Heather Snow, Scarborough, ON
Jocelyn Anne Fraser, Summerside, PE

Alphonse Desjardins Commemorative Scholarship

Dominic Peter Daemen, Antigonish, NS

Harrison McCain Scholarship

Julia Marie Clark, Truro, NS

Bank of Montreal

Heidi Marie Collicutt, Chester, NS

2.4.3 University In-Course Scholarships

In-course scholarships are awarded to students who have completed at least one academic year of 30 credits towards a first degree. They are awarded on the basis of academic performance at StFX University. A minimum average of 80 and a rank in the top 10% of the scholarship group is required. No application is necessary. The scholarships, ranging in value from \$1,000 to \$3,000, are awarded for one year.

For the purpose of scholarships, students are grouped by year of study and by degree programs as follows:

- Group A BA and Music
- Group B BBA and BIS
- Group C B.Sc. and Engineering
- Group D Nursing, Human Nutrition, and Human Kinetics

The following guidelines are used in making these awards:

- a) A student with an average of 85 or higher and ranking first in a scholarship group may qualify for the amount of \$5,000.
- b) A student with an average of 85 or higher and ranking in the top five percent of a scholarship group may qualify for the amount of \$2,000.
- c) A student with an average of 80 or higher and a ranking in the top 10 percent of a scholarship group may qualify for the amount of \$1,000.

2.4.4 Bursaries

A number of university bursaries are available, usually ranging in value from \$250 to \$1000. Grants are based on the demonstrated need of the student and the availability of bursary funds. The holder of a bursary is expected to maintain

a satisfactory academic record. Bursaries are not automatically renewed; an application must be made each year.

Application forms for university bursaries may be obtained from the financial aid website (www.stfx.ca/campus/stu-serv/fin-aid). Each bursary has a separate due date. The bursary program runs from September to March of each year and can only be applied for once the student has begun classes. Bursaries are based on financial need, satisfactory academic standing, and may be based on extracurricular activities and place of residence.

2.4.5 Federal and Provincial Student Aid Programs

Details of these programs are available from provincial student aid offices and from the StFX financial aid office.

2.5 UNIVERSITY PRIZES

The university gratefully acknowledges the generosity of the persons and organizations whose contributions make possible the many prizes awarded at the end of each academic year. Recipients of prizes are normally full-time students in regular attendance in a degree program at StFX and must have given satisfactory evidence of merit. The university reserves the right not to make an award should there be no suitable candidate. Awards, unless otherwise specified, are tenable only at StFX.

At convocation the following prizes, listed by associated department, are awarded to graduating students:

Onex Corporation Gold Medal

Dr. Leo P. Chiasson Award for Biology to the Outstanding Advanced Major or Honours Student

Centre for Marine Biology Prize

Dr. Marguerite Michaud Prize for Canadian Studies

Angus L. Macdonald Memorial Scholarship for Celtic Studies

Flora MacDonald Prize

Chemistry Industry Merit Award

Dr. D.J. MacDonald and Dr. A.B. MacDonald Memorial Prize for Economics

Engineering Department Medal

Association of Professional Engineers of Nova Scotia Scholarship

Association of Professional Engineers of Nova Scotia Award

J. Wallace Farrell Memorial Award for Engineering

Nova Scotia Power Centennial Scholarship for Engineering

English Department Cape Breton Creative Writing Prize

Margaret MacGillivray-MacDougall Prize for English

Reverend R.J. MacSween Prize for English

Ambassador of France Book Prize for French

Ambassador of Switzerland Book Prize for French

Jean Babin Prize for Excellence in French

Consulate of Argentina Prize for Spanish

Angus Dan Gillis Prize in Gaelic

Professor Donald J. MacNeil Memorial Award for Earth Sciences

Mining Society of Nova Scotia Centennial Scholarship Medal

Dr. Randall F. Cormier Award for Best Thesis in Earth Sciences

Mary Tramble Memorial Award for Field Earth Sciences

Ambassador of Germany Book Prize for German

Ambassador of Austria Book Prize for German

Ambassador of Switzerland Book Prize for German

German Consulate General Montreal Prize

Hogan/Phillips Prize in History

Reverend A.A. Johnston History Award for Diocesan History

Ita MacDonald Prize for Canadian History

Dairy Farmers of Canada Award for Further Study in Dietetics/Nutrition

Nova Scotia Home Economics Book Award

Nova Scotia Health Research Foundation Award

Dr. H. Stanley and Doreen Alley Heaps Prize for Computing Science

Dr. A.A. MacDonald Prize for Mathematics

Canadian Academy of Recording Arts and Sciences Award for Music

Chevrolet High Note Student Bursary

Reverend Charles R. MacDonald Memorial Medal for Philosophy

Dr. M.S. Gautam Memorial Prize for Physics

Yogi Joshi Prize for Excellence in Physics

G.P. Brooks History of Psychology Prize

Craig McDonald Mooney Prize for Psychology

Walter Kontak Prize in Political Science

Hon. John B. Stewart Scholarship for Political Science

John and Mary Fraser Memorial Prize for Senior Religious Studies
 Reverend Frank J. Mifflin Award for Sociology/Anthropology
 Allard Tobin Travel Endowment Fund Award
 Dr. G.H. Murphy Prize for Proficiency in Pre-medical Studies
 St. Francis Xavier Association of University Teachers Book Prizes
 Nominations to the Kappa Gamma Pi Honour Society
 Katherine Wdowiak Memorial Award in Nursing
 Women's Studies Prize

At the end of each academic year the following prizes are awarded to undergraduate students:

Gaelic Scholarship for Summer Study in Scotland
 Honourable Allan J. MacEachen Fellowship for Celtic Studies
 Reverend Donald M. Rankin Scholarship for Celtic Studies
 Reverend John Archie Chisholm Memorial Award for Celtic Studies
 Cecil MacLean Prize for Achievement in First-Year French
 B.J. Keating Memorial Award for Geology
 Frank S. Shea Scholarship for Geology
 Student-Industry Geology Field Trip Award
 Canadian Society of Petroleum Geologists Stanley E. Slipper Award
 Dr. F.J. Giniivan Prize for Mathematics
 Elizabeth Tobin McGivern Prize for Music
 Dr. Winston Jackson Honours Nursing Prize
 David Davis Prize for First-Year Physics
 David Davis Prize for Third-Year Physics
 Charles Jordan Memorial Prize for Second-Year Physics
 Bishop Campbell Prize for Second-Year Religious Studies
 Camille LeBlanc Prize for First-Year Religious Studies
 Flying Officer Wallace MacDonald Memorial Prize for Third-Year Religious Studies



3. ACADEMIC REGULATIONS

- 3.1 Course Load
- 3.2 Transfer Credit and Spring or Summer Courses
- 3.3 Requirements for a StFX Degree or Diploma
- 3.4 Re-Admission to University
- 3.5 Directed Study and Selected Topics Courses
- 3.6 Student Classification
- 3.7 Class Attendance and Withdrawal from University
- 3.8 Academic Integrity Policy
- 3.9 Examinations
- 3.10 Grading System for Undergraduate Programs
- 3.11 Academic Penalties
- 3.12 Appeal of an Academic Regulation
- 3.13 Grade Appeal Procedure
- 3.14 Application for Degrees and Diplomas
- 3.15 Academic Records
- 3.16 Regulations for a Second Degree
- 3.17 Continuing and Distance Education Program
- 3.18 Exchange and Study Abroad
- 3.19 Dean's List
- 3.20 Distinction and First Class Honours
- 3.21 Correspondence from the Registrar's Office to the Student
- 3.22 Obligations of Students
- 3.23 Research Ethics

3.1 COURSE LOAD

- a) A course taught three hours a week for the academic year has a value of six credits and is called a full course. A course taught for three hours a week for one term has a value of three credits and is called a half course.
- b) In most programs the academic load is 30 credits each year. Full-time students normally enroll in 15 credits each term. Students enrolled in 60% of a normal full course load, or 18 credits are considered to be full-time students.
- c) Students may drop a course on or before the relevant deadline. See the calendar of events for deadline dates for dropping full-year, first-term and second-term courses. A course dropped within the drop period will not be included in a student's average. A course discontinued after a deadline will be treated as a failure. Students must be aware that dropping a course may change their registration status from full to part time, and may have an impact on tuition, refunds, student loans, dean's list for the next year, in-course scholarships for the next year, or a StFX bursary or award.
- d) Students who wish to enroll in additional courses must apply to the registrar. A minimum grade average of 65 is required, either for the previous academic year or for the first term if the application is submitted at the start of the second term. Normally, students may not enroll in more than 36 credits in one academic year. See section 2.1 regarding fees for extra courses.
- e) Credit will not be granted for any course in which a student is not formally enrolled.
- f) Courses in education, engineering, human kinetics, human nutrition or nursing normally may be applied only to those programs respectively. See the BA (chapter 4) and B.Sc. (chapter 7) programs for certain exceptions.
- g) A pair is 12 credits in one subject with six credits normally at the 200 level or higher.

3.2 TRANSFER CREDIT AND SPRING OR SUMMER COURSES

- a) Transfer credit will be granted for all courses for which credit has been earned at an accredited post-secondary institution, if the associated courses can be used to meet the student's program requirements at StFX. Minimum grade and average requirements, as specified in chapters 4 and 5 of this calendar, apply to all transfer courses.
- b) Restrictions may apply to the transfer of credit for business administration courses at the 300 and 400 level.
- c) See section 9.29 regarding French and Spanish immersion courses which may count as electives only.
- d) Normally, transfer credit will not be granted for courses taken 10 years or more before the date of application.
- e) Transfer credits, to a maximum of 24 credits, may be granted for correspondence courses in recognized academic disciplines taken at Canadian universities. Transfer credit will not be granted for correspondence courses if the StFX equivalent has a laboratory component. Correspondence courses may be used only as electives or to meet requirements for pairs.
- f) To enroll in any course at another university, students must obtain a letter of permission from the appropriate dean; section 3.1d also applies.
- g) Students must be in good standing to enroll in spring or summer courses at StFX or at another university.
- h) Students require a minimum average of 65 to register in more than 6 credits in either the spring or summer term. Normally credit will be granted for a maximum of 18 credits from May to August.

3.3 REQUIREMENTS FOR A STFX DEGREE OR DIPLOMA

A degree or diploma candidate must receive at least half of their credits from StFX, regardless of the number of transfer credits granted, to earn a StFX degree or diploma.

As an exception to the requirements below, a student may, with the dean's permission, spend the third year abroad. See section 3.18.

- a) Honours Programs:
 - i) Normally require four years of study
 - ii) The last 60 credits must be completed at StFX
- b) Advanced Major, Major, and Four-Year Programs:
 - i) Normally require four years of study, unless the student is in the Faculty of Arts and chooses to complete the degree through part-time study
 - ii) The last 60 credits must be completed at StFX
- c) A student who enrolls in an undergraduate degree program must normally complete the degree requirements within 10 years from the date of initial registration.
- d) Students wishing to change degree programs must obtain permission from the appropriate dean.

3.4 RE-ADMISSION TO UNIVERSITY

- a) A student whose course of study is interrupted by one or more academic years is bound by any changes made in the curriculum and regulations after his/her first registration.
- b) Course requirements for a degree, whether three or four years, must be completed within 10 years of the initial date of registration.
- c) Courses taken for credit 10 years before acceptance into a degree program will be assessed by the appropriate dean.
- d) A student who has had no course registration at StFX for 12 months or more must re-apply for admission.
- e) If a student is suspended or dismissed from the university and is re-admitted, the student will be on probation for up to one year, and be required to enroll in the APEX program. See section 2.3.12. Upon re-admission to the university, student will be eligible to register in courses at StFX

and elsewhere during the spring and summer terms preceding their term or re-admission.

3.5 DIRECTED STUDY AND SELECTED TOPICS COURSES

Directed study courses permit students of exceptional ability and motivation to pursue, on a tutorial basis, individual programs of study in areas not normally offered by a department. Directed study courses are normally restricted to no more than two students. Normally a faculty member may offer no more than two directed study courses per year.

A directed study course may earn no more than six credits. To be eligible for a directed study students must have:

- i) completed 12 credits in the department;
- ii) attained a minimum average of 70 in the 12 credits;
- iii) obtained written consent from the department.

Students interested in a directed study course should consult the department chair and the appropriate faculty member before September 1. Formal application must be submitted by the chair to the appropriate dean during registration or earlier.

Subject to approval of the appropriate dean, departments may offer selected topics courses in their discipline. A selected topics course may be offered twice before the department must seek regular approval through the appropriate committee on studies and the University Senate. Selected topics courses may be offered in any department or interdisciplinary program at the 100-, 200-, 300- or 400-level and may be offered for three or six credits.

3.6 STUDENT CLASSIFICATION

Advancement in classification (first year to sophomore to junior to senior) is granted when a student earns 30 credits in the preceding classification.

Students who are six credits short of the next level will be placed in the next classification on a conditional basis. For example, first-year students who earn 24 credits will be considered sophomores.

3.7 CLASS ATTENDANCE AND WITHDRAWAL FROM UNIVERSITY

Students are expected to attend all classes and laboratory periods. Following an absence of more than one class, students should contact each professor or instructor. In the case of sudden emergency requiring an absence of more than five days, students should contact the dean's office. Faculty are required to report to the dean all unexplained absences in excess of three hours over at least two classes in any term.

When a mandatory class, quiz, exam, or class project is scheduled outside normal class hours, provision will be made to enable students to attend scheduled classes and laboratories in their other courses.

Students wishing to withdraw from the university must give formal notice to the appropriate dean in person or in writing. Formal notice of withdrawal is required for tuition refunds. See 2.1.3. Other departments and offices will receive a copy of the withdrawal notice: the business office, campus post office, dean of students, library, registrar's office, residence office, students' union (for health insurance), telecommunications, and TSG (technology support group).

A student who withdraws, formally or otherwise, after March 1 may be liable to academic suspension or dismissal. Students on probation who withdraw at any time may be liable to the same penalties.

3.8 ACADEMIC INTEGRITY POLICY

All members of St. Francis Xavier University are expected to conduct themselves in an ethical manner in their academic work. It is the policy of the university that academic dishonesty in any form is not acceptable. Academic dishonesty is defined as any act, practice or behavior that gives a student an unearned academic advantage over another or that counteracts or undermines the integrity of academic or scholarly endeavor at St. Francis Xavier University.

3.8.1 The Code of Academic Conduct

An academic community flourishes when its members are committed to five fundamental values. An academic community of integrity:

- a) advances the quest for truth and knowledge by acknowledging intellectual and personal honesty in learning, teaching, research, and service;

- b) fosters a climate of mutual trust, encourages the free exchange of ideas, and enables all to reach their highest potential;
- c) establishes clear standards, practices, and procedures and expects fairness in interactions among students, faculty, staff, and administrators;
- d) recognizes the participatory nature of the learning process and honours and respects a wide range of opinions and ideas; and
- e) upholds personal responsibility and accountability and depends upon action in the face of wrong-doing.

3.8.2 Offenses Against Academic Integrity

The following is a list of offenses constituting academic dishonesty that are subject to discipline; this list is not intended to be exhaustive.

a) Plagiarism

Although academic work often involves research on, or reference to, the ideas, data, and critical commentary of other scholars, academic integrity requires that any use of another person's work be explicitly acknowledged.

Plagiarism is the misrepresentation of another's work—whether ideas or words, intellectual or creative works, images or data, published or unpublished—as one's own. Examples of plagiarism include:

- i) quoting, paraphrasing, or summarizing text, even small portions of text, without proper acknowledgement;
- ii) paraphrasing too closely (e.g., changing only a few words or simply re-arranging the text); and,
- iii) downloading from the Web or from a library or any other database all or part of a paper, a journal article, or a book, or downloading any other website material, excluding bibliography makers, and presenting it as one's own work.

b) Cheating

Some examples of cheating are:

- i) submission, in whole or in part, of any purchased written work as one's own;
- ii) sharing papers, including the buying or selling, borrowing or leasing of essays, tests, or other assignments;
- iii) submission, without the prior expressed written consent of the appropriate instructor(s), of any work for which credit has been, or is being, sought in another course, including any work that has been submitted at another institution;
- iv) collaboration (i.e., working together) on an assignment which an instructor did not specify was to be completed collaboratively;
- v) use of unauthorized aids or assistance including copying during tests and examinations;
- vi) impersonating another student in a test, examination, assignment, or attendance record, or knowingly permitting another to impersonate oneself;
- vii) knowingly helping another to engage in academically dishonest behavior (including, but not limited to, providing answers to a test or examination or providing an essay or laboratory report that is subsequently plagiarized or submitted by another student as his or her work);
- viii) obtaining or looking at a copy of a test or examination before it is administered; and
- ix) altering a test or examination after it has been graded and returned by the instructor.

c) Falsification

Some examples of falsification are:

- i) falsification of any research results, whether in laboratory experiments, field trip exercises, or other assignments;
- ii) alteration or falsification of transcripts or other academic records for any purpose;
- iii) submission of false credentials;
- iv) making false representation on an application for admission;
- v) making false representation on an application for ethical approval for a research project involving human or animal subjects; and
- vi) requesting the extension of a deadline citing reasons known to be false, including submitting false documentation supporting that request.

d) Tampering

Examples of tampering are:

- i) unauthorized access to, use of, or alteration of computer data sets, including course, student, faculty, alumni, public, and corporate records;

- ii) gaining unfair advantage by using software and computer tools that inhibit the use of the resources by others;
- iii) damage to or destruction of library materials or laboratory resources; and
- iv) willful or negligent damage to the academic work of another member of the university.

e) Miscellaneous

- i) any other form of misrepresentation, cheating, fraudulent academic behavior, or other improper academic conduct of comparable severity to the above.

3.8.3 Academic Integrity Policy and Procedures

The full academic integrity policies and procedures document is available at <http://www.stfx.ca/services/registrar/academic-integrity-document.pdf>

Further information is available at:

<http://libmain.stfx.ca/integrity/plagiarism.htm> or

<http://libmain.stfx.ca/integrity/faculty/academicintegrityfaculty.htm>

3.9 EXAMINATIONS

Examinations are written during the examination periods indicated in the Academic Calendar. The exam schedule is printed with the academic timetable, and students are advised to consult the exam schedule when selecting courses. There is no rule against three exams in 24 hours.

Students unable to write an examination at its scheduled time must notify the deans' office prior to the examination. If there is a medical problem, the student must provide an original doctor's certification of the condition.

3.10 GRADING SYSTEM FOR UNDERGRADUATE PROGRAMS

- a) The passing grade is 50.
- b) The student's average is a weighted calculation. A six-credit course has a weight of one; a three-credit course has a weight of one-half. Grades in supplementary examinations are not used in average calculations. The average is based on the final grades in all courses attempted.
- c) An average of 55% is required each full academic year. Failure to achieve an average of at least 55% will result in academic penalties and may affect students' eligibility to proceed in some degree programs. The average used to make such determinations will be based on a minimum of two courses and a minimum of six credits
Students must obtain an average of at least 55% and receive credit for 60% of attempted courses, in their final year, to be granted a degree or diploma.
- d) The grade and average requirements for major, advanced major and honours degrees are stated in chapter 4 for arts degrees, chapter 5 for business degrees and chapter 7 for science degrees.
- e) At least 75% of the final grade in all courses will be based on written (not oral) work, and at least 40% of the final grade in a 100- or 200-level course will be based on invigilated written December and April examinations.
- f) When a student repeats a course, the original grade remains on the transcript and in the student's average. However, the credits originally earned are removed from the student's transcript.

3.11 ACADEMIC PENALTIES

To remain in satisfactory academic standing at the end of the academic year, students are required to earn:

- i) a year end average of 55 or better, and
- ii) credit for at least 60% of the courses they have attempted. The following table lists credits attempted and the number of credits required to be earned.

Credits	
Attempted	Earned, at least
30 +	18
27	18
24	15
21	12
18	12
15	9
12	9
9	6
6	3
3	3

A student who fails to meet one or two of these requirements will incur an academic penalty as follows:

Previous Penalty	Requirement(s) Not Met	Penalty at End of Year
None	One	Probation
None	Two	Suspension
One probation	One	Suspension
One probation	Two	Dismissal
One suspension	One	Dismissal
More than one	One	Dismissal

The procedure for appealing an academic penalty is provided in section 3.12.

Students on probation must enroll in APEX (see section 2.3.12) unless, upon application by the student, the committee on studies of the appropriate faculty excuses the student on the grounds that the student would not benefit in a meaningful way from the program.

Academic penalties incurred for a full academic year are applied at the end of the following spring term. Students who are suspended or dismissed and who are enrolled in spring courses when the penalty is applied may complete their spring courses. However, any courses that these students have enrolled in for the summer term will be dropped.

Students who are suspended from the university may apply for re-admission to the next full academic year following a period of one year. See section 3.4.

Students who have been dismissed will not be eligible for further study at the university.

Students who successfully appeal a suspension or dismissal may return on probation, for the next full academic year following the appeal unless there will be 12 months or more between course registrations, in which case the student will be required to apply for re-admission. See section 3.4. No transfer credit will be granted for work completed elsewhere while a suspension or dismissal was in effect.

See section 6.6 for Bachelor of Education regulations.

3.12 APPEAL OF AN ACADEMIC REGULATION

Academic penalties of suspension or dismissal may be appealed to the committee on studies of the appropriate faculty. Appeals must be in writing and must be made within 14 days of the date of notification of the decision. Notification will be deemed to have occurred on the seventh day after an academic penalty letter is mailed. The decisions of the committee on studies are final.

3.13 GRADE APPEAL PROCEDURE

- Only final grades, including grades of composites used to calculate a final grade may be appealed.
- All appeals must be made in writing through the appropriate dean. The letter must state why an appeal is being made. The student must pay a fee of \$10 for each grade appealed. This fee is refunded if the appeal results in a change of grade.
- Appeals must be made before January 15 for first-term courses; before June 15 for full-year and second-term courses; before July 15 for intersession; and before September 15 for summer courses.

- The dean will request a review from the instructor and report it to the student, or the student may request the dean to arrange an interview between the student and the instructor.
- If the student is dissatisfied, the dean will set up an appeal committee of three instructors from the department, one chosen by the student, one chosen by the instructor, and a third chosen by the first two members. To initiate this proceeding, the student must appeal in writing within 10 days of receiving notification of the results of the review. Both the student and the professor may present their respective cases in writing to the appeal committee.
- The student must pay a fee of \$25 if an appeal committee is established; this fee is refunded if the committee decides in his or her favour.

3.14 APPLICATION FOR DEGREES & DIPLOMAS

Candidates in their graduating year must apply to graduate. Application must be made in the prescribed manner no later than the deadline dates listed in the academic calendar for the spring and fall convocations.

Candidates who subsequently receive degrees, diplomas and certificates from St. Francis Xavier University automatically become members of the StFX Alumni Association. As members, alumni are eligible to receive the *Alumni News*, the alumni magazine, benefits and promotions exclusive to alumni, and information regarding development programs.

3.15 ACADEMIC RECORDS

3.15.1 Release of Student Academic Records

Disclosure to students of their own records

- Students have the right to inspect their academic records and to challenge contents they believe to be inaccurate. This right does not extend to letters of reference given in confidence by the author. A member of the registrar's staff will be present during the inspection.
- Students have the right to receive transcripts of their own marks. Information on a student's record will not be given over the phone.
- No partial transcripts will be issued.
- The registrar will not provide students or third parties with copies of other documents on file, e.g., transcripts from other institutions.

Disclosure to University Officials

Information on students may be disclosed without their consent to faculty, university officers or committees at the discretion of the Registrar. Students' personal and academic information is stored securely and used solely for the university's normal course of business.

Disclosure to Third Parties

- The following information is considered public and may be released at the discretion of the registrar without restriction:
 - Name; hometown if in convocation program;
 - Certificates, diplomas, and degrees awarded;
 - Date of conferral.
- Information will be released without student consent in compliance with a judicial order, search warrant or subpoena, or as required by federal or provincial legislation.
- Necessary information may be released without student consent in an emergency, if knowledge of that information is required to protect the health or safety of a student or other persons. Such requests should be directed to the registrar.
- StFX is required to abide by the Freedom of Information and Protection of Privacy legislation of the provincial government, the federal Privacy Act, the Statistics Act, and the federal Personal Information and Protection of Privacy legislation. The university reports to Statistics Canada information on students' names, ID and social insurance numbers, contact information, demographic characteristics, enrollment information, previous education, and labour force activity. Further information is available at www.statcan.ca/english/concepts/ESIS/index.htm
Students may request that Statistics Canada remove their identifying information from the national database. To do so, they may contact StatsCan via mail.

Address:

Post-Secondary Education and Adult Learning Section
Centre for Education Statistics
Statistics Canada, 17th Floor, R.H. Coats Building
Tunney's Pasture, Ottawa, ON K1A 0T6

E-mail:

ESIS-SIAE_contact@statcan.ca

Telephone:

1-613-951-1666

Monday to Friday 8:00 a.m. to 4:00 p.m. EST/EDST

- e) other than in the above situations, personal information about a student will be released to third parties only with the written consent of the student, or in accordance with the purposes for which it was collected or as required by law. A student's academic record will be released to third parties only at the written request of the student, or when the student has signed an agreement with a third party, a condition of which is access to his or her record (e.g., financial aid), or as required by law. This restriction applies to requests from parents, spouses, credit bureau's and police.
- f) Academic records, that is, paper files in the registrar's office, will be held for five years from the date of last attendance, and then destroyed. Former students who wish to re-apply after their files have been destroyed may have to re-submit academic transcripts from other institutions.

3.15.2 Transcript Requests

Requests for transcripts must be made in writing by students and accompanied by the required fee. Requests by phone are not accepted. Requests are to be made on the appropriate form obtainable from the registrar or online at www.stfx.ca/services/registrar/ Transcript requests are processed in the order in which they are received. Although the normal processing time is 3-5 days, additional time may be needed during the weeks following the December and April exam periods. Transcripts include the following information, where appropriate:

- The student's program
- Courses and grades (failed as well as passed) for all academic work attempted or completed at StFX
- The rank and year-end average if the student is enrolled in a full-time undergraduate program. The average is calculated by weighing each grade by the credit value; see section 3.10. Supplementary grades are not included in the average calculation.
- Transfer credits granted; grades for transfer credits are not shown
- Degrees and diplomas awarded and date conferred
- Academic penalties, including notations of academic dishonesty
- Distinctions, including placement on the Dean's List
- Transcripts will be issued only if all financial obligations to the university have been met.

Official transcripts can only be forwarded directly from the registrar's office to an official third party or provided to the student in a sealed envelope.

3.16 REGULATIONS FOR A SECOND DEGREE

- To receive a second degree, a graduate of the university must complete at least 30 credits towards the second degree at the university and must comply with all the course requirements of the second degree.
- A graduate of the university who previously earned a BA or B.Sc. major or advanced major degree from StFX may subsequently qualify for and receive an honours degree. The candidate may qualify by meeting the faculty and department course, residence, grade, and average requirements for honours degrees, and by satisfactorily completing at least one additional year of study.

3.17 CONTINUING AND DISTANCE EDUCATION PROGRAM

The continuing and distance education department offers degree and non-degree learning opportunities.

For degree-credit courses, see specific departments in chapter 9; section 9.29 for information on the part-time B.Sc.N. program; chapter 8 for programs leading to master's degrees in education; and section 4.3 for the diploma in ministry program.

Non-degree courses offered through continuing or distance education are normally concentrated in the two areas of general interest and professional development. Several programs are available by distance education. Current listings may be obtained from the continuing and distance education department on the website at <http://www.stfx.ca/academic/continuinged/>; or by phone at 902-867-3906 or toll-free 1-877-867-3906 in Canada.

3.18 EXCHANGE AND STUDY ABROAD

StFX has an exchange agreement with the following colleges and universities for the junior year abroad unless otherwise indicated. Some restrictions apply. For more information contact the exchange co-ordinator at 902-867-3905 or via e-mail: exchange@stfx.ca.

Aalborg University, Denmark
Charles University, Czech Republic
Griffith University, Australia
HANKEN, Finland
Heriot-Watt University, Scotland
Institut d'Etudes Politiques de Lille, France
International School of Management, Dortmund, Germany
North Island College, BC
Pontificia Universidad Catolica, Peru
Sabhal Mòr Ostaig, Isle of Skye, Scotland
St. Mary's University College, London
Universidad de Guanajuato, Guanajuato, Mexico
Universidad del Salvador, Argentina
Universidad Iberoamericana, Mexico
Universidad La Salle, Mexico
Universität Koblenz-Landau, Germany
Universität Stuttgart, Germany
IESEG, Université Catholique de Lille, France
Université Catholique de Lyon, France
Université Catholique de l'Ouest, Angers, France
Université Paris 13, France
University of Northern British Columbia, Prince George, BC
University of Southern Denmark, Denmark
University of the Highlands and Islands, Scotland
Warsaw School of Economics, Poland

Students may propose to attend any accredited university as a visiting student. StFX students have studied at the following universities although there is no formal exchange agreement:

Central Washington University, Ellensburg, WA
Daemen College, Amherst, NY
The Moscow Institute of Social and Political Studies, Russia
National University of Lesotho, South Africa
St. Thomas Aquinas College, New York
Universidad LaSalle, Mexico City, Mexico
Université Canadienne en France
University of Arizona, AZ
University College Dublin, Ireland
University of Edinburgh, Scotland
University of London, England
University of Durham, England
University of Haifa, Israel
University of St. Andrews, Scotland
University of Western Australia, Crawley (Perth)

A student who wishes to spend the junior year participating in an exchange or as a visiting student must:

- be enrolled in a four-year program;
- normally earn an average of at least 70 at the end of the second year;
- complete an application, with required supporting documents submitted to the exchange co-ordinator at exchange@stfx.ca for processing at least five months prior to the start date of the program. If the student has been accepted to an advanced major or honours program, a letter of support from the chair of the student's department must be included with the application.
- Students on an exchange pay full-time tuition to StFX and any other applicable fees to the host institution. Some exceptions may apply.

3.19 DEAN'S LIST

At the end of each academic year students who have carried at least 30 credits, and have earned an average of at least 75, will be named to the Dean's List if they rank in the top:

- 20% in the first year;
- 25% in the sophomore year; or
- 33 $\frac{1}{3}$ % in the junior or senior year.

3.20 DISTINCTION AND FIRST CLASS HONOURS

Faculty of Arts

The designation of Distinction is awarded to students whose general average over the final three years of the program is at least 80.

Candidates in the Faculty of Arts who satisfy requirements for the degree with honours will be awarded the designation of First Class Honours when their general average is 80 or higher over the final three years, with an average of 80 or higher in all courses taken in the honours subject over the final three years.

For students who complete part or all of a degree through part-time study, the designation of Distinction is awarded to those who earn an average of at least 80 over the last 90 credits. Students must complete 80% of the courses at StFX.

Faculty of Science

The designation of Distinction is awarded to students whose combined average over the final three years of the program is at least 80 with a minimum average of 75 in each of the three years.

In the Faculty of Science, the designation of First Class Honours is awarded to students whose general average over the final three years is 80 or higher, with a minimum average of 75 in each year, and who have satisfied all other requirements for the degree with honours.

For students who complete part or all of a degree through part-time study, the designation of Distinction is awarded to those who earn an average of at least 80 on the best 60 credits completed at StFX, with no grade below 75 in any course completed at StFX or elsewhere.

For students in the B.Sc.N. for Registered Nurses by Distance program, the average of at least 80 will be calculated on the best 39 credits completed at StFX if the student's program is 75 credits. Of the grades considered in calculating the above average, none shall be below 75.

For students in the B.Sc.N. accelerated post-degree option, the average of at least 80 will be based on the credits completed at StFX by calculating three averages, with no average less than 75, as follows:

- i) combined first-year, spring and summer courses,
- ii) full academic year September to April, and
- iii) combined second-year, spring, summer, and fall courses.

3.21 CORRESPONDENCE FROM THE REGISTRAR'S OFFICE TO THE STUDENT

Upon registration at StFX, all official correspondence from the registrar's office, with the exception of academic penalty letters, is sent to students via their WebFX e-mail accounts. Students are reminded to check their e-mail regularly and to keep their inbox open for delivery.

3.22 OBLIGATIONS OF STUDENTS

Upon registration at StFX, students agree to abide by all applicable rules and regulations and acknowledge that their right to remain at StFX is subject to their observance of these regulations. Students must familiarize themselves with such documents as:

- i) the StFX Academic Calendar available at www.stfx.ca/calendar/ or from the registrar's office;
- ii) the StFX Community Code, available at www.stfx.ca/services/dean-students/ or from the dean of students' office; and
- iii) the Residence Handbook, available at www.stfx.ca/services/residence/ or the from the residence office.

Students are also expected to obey all federal, provincial, and municipal laws.

3.23 RESEARCH ETHICS

All faculty and student researchers at StFX who wish to carry out research involving human subjects, whether on campus or elsewhere, must have their projects approved by Research Ethics Board (REB) or one of its department sub-committees. Researchers must supply five copies of a completed application form and any supporting documentation. Researchers must have REB approval prior to the beginning of the study. The REB operates within the *Tri-Council Policy Statement Guidelines*; researchers may consult these for further information.



The Coady International Institute represents StFX's commitment to social justice in action. Founded in 1959 and named for one of Canada's great heroes, Rev. Dr. Moses Coady, the Institute has been educating development professionals from around the world for 50 years. Today, the Coady has an extensive network of more than 5,000 graduates and global partners working in over 130 countries, helping millions of people in the world's poorest neighbourhoods to build better lives for themselves.

The Institute offers a 23-week Diploma Program in Development Leadership and specialized three-week Certificate Programs in areas such as advocacy and citizen engagement; community-based microfinance; mobilizing assets for community development; conflict transformation and peacebuilding; livelihoods and markets; organizational learning and change; and leadership for women and youth. The Coady and the Department of Adult Education jointly offer a community development stream in the existing Master of Adult Education program. Coady staff members also collaborate with the Faculty of Arts to offer the undergraduate program in Development Studies. The Institute is developing distance course offerings in microfinance.

The development professionals from around the world who study at the Coady add much to the multicultural atmosphere at StFX and provide a rich resource for students interested in international issues. StFX students are welcome to join the Coady Student Society and Xtending Hope Student Society, and to use the Institute's Marie Michael Library, which houses a specialized collection on international development.

StFX graduates can experience living and working overseas through the Coady's Youth in Partnership program. Since 1997, the Coady has provided over 155 recent Canadian university and college graduates with the opportunity to live and work overseas for six months with Coady's partners in Asia, Africa, the Caribbean and the Americas.



4. FACULTY OF ARTS REGULATIONS

4.1 General Regulations

- 4.1.1 Degrees Offered
- 4.1.2 Subjects Available
- 4.1.3 Degree and Diploma Patterns
- 4.1.4 Declaration of Major, Advanced Major, or Honours
- 4.1.5 Advancement and Graduation Requirements by Degree
- 4.1.6 Co-operative Education

4.2 Diploma in Adult Education

4.3 Diploma in Ministry

4.1 GENERAL REGULATIONS

4.1.1 Degrees Offered

The Faculty of Arts offers degrees in Arts, Music and Human Kinetics.

Under the arts heading there are seven degrees:

- Bachelor of Arts with Major: in one of 18 majors listed below
- Bachelor of Arts with Joint Major: combines the study of two subjects
- Bachelor of Arts with Advanced Major: designed for the student who wishes both depth and breadth in subjects; requires high academic achievement
- Bachelor of Arts with Joint Advanced Major: an advanced major program that involves the combined study of two subjects
- Bachelor of Arts with Honours: in one of 13 subjects below; requires depth and breadth of subject study, and also superior academic achievement
- Bachelor of Arts Honours with Subsidiary: involves the combined study of two subjects and superior academic achievement
- Bachelor of Arts with a Major in Aquatic Resources: a major in economics or public policy and social research and a major in aquatic resources

Under the music heading, there are five degrees and two diplomas:

- Bachelor of Arts in Music (Jazz Studies)
- Bachelor of Arts in Music (Jazz Studies) with Advanced Major
- Bachelor of Arts in Music (Jazz Studies) with Honours
- Bachelor of Arts with Major in Music
- Bachelor of Music (Jazz Studies) with Honours
- Diploma in Jazz Studies
- Graduate Diploma in Jazz Studies

The human kinetics degrees, each with a choice of kinesiology or pre-education major, are

- Bachelor of Arts in Human Kinetics
- Bachelor of Arts in Human Kinetics with Advanced Major
- Bachelor of Arts in Human Kinetics with Honours

4.1.2 Subjects Available (see chart)

The subjects available chart lists the subjects available for study in the arts degrees within the Faculty of Arts and where these subjects can be a major, minor, pair or elective course, or where two subjects may be combined in a joint major, joint advanced major, or honours with subsidiary degree. Reference is also made to information in chapter 9.

4.1.3 Degree and Diploma Patterns (see chart)

Listed below are the degrees and diplomas in the Faculty of Arts with their course patterns and credit requirements. Each degree requires 120 credits.

In general at StFX courses are three credits for a one-semester course and six credits for a full-year (two-semester) course.

First-Year Pattern

Students in the first year of the BA normally follow the pattern of courses listed below. Group I and Group II refer to departments that offer the full range of BA degree options, namely, majors, advanced majors, and honours programs. All courses are introductory with numbers in the range 100-199 (e.g., ENGL 100).

- Group I Celtic Studies, English, history, mathematics, statistics, and computer science, philosophy, religious studies
- Group II Anthropology, economics, political science, psychology, sociology, modern languages (French and Spanish)

The normal academic load is 30 credits per year. In first year, students in the BA carry courses as follows:

- Group I 6 credits
- Group II 6 credits
- Group I or II 6 credits
- Arts/Science electives 6 credits (may not be a course from a professional program such as aquatic resources, business administration, engineering, human kinetics, human nutrition, information systems or nursing)
- Open electives 6 credits

Degree and Diploma Patterns Chart 4.1.3								
Bachelor of Arts	Major 1	Major 2	Minor	Pair	Elective			
BA Major	36 credits	—	24 credits	3 x 12 credits	24 credits	Each of these six degrees requires a minimum of 36 credits at the 300- or 400-level.		
BA Joint Major	36	36 credits	—	2 x 12	24, See note 2			
BA Advanced Major	36	—	24	3 x 12	24			
BA Joint Advanced Major	36, see note 4	36	—	2 x 12	24, See note 2			
BA Honours	60	—	—	2 x 12	36			
BA Honours with Subsidiary (See Note 3)	min 48	min 24	—	1 x 12	24-36, See note 3			
Human Kinetics	HKIN Req	HKIN Elec	BIOL	Arts A	Arts B	Arts/Sci Elec	Approved	Elective
BA HKIN Major Kinesiology	33	21	6	24	12	12	6	6
BA HKIN Major Pre-Education	42	12	6	24, See note 1	12	12	6	6
BA HKIN Advanced Major or Honours Kinesiology	36	18	6	24	12	12	6	6
BA HKIN Advanced Major or Honours Pre-Education	51	3	6	24, See note 1	12	12	6	6
Music	MUSI Req	Arts/Sci	Arts/Sci Total					
All degrees and Dip. Jazz years 1 and 2	48	12	—					
Additional courses years 3 and 4:								
BA in Music (Jazz Studies)	30	30	(3 x 12) + 6					
Bachelor of Music (Jazz Studies)	48	12	2 x 12					
BA Major in Music (same as BA Major above)								

The legend for the chart: Req = Required; Elec = Electives; and 2 x 12 means two distinct subjects with 12 credits in each, at least 6 credits of which are normally at the 200-level or higher (sometimes called two pairs) and a pair may not be completed in AQUA, BSAD, ENGR, HKIN, HNU, INFO or NURS.

Note 1 For students intending the secondary teaching stream, a minimum of 24 credits must be in one of the subject fields taught in Nova Scotia schools. For students pursuing the elementary teaching stream option, Arts A becomes 18 credits and the approved electives become 12 credits.

Note 2 Courses in Major 1 or Major 2 may not be used as electives.

Note 3 Major 1 plus Major 2 up to a maximum of 84 credits. A minimum of 24 credits of electives must be from departments other than honours and subsidiary.

Note 4 Senior research paper must be written on a topic in Subject A.

Subjects Available Chart 4.1.2		BA Major	BA Joint Major	BA Advanced Major	BA Joint Advanced Major	BA Honours	BA Honours Subsidiary**	BA AQUA
ANTH	Anthropology, see 9.2	M1, Mi, P, E	M1, M2, P, E	M1, Mi, P, E	M1, M2, P, E	M1, P, E	M1, S, P, E	—
CELT	Celtic Studies, see 9.9	"	"	"	"	"	"	
CSCI	Computer Science, see 9.12	"	"	"	"	"	"	
ECON	Economics, see 9.16	"	"	"	"	"	"	
ENGL	English, see 9.19	"	"	"	"	"	"	
FREN	French, see 9.29	"	"	"	"	"	"	
HIST	History, see 9.21	"	"	"	"	"	"	
MATH	Mathematics, see 9.26	"	"	"	"	"	"	
PHIL	Philosophy, see 9.30	"	"	"	"	"	"	
PSCI	Political Science, see 9.32	"	"	"	"	"	"	
PSYC	Psychology, see 9.33	"	"	"	"	"	"	
RELS	Religious Studies, see 9.34	"	"	"	"	"	"	
SOCI	Sociology, see 9.35	"	"	"	"	"	"	
CATH	Catholic Studies, see 9.8	M1, Mi, P, E	M1, M2, P, E	M1, Mi, P, E	M1, M2, P, E	P, E	S, P, E	—
MUSI	Music, see 9.28	"	"	"	"	"	"	
STAT	Statistics, see 9.36	"	"	"	"	"	"	
WMNS	Women's Studies, see 9.37	"	"	"	"	"	"	
SPAN	Spanish, see 9.27	M1, Mi, P, E	M1, M2, P, E	Mi, P, E	P, E	P, E	S, P, E	—
DEVS	Development Studies, see 9.14	Mi, P, E	M1, M2, P, E	Mi, P, E	M1, M2, P, E	P, E	S, P, E	—
ART	Art History, see 9.4	Mi, P, E	P, E	Mi, P, E	P, E	P, E	S, P, E	—
ART	Studio Art, see 9.4	Mi, P, E	P, E	Mi, P, E	P, E	P, E	P, E	—
BIOL	Biology, see 9.5 and Note 5	"	"	"	"	"	"	
CHEM	Chemistry, see 9.10 and Note 5	"	"	"	"	"	"	
CLAS	Classical Studies, see 9.11	"	"	"	"	"	"	
ESCI	Earth Sciences, see 9.15 and Note 5	"	"	"	"	"	"	
PHYS	Physics, see 9.31 and Note 5	"	"	"	"	"	"	
CDNS	Canadian Studies, see 9.7	Mi, P	P	Mi, P	P	P	P	—
GERM	German, see 9.27	P, E	P, E	P, E	P, E	P, E	P, E	—
AQUA	Aquatic Resources, see 9.3	—	—	—	—	—	S	M2 see Note 4
BSAD	Business Administration, see 9.6 and Note 1	Mi, E	E	Mi, E	E	E	E	—
ENGR	Engineering, see 9.18 and Note 2	E	E	E	E	E	E	
HKIN	Human Kinetics, see 9.22 and Note 3	"	"	"	"	"	"	
HNU	Human Nutrition, see 9.23 and Note 3	"	"	"	"	"	"	
IDS	Interdisciplinary Studies, see 9.25	"	"	"	"	"	"	
INFO	Information Systems, see 9.24 and Note 1	"	"	"	"	"	"	
NURS	Nursing, see 9.29 and Note 2	"	"	"	"	"	"	

The legend for the chart: M1 = Major 1; M2= Major 2; Mi = Minor; P = Pair; E = Elective; S = Subsidiary.

Students in a BA program, including those who have transferred from another program, may count towards the BA a maximum of 18 credits in courses taken in professional programs. The following regulations, in notes 1-3, apply.

Note 1 Students may normally complete a maximum of 12 credits in BSAD or INFO but only students who transfer out of BBA or BIS programs may count these as a pair. Only students completing a major or advanced major in Economics may complete a minor in Business Administration.

Note 2 Students who transfer out of the engineering or nursing program may count a maximum of 6 credits in ENGR or NURS.

Note 3 A maximum of six credits in HKIN and/or HNU may be used as open electives; they may not be taken in the first year; permission of the professor and the department chair are required.

Note 4 The degree is BA Major in Economics or Public Policy and Social Research, and Major in Aquatic Resources.

Note 5 In addition to using science courses as electives, students may complete a minor or one pair in a science discipline.

** A subsidiary may normally be done only in a subject in which a major is offered in the BA program with exceptions as noted.

4.1.4 Declaration of Major, Advanced Major, or Honours

Students wishing to follow the honours or advanced major in a subject are advised to consult with the department chair as early as possible. In their second year of study, students declare a major or apply for admission to an advanced major or honours program when they complete the appropriate application form and submit the form, signed by the chair, to the dean's office by March 31. Students are advised of their acceptance to the program in the summer following submission of the form. Students in the advanced major or honours programs must be registered full time in their final year of study.

4.1.5 Advancement and Graduation Requirements by Degree

All students must fulfill the pattern and credit requirements as specified above and the course, seminar, research report, senior paper, or honours thesis requirements of the major, advanced major or honours department(s). For any honours with subsidiary or joint degrees, students submit only one research report, senior paper, or honours thesis to the first named department on the student's application, after consultation with both departments.

Candidates who fail to meet the requirements for the degree for which they have applied may be eligible for another degree, provided those requirements are met.

Exceptions to these requirements need the approval of the dean and the department chair. Additional requirements are listed below.

The averages and grades specified below are the minima required.

Degree	Admission End of Second Year	Advancement End of Third to Fourth Year	Graduation and Fourth-Year Requirements
BA Major and BA Joint Major	average 55	average 55	average 55 in the final year
BA Advanced Major	average 60 in each of first two years; grade of 60 in each major and minor course; no failures in the second year	average 65; average 65 in the major courses; average 65 in the minor courses	average 65; average 65 in the major courses; average 65 in the minor courses
BA Joint Advanced Major	average 60 in each of first two years; grade of 60 in each course in each major; no failures in the second year	average 65; average 65 in each major	average 65; average 65 in each major
BA Honours	average 70 on 60 credits completed in the first two years; average 70 in all courses completed in the honours subject during the first two years	average 70 ; grade of 70 in each course in the honours subject	average 70; grade of 70 in each course in the honours subject
BA Honours with Subsidiary	same as above for BA Honours, and applied to both subjects	same as above for BA Honours, and applied to both subjects	same as above for BA Honours, and applied to both subjects
Bachelor of Arts in Music (Jazz Studies) with Advanced Major	average 60 in each of first two years; individual grade of 60 in each MUSI course at the 100 and 200 level; honours pass in Level 1	average 65; average 65 in MUSI courses	average 65; average 65 in MUSI courses
Bachelor of Arts in Music (Jazz Studies) with Honours	average 70 on 60 credits completed in the first two years; individual grade of 70 in each MUSI course at the 100 and 200 level; honours pass in Level 1	average 70; grade of 70 in each MUSI course	average 70; grade of 70 in each MUSI course
Bachelor of Music (Jazz Studies) with Honours	average 70 on 60 credits completed in the first two years; individual grade of 70 in each MUSI course at the 100 and 200 level; first class honours pass in Level 1	average 70; grade of 70 in each MUSI course; submit a thesis in the third year as a component of MUSI 390	average 70; grade of 70 in each MUSI course
Diploma in Jazz	average 55 each year	—	average 55 in the final year
BA Human Kinetics	average 55	average 55	average 55 in the final year
BA Human Kinetics with Advanced Major	average 60 in each of first two years; grade of 60 in each HKIN course; no failures in second year	average 65; average 65 in HKIN courses	average 65; average 65 in HKIN courses
BA Human Kinetics with Honours	average 70 in each of first two years; grade of 70 in each HKIN course	average 70; grade of 70 in each HKIN course	average 70; grade of 70 in each HKIN course

4.1.6 Co-operative Education

Co-operative education is a program that formally integrates a student's academic studies with work experience gained during work terms with participating employers. Students may complete a 12-to 16-month co-op work term following their third year or may complete three four-month co-op work terms during their third and fourth years. To prepare for the co-op work term, students must complete all of the personal skill development workshops. Upon successful completion of the work terms and the requirements of the post-work term seminar, COOP 405, students earn three credits. For further details contact the appropriate department chair or the Co-op Program office, or section 9.13 for additional information.

Students may earn degrees with the co-op option in the BA in Computer Science.

4.2 DIPLOMA IN ADULT EDUCATION

This program is offered in major centres across Canada throughout the year. The Diploma in Adult Education is a professional designation. The modules are arranged as a series, yet each is a complete unit of learning which may be taken independently of the others at the discretion of the program director. The modules cover knowledge and skills in the following areas and carry credit value as indicated:

	Credits
ADED 311 Module 1 - Assessing Training Needs	1
ADED 312 Module 2 - Setting Learning Objectives	1
ADED 321 Module 3 - Evaluation Strategies	1
ADED 322 Module 4 - Designing Learning Activities	2
ADED 331 Module 5 - Facilitating Learning	1
ADED 332 Module 6 - Practicum	6

Upon completion of the first five modules, a Certificate in Adult Education is awarded. The Diploma in Adult Education is awarded upon completion of the six

modules. Students may count, in multiples of three, up to 12 credits as electives in BA programs.

4.3 DIPLOMA IN MINISTRY

The Diploma in Ministry is a distance-education program offered to students across Canada. The program offers seven 12-week courses. Students must complete five in order to receive the diploma. Three courses are compulsory (*), and students choose two from the remaining four as electives. Each course requires a minimum of 12 hours per week of study.

Course		Offered	Credits
MNST110	Ministry in the Christian Community*	September	2
MNST120	Adult Religious Education*	January	2
MNST130	Biblical Foundations	September	2
MNST140	Christian Sacraments	January	2
MNST150	Contemporary Catholic Issues	January	2
MNST160	Self-Directed Study	Open access	2
MNST170	Practicum*	Open access	4

Note: Credits are awarded upon completion of the diploma.

The ministry program prepares graduates to carry out responsibilities in the areas of religious education, the Rite of Christian Initiation of Adults, liturgy, preparation for reception of the sacraments, health care, and social action programs, while experiencing personal faith development. Upon completion of the Diploma in Ministry, students earn 12 credits which may be used in a BA program as electives.

5. FACULTY OF BUSINESS REGULATIONS

5.1 General Regulations

- 5.1.1 Degrees Offered
- 5.1.2 Degree Patterns
- 5.1.3 Electives
- 5.1.4 Application for Major or Honours
- 5.1.5 Advancement and Graduation Requirements by Degree
- 5.1.6 Co-operative Education

The Faculty of Business is home to the Gerald Schwartz School of Business and Information Systems. The Gerald Schwartz School of Business and Information Systems provides students with skills and knowledge to meet the challenges of managing effectively in the 21st century. The major benefactor of the school is Gerald Schwartz, founder and CEO of Onex Corporation, and distinguished Canadian business leader. The Schwartz School brings together the Departments of Business Administration and Information Systems and offers Bachelor of Business Administration (BBA) and Bachelor of Information Systems (BIS) degrees.

5.1 GENERAL REGULATIONS

5.1.1 Degrees Offered

The following degrees are offered in Business Administration:

- Bachelor of Business Administration General Degree
- Bachelor of Business Administration with Major in accounting, enterprise development, finance, information systems, leadership studies, or marketing
- Bachelor of Business Administration with Honours in accounting, enterprise development, finance, information systems, leadership studies, or marketing
- Bachelor of Business Administration with Aquatic Resources

The following degrees are offered in Information Systems:

- Bachelor of Information Systems General Degree
- Bachelor of Information Systems Major in enterprise systems or IT management
- Bachelor of Information Systems with Honours in enterprise systems or IT management

5.1.2 Degree Patterns

Listed below are the basic degree patterns for degrees in the Faculty of Business. Each degree requires 120 credits. For more specific requirements for the major and honours degrees, see section 9.6 or 9.24.

All BSAD and INFO courses are three credits. While most courses offered by other departments at StFX are three credits some are six credits for a full-year (two-term) course.

Bachelor of Business Administration Degree	
BSAD required	101, 102, 221, 223, 261, 231, 341, 471
BSAD electives	33 credits
Tech elective	3 credits
ECON	101, 102
INFO	101, 102
MATH	205
STAT	201
Arts/Science electives	36 credits
Open electives	6 credits

Bachelor of Information Systems Degree	
INFO required	101, 102, 225, 245, 255, 256, 275, 355, 415, 416, 425, 465, 482
INFO electives	12 credits
BSAD	101, 102, 221, 223, 231, 261, 381
ECON	101, 102
MATH	205
STAT	201
Arts/Science electives	30 credits
Open electives	6 credits

5.1.3 Electives

- a) Arts and Science Electives
 - i) BBA students must earn 36 credits of arts/science electives. Normally these credits are earned as 12 credits in each of years one to three. The arts/science electives must include a pair (12 credits) in each of two different subjects offered by the Faculty of Arts or the Faculty of Science with exceptions noted below. The third 12 credits of arts/science electives may be additional courses in paired subjects or courses in other subjects.
 - ii) BIS students must earn 30 credits of arts/science electives. Normally these credits are earned as 6 credits in each of years one and two, 12 credits in year three and 6 credits in year four. The arts/science electives must include a pair (12 credits) in each of two different subjects offered by the Faculty of Arts or the Faculty of Science with exceptions noted below. The remaining 6 credits of arts/science electives may be additional courses in paired subjects or courses in other subjects.
 - iii) Economics, information systems, mathematics and statistics courses required to earn the BBA or BIS degree may not count as arts/science electives.
 - iv) At least one of the two pairs must be in an arts subject. For maximum flexibility, students are advised to complete at least one arts/science pair by the end of their second year.
 - v) The following professional and applied subjects are not permitted as arts/science electives: Adult education, aquatic resources, engineering, human kinetics, human nutrition, and nursing.
 - vi) BIS students may not count CSCI courses as arts/science electives. For BBA students, CSCI 100 may not count toward the degree if a student has credit for INFO 101. However, BBA students may use other CSCI courses as arts/science electives or as a pair.
 - vii) Economics courses beyond ECON 101 and 102 may count as an arts pair except for BBA students enrolled in the joint honours in business administration and economics program.
 - viii) Information Systems (INFO) courses may count as BSAD electives with permission of the chair.
- b) Earning a Minor in an Arts or Science Subject

Any BBA student earning 24 credits in one arts or science subject may qualify for a minor in that subject. Any specific departmental requirements for the minor must be met. To have a minor officially recognized, a student must advise the dean's office of the desire to have the minor noted on the academic record.
- c) Open Electives

Most BBA and BIS programs include six credits of open electives. Students may satisfy this requirement by completing BSAD or INFO courses, arts/science courses (as above) or, with permission of the appropriate chair, courses in selected subjects not normally permitted as arts/science electives including engineering, human kinetics, human nutrition and nursing.

5.1.4 Application for Major or Honours

Students wishing to follow the major or honours in a subject are advised to consult with their department chair as early as possible. In the second year of study, students apply for admission to a major or honours program when they complete the appropriate application form and submit the form, signed by the chair, to the dean's office by March 31. Students are advised of their acceptance to the program in the summer following submission of the form. Students in the major or honours programs must be registered full-time in their final year of study.

5.1.5 Advancement and Graduation Requirements by Degree

All students must fulfill the pattern and credit requirements as specified above and the course, seminar, research report, senior paper, or honours thesis requirements of the major or honours department(s). For any joint degrees, students submit only one research report, senior paper, or honours thesis to the first named department on the student's application, after consultation with both departments.

Candidates who fail to meet the requirements for the degree for which they have applied may be eligible for another degree, provided those requirements are met.

Exceptions to these requirements need the approval of the dean and the department chair. Additional requirements are listed below.

The averages and grades specified below are the minima required.

5.1.6 Co-operative Education

Students may earn degrees with the co-op option from business administration and information systems. Co-operative education is a program that formally integrates a student's academic studies with work experience gained during work terms with participating employers. Students may complete a 12-to 16-month co-op work term following their third year or may complete three four-month co-op

work terms during their third and fourth years. To prepare for the co-op work term, students must complete all of the personal skill development workshops. Upon successful completion of the work terms and the requirements of the post-work term seminar, COOP 405, students earn three credits. For further details contact the appropriate department chair or the Co-op Program office, or see section 9.13 for additional information.

Degree	Admission End of Second Year	Advancement End of Third to Fourth Year	Graduation and Fourth-Year Requirements
BBA General	average 55 in each of first two years; average 60 in the required first- and second-year BSAD, ECON, INFO, MATH and STAT courses	average 55	average 55 in the final year
BBA with Major	average 60 over the first two years; average 65 in the required first- and second-year BSAD, ECON, INFO, MATH and STAT courses	average 65; average 65 in all BSAD and required ECON and INFO courses taken in year three; grade of 60 in each of those courses or be in the top 25% of the third-year class	average 65; average 65 in all BSAD and required ECON and INFO courses taken in year four
BBA with Honours	average 70 in courses taken in the first two years; average 70 in the required first- and second-year BSAD, ECON, INFO, MATH and STAT courses	average 70; grade of 70 in each BSAD and required ECON and INFO course	average 70; grade of 70 in each BSAD and required ECON and INFO course; grade of 70 on the honours thesis
BBA with Joint Honours in Business and Economics	average 70 in courses taken in the first two years; average 70 in the required first- and second-year BSAD, ECON, INFO, MATH and STAT courses	average 70; grade of 70 in each BSAD and ECON course	average 70; grade of 70 in each BSAD and ECON course; grade of 70 on the honours thesis
BIS General	average 60 in each of first two years; no grade less than 60 in any INFO or ECON course; average 60 in MATH 205 and STAT 201; average 60 in BSAD 101, 102, 221, 223 and 261	average 55	average 55 in the final year
BIS with Major	average 60 in each of first two years; no grade less than 60 in any INFO or ECON course; average 60 in MATH 205 and STAT 201; average 60 in BSAD 101, 102, 221, 223 and 261	average 65	average 65; average 65 in all INFO and BSAD courses taken in years three and four
BIS with Honours	average 70 in each of first two years; average 70 in the required first- and second-year BSAD, ECON, INFO, MATH, and STAT courses	average 70	average 70; average 70 in all INFO courses taken in years three and four; grade of 70 in INFO 498
BBA with Aquatic Resources Major	average 55 in each of first two years; average 60 in the required first- and second-year BSAD, ECON, INFO, MATH and STAT courses	average 55	average 55 in the final year



6. FACULTY OF EDUCATION REGULATIONS

- 6.1 Admission Requirements
- 6.2 Physical Education Specialization
- 6.3 Mi'kmaq Focus
- 6.4 Progression Requirements and Penalties
- 6.5 Professional Conduct
- 6.6 Certification

6.1 ADMISSION REQUIREMENTS

The Bachelor of Education (B.Ed.) is a two-year program following a first degree. Applicants must have completed a first degree in arts, science, human kinetics, kinesiology, physical education or equivalent. The B.Ed. program has two streams: elementary and secondary. Specialist programs in teaching physical education and French as a second language are available in either the elementary or the secondary stream.

6.1.1 Admission Process

At the present time, admission to the B.Ed. program is limited to approximately 115 students. The admissions process consists of the three steps described below.

- a) File Review

During the file review process, applicants are initially evaluated on four equally weighted criteria.

 - i) Academic record: Normally applicants must have a senior-year average of at least 70 or a GPA of 2.5. Consideration is also given to the applicant's performance throughout the entire undergraduate program.
 - ii) Life experiences and community involvement: Both breadth and depth of involvement are evaluated, as is the applicant's experience with diversity and with inclusive practices.
 - iii) Letters of reference: Evaluation of the applicant's personal and professional qualities as presented by three referees who know the individual well as a learner, worker, and leader.
 - iv) Essay on why the applicant wants to teach: Evaluation of the essay is based on the applicant's articulation of his/her view of students, subject matter, and vision for schooling.
- b) Interview

Based on the above criteria, applicants will be short-listed for the next stage of the process in which interviews are normally required. Interviews are about 30-40 minutes in length and include core questions asked of all applicants applying to the B.Ed. program as well as specific questions relating to the elementary or secondary stream, as applicable. Secondary stream applicants are asked about the major and minor subject fields for which they are applying. Interview questions focus on a general understanding of teaching, teaching content and processes, personal and professional qualities, an understanding of diversity and inclusive practices, and communication skills.
- c) Decision

The applicant's file review and interview are equally weighted. Composite scores from the two parts of the application process form the basis for offers in each stream of the program, and within subject fields in the secondary stream.

6.1.2 Admission Timeline

- | | |
|-----------|--|
| Jan. 31 | Completed applications are submitted for the year in which admission is sought. |
| Feb. 1-28 | Applications are reviewed by faculty in the school of education. |
| Mar. 1-31 | Selected applicants are invited for interviews by stream and by subject field throughout this period. |
| Apr. 1-30 | Letters are mailed to applicants either making an offer, placing individuals on a wait list, or expressing regret. |

6.1.3 Elementary Education (P-8) Requirements

There are five requirements for entrance into the B.Ed. elementary stream.

- a) Social Studies

Nine credits are required in social studies from any one or combination of the following disciplines: history (with a preference for local and Canadian history), geography, economics, political science, anthropology, sociology,

law, classics, Acadian studies, African-Canadian studies, Mi'kmaq studies, and/or philosophy.

- b) Mathematics

Six credits are required in the subject field of mathematics. Three of the six credits must include the investigation of fundamental concepts and ideas.
- c) English or French

Six credits are required in the subject field of **English**, if the undergraduate degree was delivered in English. Six credits are required in the subject field of French, if the undergraduate degree was delivered in French. Applicants for the specialist program for teaching **French** are encouraged to have courses in oral and written communication; communication strategies (speaking, listening, reading, writing strategies); Acadian, Quebec and francophone culture courses; an introduction to French literature, which could include literature throughout the francophone world. In addition to this, elementary applicants are encouraged to have a course in children's French literature taught in French.
- d) Science

Six credits are required in science from any one or combination of: biology, chemistry, physics, geology/earth sciences, oceanography and environmental studies. Please note that a full laboratory component is highly recommended and is required for teacher certification in many Canadian provinces outside of Nova Scotia.
- e) Developmental Psychology

Three or six credits of developmental psychology are required.

A maximum of six credits of cognate courses may be recognized in fulfillment of the individual subject field requirements identified above.

Cognate coursework refers to coursework in which the content is consistent with the content in the discipline for which credit is being allocated, for example, classics as history, communications as English. Final decisions on cognates are determined by the School of Education in consultation with the NS Department of Teacher Certification.

Note: A number of positions in the secondary stream have been set aside for applicants who have at least 18 credit hours in a second minor subject field. This may give potential teachers an advantage in applying for middle school or junior high school positions. With appropriate methods courses, endorsement could be achieved in three subject areas rather than the customary two.

6.1.4 Secondary Education

Secondary education students must prepare to teach two subject fields normally taught in the public secondary schools of Nova Scotia (English, French, social studies, diverse cultures, mathematics, science, physical education/health education). Information on subject fields and related disciplines are outlined below:

English

Applicants are encouraged to have courses in Canadian, American, British (including Shakespeare), and post-colonial literature.

French

Applicants are encouraged to have courses in oral and written communication; communication strategies (speaking, listening, reading, writing strategies); Acadian, Québécois, and francophone culture courses; and an introduction to French literature which could include literature throughout the francophone world.

Social Studies

Applicants must have a concentration in one of the following related disciplines: African-Canadian studies, classics, Acadian studies, economics, geography, history, law, Mi'kmaq studies, political science, or sociology. Anthropology may be used for a minor subject field and as a major subject field only if the courses are cross-listed with sociology.

Diverse Cultures

Applicants must have a concentration in African-Canadian studies, Mi'kmaq studies, native studies or sociology. Courses in women's studies, world religions, and interdisciplinary studies are only eligible if they are cross-listed with the aforementioned related disciplines. Anthropology may be used for a minor subject field and as a major subject field only if the courses are cross-listed with sociology.

Mathematics

Applicants are encouraged to take courses in calculus, matrix algebra, geometry, and statistics.

Science

Applicants must have a concentration in one of the following related disciplines: biology, chemistry, geology/earth sciences, environmental studies, oceanography, or physics.

Physical Education/Health Education

See section 6.2.

Secondary Education Requirements

There are five requirements for entrance into the B.Ed. secondary stream.

- a) **Major Subject Field**
A minimum of at least 30 credit hours of university coursework in one discipline of a subject field taught in Nova Scotia secondary schools. A maximum of 6 credit hours of cognate university coursework may be included in fulfillment of this requirement.
- b) **Minor Subject Field**
A minimum of at least 18 credit hours of university coursework in one discipline of a second subject field taught in Nova Scotia secondary schools. A maximum of 6 credit hours of cognate university coursework may be included in fulfillment of this requirement.
- c) **Social Studies**
Six credits are required in social studies from any one or combination of the following disciplines: Canadian studies, history, geography, economics, political science, sociology, anthropology, law, classics, Acadian studies, African Canadian studies, Mi'kmaq studies, and/or philosophy.
- d) **Mathematics/Science**
Three credits are required from among mathematics, science (excluding psychology), or computer studies.
- e) **English or French**
Three credits are required in the subject field of English, if the first degree was delivered in English. Six credits are required in the subject field of French, if the first degree was delivered in French.

A maximum of six credits of cognate courses may be recognized in fulfillment of the requirements in social studies, English/French and math/science/computer science. Cognate coursework refers to coursework in which the content is consistent with the content in the discipline for which credit is being allocated, for example, classics as history, communications as English. Final decisions on cognates are determined by the School of Education in consultation with the NS Department of Teacher Certification.

6.2 PHYSICAL EDUCATION SPECIALIZATION

For a physical education specialization, in addition to the general requirements for either the elementary or secondary stream, applicants must have 30 credits in their first degree for the major subject in the related disciplines of physical education, human kinetics, or kinesiology. These should include:

- a) 12 credits in movement analysis and health-related fitness;
- b) basic movement, dance, and team/individual sports, if the first degree involved skills courses;
- c) proof of recent:
 - i) participation in a university or post-secondary club, community team, or individual sport and/or proof of current NCCP technical or coaching certification; and/or
 - ii) teaching or performance experience in dance or gymnastics if the first degree did not involve skills courses.

6.3 MI'KMAQ FOCUS

Applicants pursuing a Mi'kmaq focus in their B.Ed. may develop a concentration in language and/or culture. The language focus requires oral fluency in Mi'kmaq, and at least 18 credits in Mi'kmaq language-related courses in the first degree.

6.4 PROGRESSION REQUIREMENTS AND PENALTIES

To qualify for the B.Ed. degree an average of at least 65 is required in all courses taken in the program. The pass mark in each course is 60.

Given the compressed time frame of the B.Ed. program, students will be reviewed at the end of each term. In order to progress to the next term, a student is required each term to pass three of the four academic courses and the practicum.

A student who fails to meet either of these requirements will be suspended.

The procedure for appealing an academic penalty is given in section 3.12. A student who is suspended from the B.Ed. program may re-apply to the registrar after a period of one term. Other regulations in 3.11 may apply.

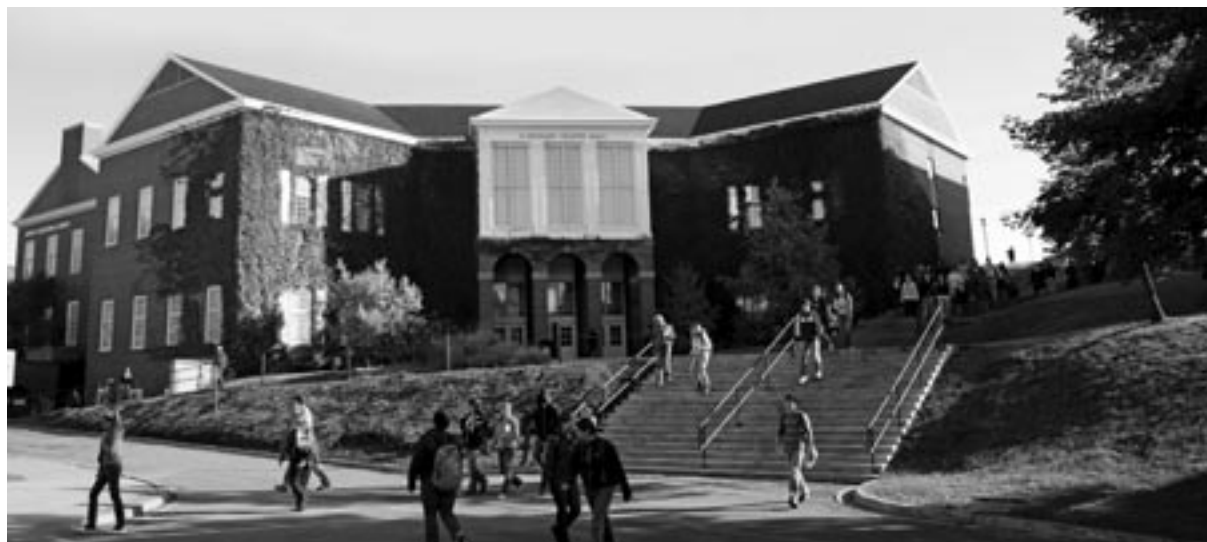
6.5 PROFESSIONAL CONDUCT

Students are expected to practice behaviour in accordance with the legal, ethical, moral, and professional standards of teachers as set out in the StFX Department of Education student handbook, the StFX Community Code, and the Nova Scotia Teachers' Union Code of Ethics. Failure to do so may result in dismissal from the program.

6.6 CERTIFICATION

Candidates for a teacher's certificate may be asked to disclose disciplinary action at an educational institution or violations of the law which resulted in penalty.

Upon completion of the B.Ed. program, students are eligible to apply for the Teacher's Certificate, Level 5 or ITC, awarded by the Nova Scotia Department of Education.



7. FACULTY OF SCIENCE REGULATIONS

7.1 General Regulations

- 7.1.1 Degrees Offered
- 7.1.2 Subjects Available
- 7.1.3 Degree Patterns
- 7.1.4 Declaration of Major, Advanced Major, or Honours
- 7.1.7 Advancement and Graduation Requirements by Degree
- 7.1.6 Co-operative Education

7.2 Bachelor of Science with Joint Advanced Major

7.3 Bachelor of Science with Joint Honours

7.4 Engineering

7.5 Architectural Studies

7.6 Pre-Medical and Pre-Dental Studies

7.7 Pre-Veterinary Medicine

7.1 GENERAL REGULATIONS

The B.Sc., the B.Sc. in Human Kinetics, and the B.Sc. in Human Nutrition require 120 credits. The basic B.Sc. in Nursing, including the fast-track option, requires 132 credits; the accelerated option for post-degree students is 72 credits; and the option for RNs requires 63 credits. Courses for each degree must follow the pattern required by the program chosen.

Students wishing to apply for a major, advanced major or honours program are advised to consult with the department chair as early as possible.

Re-entry to degree programs in the Faculty of Science will not be granted automatically to students who have been absent from the university for more than 10 years. In each science discipline, an entrance examination may be required to determine the extent to which credit will be awarded for courses completed previously.

7.1.1 Degrees Offered

The Faculty of Science offers degrees in science, human kinetics, human nutrition, nursing, and the diploma in engineering.

Under the science heading there are eight degrees:

Bachelor of Science with Major: in one of seven majors listed below

Bachelor of Science with Advanced Major: in one of ten majors listed below; requires high academic achievement

Bachelor of Science with Joint Advanced Major: combines the study of two science subjects; see table 7.2 for combinations

Bachelor of Science with Advanced Major in a Science with Business Administration: for students with an interest in science who desire some exposure to business

Bachelor of Science with Advanced Major in a Science with Information Systems: for students with an interest in science who desire some exposure to systems analysis and design

Bachelor of Science with Honours: offered in one of nine subjects listed below; requires superior academic achievement

Bachelor of Science with Joint Honours: combines study of two science subjects; see table 7.3 for combinations

Bachelor of Science with a Major in Aquatic Resources: a major in biology, earth sciences or mathematics, statistics and computer science and a major in aquatic resources

Under the human kinetics heading there are three degrees, each with a choice of kinesiology or pre-education major:

Bachelor of Science in Human Kinetics

Bachelor of Science in Human Kinetics with Advanced Major

Bachelor of Science in Human Kinetics with Honours

For the BA in Human Kinetics, see chapter 4 and section 9.22.

Under the human nutrition heading there are three degrees:

Bachelor of Science in Human Nutrition

Bachelor of Science in Human Nutrition with Advanced Major

Bachelor of Science in Human Nutrition with Honours

Under the nursing heading there are four degrees and two certificates:

Bachelor of Science in Nursing: options for students direct from high school, transfer students, and post-degree students; see sections 1.3g and 1.7

Bachelor of Science in Nursing with Advanced Major

Bachelor of Science in Nursing with Honours

Bachelor of Science in Nursing for Registered Nurses: courses by distance; some opportunity for on-campus courses if a student wishes

Certificate in Gerontological Nursing

Certificate in Continuing Care

Under the engineering heading there is one diploma:

Diploma in Engineering

7.1.2 Subjects Available

The following table lists the subjects available for study in the science degrees within the Faculty of Science and where these subjects can be a major, pair or elective course, or where two subjects may be combined in a joint advanced major or joint honours degree.

Code	Subject	B.Sc. Major	B.Sc. Advanced Major	B.Sc. Joint Advanced Major	B.Sc. Advanced Major Science with Business	B.Sc. Advanced Major Science with Information Systems	B.Sc. Honours	B.Sc. Joint Honours
BIOL	Biology	A, B, C, E	A, B, C, E	A, B, C, E	A, B, C, E	A, B, C, E	A, B, C, E	A, B, C, E
CHEM	Chemistry	"	"	"	"	B, C, E	"	"
CSCI	Computer Science	A, E	A, E	A, B, E	A, E	E	A, E	A, B, E
ENSC	Environmental Sciences	—	A	—	—	—	A	—
ESCI	Earth Sciences	A, B, C, E	A, B, C, E	A, B, C, E	A, B, C, E	A, B, C, E	A, B, C, E	A, B, C, E
MATH	Mathematics	"	"	"	"	B, C, E	"	"
PHYS	Physics	"	"	"	"	"	"	"
STAT	Statistics	A, E	A, E	A, B, E	A, E	E	E	E
AQUA	Aquatic Resources	A	—	—	—	—	—	—
ECON	Economics	—	A, E	—	—	—	A, E	—
PSYC	Psychology	—	A, E	See Table 5.2	—	—	A, E	See Table 5.3
HKIN	Human Kinetics	—	—	See Table 5.2	—	—	—	—

The legend for the table is: A = Science A; B = Science B; C = Science C; E = Elective

7.1.3 Degree Patterns

Listed below are the degrees and the diploma in the Faculty of Science with the course patterns and credit requirements for each. Each degree requires 120 credits, except for the B.Sc. in Nursing degrees (see 7.1). The Diploma in Engineering requires 69 credits.

In science, the acceptable arts subjects are anthropology, art, Canadian studies, Catholic studies, Celtic studies, classical studies, development studies,

economics, English, French, German, history, interdisciplinary studies, music, philosophy, political science, psychology, religious studies, sociology, Spanish, and women's studies. Certain restrictions apply and are described in the table at 4.1.2.

For definitions of the humanities and social sciences, see the glossary at the end of this calendar.

Pattern and Credits Required in Each Degree and Diploma									
Bachelor of Science	Science A	Science B	Science C	Science Elec	Arts X	Arts Y	Arts Z	Approved Elec	Elec
See Notes 1-4									
B.Sc. Major (see Notes 5 and 6)	36 credits	12 credits	6 credits	6 credits	12 credits	12 credits	6 credits	—	30 credits
B.Sc. Advanced Major (see Note 6)	42	12	6	—	12	6	—	18	24
B.Sc. Joint Advanced Major	42	36	6	—	12	6	—	12	6
B.Sc. Advanced Major Science with Business Administration	36, BSAD 30, CSCI 3	12	6	—	12	6	ECON 6	9	—
B.Sc. Advanced Major Science with Information Systems (see Note 9)	36, INFO 30, CSCI 3, STAT 3	12	6	—	12	6	ECON 6	6	—
B.Sc. Honours	60	12	6	—	12	6	—	18	6
B.Sc. Joint Honours	Total of 84 in A & B		6	—	12	6	—	12	—
Human Kinetics	HK Req	HK Elec	Biology	Science A	Science B	Arts X	Arts Y	Approved Elec	Elec
B.Sc. HKIN Major Kinesiology	33	21	6	24	6	12	6	6	6
B.Sc. HKIN Major Pre-Education	42	12	6	24, see Note 8	6	12	6	6	6
B.Sc. HKIN Advanced Major or Honours Kinesiology	36	18	6	24	6	12	6	6	6
B.Sc. HKIN Advanced Major or Honours Pre-Education	51	3	6	24, see Note 8	6	12	6	6	6
Human Nutrition	HN Req	HN Elec	BIOL	BSAD	CHEM	STAT	Humanities	Social Science	Elec
B.Sc. HNU and Advanced Major	36 with HNU 491 for AdvM	15	12	6	12	3	12	12	12
B.Sc. HNU Honours	45	12	12	6	12	3	12 (or 6)	6 (or 12)	12
Nursing	NURS Req	NURS Elec	BIOL	CHEM	HNU	PSYC	RELS	Arts/Sci Elec	Elec
B.Sc. Nursing, including Fast Track	75	—	12	6	6	6	6	9	9
B.Sc. Nursing Advanced Major	78	—	12	6	6	6	6	6	9
B.Sc. Nursing Honours	78	3	12	6	6	6	6	6	6
B.Sc. Nursing for RNs	33	12	12	6	—	—	—	—	—
B.Sc. Nursing, Post-Degree option	72	—	—	—	—	—	—	—	—
Engineering	ENGR Req	ENGR Elec	CHEM	PHYS	Other Sci	Arts Elec	—	—	—
Diploma in Engineering	27	6 to 24	6	6	Up to 15	6 to 12	—	—	—

The legend for the table is: Req = Required; Elec = Electives

Note 1 Of science A, B or C one must be MATH, and six credits of MATH must be calculus. In the B.Sc. Advanced Major in Science with Business, either science A or B must be MATH and must include six credits of calculus.

Note 2 With permission of the major department(s), courses from other science departments may be used to satisfy major, advanced major or honours requirements: up to 6 credits for the major; up to 12 credits for the advanced major, joint advanced major, or the advanced major with business; up to 18 credits for the honours; up to 12 credits for the joint honours.

Note 3 As an exception to regulation 3.1 f, students in B.Sc. major, department and the chair of the major, advanced major or honours department. The six credits will be counted as open electives in the B.Sc. major program, or as approved or open electives in the advanced major, honours, joint advanced major or joint honours program.

Note 4 BSAD is not accepted. Those in a single advanced major or single honours program may take up to 24 credits: 12 credits as science A, with the approval of their major or honours department, and 12 credits as approved or open electives. Students in joint advanced major or joint honours programs may take up to 12 credits as approved or open electives.

Note 5 One of Arts X and Y must be a subject from the humanities and one must be from the social sciences. Arts Z may be either humanities or social sciences, but must be a distinct subject from X and Y. See the glossary for definitions of what subjects are the humanities and social sciences.

Note 6 Students who transfer from a professional program (engineering, human kinetics, human nutrition, nursing) may include, as open electives, up to 18 credits of professional courses.

Note 7 If science A is biology, normally science B is chemistry; if science A is physics, normally science B is math; alternate science B choices by permission of chair.

Note 8 For students pursuing the secondary teaching stream option, a minimum of 24 credits must be in one of the subject fields taught in Nova Scotia schools. For those intending the elementary teaching stream, science A becomes 18 credits and the approved electives become 12 credits.

Note 9 This program is restricted to biology or earth sciences.

7.1.4 Declaration of Major, Advanced Major, or Honours

Students meet with an advisor in their major, advanced major, or honours department to discuss future course selection. In their second year of study, students apply for admission to the program when they complete the appropriate application form and submit the form, signed by the chair, to the dean's office by March 31. Students are advised of their acceptance to the program in the summer following submission of the form.

7.1.5 Advancement and Graduation Requirements by Degree

All students must fulfill the pattern and credit requirements as specified above and the course, seminar, research report, senior paper, or honours thesis requirements of the major, advanced major or honours department(s). For joint degrees, students submit only one research report, senior paper, or honours thesis.

Candidates who fail to meet the requirements for the degree for which they have applied may be eligible for another degree, provided those requirements are met. Exceptions to these requirements need the approval of the dean and

the department chair.

Additional requirements are listed below. The averages and grades specified below are the minima required.

7.1.6 Co-operative Education

Co-operative education is a program that formally integrates a student's academic studies with work experience gained during work terms with participating employers. Students may complete a 12-to 16-month co-op work term following their third year may complete three four-month co-op work terms during their third and fourth years. To prepare for the co-op work term, students must complete all of the personal skill development workshops. Upon successful completion of the work terms and the requirements of the post-work term seminar, COOP 405, students earn three credits. For further details contact the appropriate department chair or the Co-op Program office, or see section 9.13 for additional information.

Students may earn degrees with the co-op option from biology, human nutrition, mathematics, statistics and computer science.

Degree	Admission End of Second Year	Advancement End of Third to Fourth Year	Graduation and Fourth-Year Requirements
B.Sc. Major	average 55	average 55	average 55 in the final year
B.Sc. Advanced Major	average 60 in each of first two years; grade of 60 in each course in Science A	average 65; average 65 in Science A	average 65; average 65 in Science A
B.Sc. Joint Advanced Major	average 60 in each of first two years; grade of 60 in each course in Science A and B	average 65; average 65 in Science A and B	average 65; average 65 in Science A and B
B.Sc. Advanced Major Science and Business	average 60 in each of first two years; grade of 60 in each course in Science A	average 65; average 65 in Science A	average 65; average 65 in Science A and all BSAD courses
B.Sc. Advanced Major Science and Information Systems	average 60 in each of first two years; grade of 60 in each course in Science A	average 65; average 65 in Science A	average 65; average 65 in Science A and all INFO courses
B.Sc. Honours	average 70 in each of first two years; grade of 70 in each course in Science A	average 70; grade of 70 in each course in Science A	average 70; grade of 70 in each course in Science A
B.Sc. Joint Honours	average 70 in each of first two years; grade of 70 in each course in Science A and B	average 70; grade of 70 in each course in Science A and B	average 70; grade of 70 in each course in Science A and B
B.Sc. Human Kinetics	average 55	average 55	average 55 in the final year
B.Sc. Human Kinetics with Advanced Major	average 60 in each of first two years; grade of 60 in each HKIN course; average 60 in Science A (minor) courses in first two years	average 65; average 65 in HKIN courses; average 65 in Science A courses	average 65; average 65 in HKIN courses; average 65 in Science A courses
B.Sc. Human Kinetics with Honours	average 70 in each of first two years; grade of 70 in each HKIN course	average 70; grade of 70 in each HKIN course	average 70; grade of 70 in each HKIN course
B.Sc. Human Nutrition	average 55 in each of first two years; combined average 55 in HNU and science courses in first year; average 60 in HNU courses in first two years	average 55; average 60 in HNU courses	average 55 in the final year; average 60 in HNU courses
B.Sc. Human Nutrition with Advanced Major	average 60 in each of first two years; combined average 60 in HNU and science courses in first year; average 60 in HNU courses in first two years	average 65; average 65 in HNU courses	average 65; average 65 in HNU courses
B.Sc. Human Nutrition with Honours	average 70 in each of first two years; combined average 70 in HNU and science courses in first year; average 70 in HNU courses in first two years	average 70; grade of 70 in each HNU course	average 70; grade of 70 in each HNU course
B.Sc. Nursing, all program options see Note 1	average 55 in the required first and second level nursing and science courses; grade of 60 in each NURS course	average 55; grade of 60 in each NURS course	average 55 over final three years or levels; grade of 60 in each NURS course
B.Sc. Nursing with Advanced Major	average 60 in each of first two years; grade of 65 in each NURS course; no nursing practice alert in second year	average 70; grade of 70 in each NURS course; no nursing practice alert	average 70; grade of 70 in each NURS course; no nursing practice alert
B.Sc. Nursing with Honours	average 70 in each of first two years; grade of 70 in each NURS course; no nursing practice alert in second year	average 70; grade of 70 in each NURS course; no nursing practice alert	average 70; grade of 70 in each NURS course; no nursing practice alert
B.Sc. Nursing for Registered Nurses	average 55; grade of 60 in each NURS course	—	average 55 over whole program; grade of 60 in each NURS course
Diploma in Engineering	average 60 to advance to second year	—	average 60 over two years

Note 1 The B.Sc. Nursing program options vary in the timeframes for completion. The four levels, from 1 to 4, correspond to the courses and course numbers at the 100 to 400 levels.

7.2 BACHELOR OF SCIENCE WITH JOINT ADVANCED MAJOR

It is possible to pursue an advanced major program which involves combined study of two science subjects, where Y = yes, possible:

with	BIOL	CHEM	CSCI	ESCI	HKIN	MATH	PHYS	PSYC	STAT
BIOL	—	Y	Y	Y	Y	Y	Y	Y	Y
CHEM	Y	—	Y	Y	—	Y	Y	—	Y
CSCI	Y	Y	—	Y	—	—	Y	—	—
ESCI	Y	Y	Y	—	—	Y	Y	—	Y
HKIN	Y	—	—	—	—	—	—	—	—
MATH	Y	Y	—	Y	—	—	Y	—	—
PHYS	Y	Y	Y	Y	—	Y	—	—	Y
PSYC	Y	—	—	—	—	—	—	—	—
STAT	Y	Y	—	Y	—	—	Y	—	—

7.3 BACHELOR OF SCIENCE WITH JOINT HONOURS

It is possible to pursue an honours program which involves combined study of two science subjects, where Y = yes, possible:

with	BIOL	CHEM	CSCI	ESCI	MATH	PHYS	PSYC
BIOL	—	Y	Y	Y	Y	Y	Y
CHEM	Y	—	Y	Y	Y	Y	—
CSCI	Y	Y	—	Y	—	Y	—
ESCI	Y	Y	Y	—	Y	Y	—
MATH	Y	Y	—	Y	—	Y	—
PHYS	Y	Y	Y	Y	Y	—	—
PSYC	Y	—	—	—	—	—	—

7.4 ENGINEERING

The Bachelor of Engineering (B.Eng.) program in Nova Scotia is either a two-year diploma program at any of the associated universities followed by two years of study at Dalhousie University in Halifax, or a four-year program at Dalhousie University.

The diploma consists of 69 credits taken over two academic years, 33 credits in the first year and 36 credits in the second year. During the second term of the first year, students apply for conditional acceptance into one of the following engineering programs at Dalhousie University: biological, chemical, civil, computer, electrical, industrial, materials, mechanical, or mineral resource engineering. Conditional acceptance into a program allows the student to choose the appropriate courses to take in the second year of the diploma program. The 69 credits required for the diploma must satisfy the requirements of one of the engineering programs as listed in this calendar (see section 9.18). Any deviations must be with the written approval of the chair of the department.

As Dalhousie and the associated universities form a unified system of engineering education, all diploma graduates from the associated institutions are guaranteed admission into the Faculty of Engineering, Dalhousie University. It is not possible, however, for Dalhousie to guarantee that students will gain entry to the program of their first choice, since all programs are subject to a known maximum number of annual admissions. Thus in the second half of the first year, students are required to specify their choice of at least three programs, in preferential order, and at a predetermined date (typically about May or June), the Faculty of Engineering at Dalhousie will notify the chair of the engineering department of the students to whom they have offered conditional admission, based on academic performance. A formal Memorandum of Understanding (MOU) exists between Dalhousie University and each of the Associated Universities. Article 4.0/1 of the MOU states that "The Faculty of Engineering at Dalhousie University will treat students from the Associated University programs on an equal basis with students who entered the program as freshmen at Dalhousie University. Academic merit will be the only deciding factor on admission to disciplines." Students who do not gain entrance to their preferred discipline or do not wish

to continue their studies at Dalhousie University may apply to an engineering program at any other institution and transfer the credits earned.

Students who transfer to this program from other universities must obtain credit for at least 36 credits taken at StFX in order to receive a diploma from StFX. Students cannot use distance or online course to satisfy the requirement of an engineering course.

Students who wish to earn the Engineering Diploma and a B.Sc. degree should consult with the dean and appropriate department chairs.

7.5 ARCHITECTURAL STUDIES

In association with Dalhousie University, StFX offers the first two years of a minimum of four calendar years of study in a six-year course in architecture leading to a Bachelor of Environmental Design Studies.

A student who has successfully completed two years in a BA, BBA, B.Sc. or engineering program may apply to enter the third year at Dalhousie University School of Architecture. Some mathematical facility is required and credit should be earned for at least six credits in statistics and/or calculus. For requirements, interested students are encouraged to contact the School of Architecture, Dalhousie University.

7.6 PRE-MEDICAL AND PRE-DENTAL STUDIES

Most Canadian medical and dental schools require or recommend that applicants earn credit for general biology, general chemistry, organic chemistry, physics, and English. They also require a superior academic record. It is possible to satisfy the entrance requirements while completing either a B.Sc. or a BA degree.

Dalhousie University Faculty of Medicine requires applicants to have a baccalaureate degree, or the equivalent of the three-year B.Sc. degree at Dalhousie University. Students are advised to take the courses listed above in order to do well on the science sections of the Medical College Admissions Test (MCAT). Beyond these courses, their education should include broad study in the physical, life and social sciences and the humanities. For more information, including what constitutes a program equivalent to the three-year B.Sc. at Dalhousie, please consult the assistant to the deans at StFX.

Admission to the four-year Dalhousie Doctor of Dental Surgery program requires the completion of a minimum of 10 full-year academic classes at the undergraduate level. These classes will normally be completed by May 1 of the year of expected entry to the Faculty of Dentistry. Two one-term academic classes in the same discipline are considered equal to one full-year academic class.

Academic requirements:

- One full-year academic class in each of biology, general chemistry, physics, organic chemistry (each of these courses must include laboratory instruction) an approved one-term bio-organic chemistry course may be substituted for the full year organic chemistry class.
- Two full-year academic courses (or four one-term courses) chosen from the humanities and/or social sciences
- One full year (or two one-term) writing course, English
- One university course (full year or one term) in each of the following: introductory biochemistry, introductory microbiology, and vertebrate physiology. These courses should be at the second year level or higher and applicants are encouraged to contact the Faculty of Dentistry for approval of selected courses.

7.7 PRE-VETERINARY MEDICINE

The Atlantic Veterinary College is located at the University of Prince Edward Island. The required courses are:

A total of 50 points of the applicant score will be based upon grades attained in the 20 required courses (15 specified and 5 electives with the highest grades). Required courses count for 50% of the applicant score, as follows:

- 30% or 15 points from the average of the four biological science prerequisite courses, including genetics, microbiology, and two animal biology electives;
- 70% or 35 points from grades in the remaining 16 required courses as listed: two math courses (one being statistics), three chemistry courses (one being organic chemistry), one physics course, two English courses (one being composition), three humanities and/or social sciences, five electives in any area. Veterinary-related experience is also required.

8. GRADUATE STUDIES

- 8.1 Admission Procedures and Requirements**
- 8.2 Full-Time and Part-Time Studies**
- 8.3 Program Requirements**
- 8.4 Thesis Regulations**
- 8.5 Outstanding Graduate Student Research Award**
- 8.6 Graduation**

Graduate Studies at StFX is supervised by an office of graduate studies under the direction of a committee, consisting of a chair appointed by the president, the deans of faculties, and members elected by and from the university faculty.

Courses of study leading to the following graduate degrees and diplomas are offered:

- Master of Arts
- Master of Science
- Master of Adult Education
- Master of Education

The degree of Master of Arts in Teaching is not offered at the present time.

8.1 ADMISSION PROCEDURES AND REQUIREMENTS

For all master's programs except the M.Ad.Ed. (discussed in 8.1.2) and the M.Ed. (discussed in 8.1.3), the following rules apply.

Applications for admission should be sent to the university admissions office at least two months before the date of proposed registration. Applicants may be required to write the Graduate Record Examinations (GRE) administered by the Educational Testing Service.

8.1.1 Master of Arts and Master of Science

The MA program may be offered in Celtic studies; and M.Sc. degree programs may be offered in biology, chemistry, computer science, Earth sciences, and physics.

Minimum admission requirements for these degree programs are:

- a) a bachelor's degree with the equivalent of an undergraduate major (36 credits) normally in the same field of study;
- b) an overall average of 70 (B) or higher in the bachelor's program.

Admission to these programs is based on the following factors:

- a) The university must be able to provide a program of study and research which meets the expectations of the applicant as specified in the application for admission.
- b) The candidate's academic performance and references must indicate that s/he is able to complete the program of study and research prescribed in the degree program.
- c) A faculty member must be available who is competent to supervise the program of study and the research prescribed for the degree.

8.1.2 Master of Adult Education

For admission to the M.Ad.Ed. program applicants must:

- a) have completed an appropriate bachelor's degree with an overall average of 70 (B) or higher; and
- b) have post-baccalaureate experience in work relating to adult education.

Applications for admission should be sent to the university admissions office.

Upon acceptance to the M.Ad.Ed. program, candidates are assigned to begin their studies in one of the foundation institutes which are held in the fall, winter, and summer.

8.1.3 Master of Education

The deadline for application to the M.Ed. program is January 15, with courses beginning in July of the same year. Students are responsible for checking with the admissions office to make sure that their application is complete. Only completed applications will be considered.

Normally, only students who have been accepted into the StFX M.Ed. program are eligible to enroll in M.Ed. courses offered by the university. Graduate students in good standing in M.Ed. programs at other universities may also apply to take up to 12 credits in M.Ed. courses at StFX. Such students should apply for admission as non-degree students to the continuing and distance education office with a letter of permission from their degree-granting institution.

Admission to the M.Ed. program is competitive and based on:

- a) completion of a B.Ed. or its equivalent, with an overall average of at least 70;
- b) at least two years of teaching experience prior to enrollment in the first graduate course.

Graduates who do not possess a B.Ed. will normally be considered when they have:

- a) met the university's admission requirements for the B.Ed.;
- b) gained a teaching license equivalent to a Nova Scotia Initial Certificate (TC5) or been employed in a teaching capacity for at least two years in a school of nursing or a post-secondary institution;
- c) completed a minimum of 12 credits in education;
- d) met all other conditions.

Meeting the minimum admission requirements does not ensure acceptance into the program. Decisions of the committee on graduate studies are final.

8.1.4 Non-Degree Students

Students without previous admission to a degree program may be permitted to register in graduate courses provided they meet the program's entrance requirements and with the approval of the instructor and department chair and notification of the chair of the committee on graduate studies.

A student who has registered in courses in compliance with the previous paragraph, and who is later admitted to a degree program without condition, may, upon recommendation of the department chair, be granted advanced standing to a maximum of 12 credits provided they are acceptable as part of the program in which the student is enrolled.

8.2 FULL-TIME AND PART-TIME STUDIES

8.2.1 Full-Time Study

The university may admit suitable candidates for full-time study during the regular academic year in the MA, M.Ed., and M.Sc. programs.

Full-time students register for a minimum of 18 credits and a maximum of 24 graduate credits during the academic year, including thesis credits.

For purposes of classification as full-time, candidates for graduate degrees may take up to 12 undergraduate credits, to a combined total of 30 credits. However, undergraduate credits thus included will not count for graduate credit.

Full-time students must complete the program, including thesis, so that the degree is awarded within three years of the date of initial registration.

8.2.2 Part-Time Study

The university may admit suitable candidates for part-time study for the MA, M.Ed. and M.Sc. programs.

Part-time students may register for only six graduate credits during any term or summer session and must complete the program so that the degree is awarded within six years of initial registration.

8.2.3 Combined Full-Time and Part-Time Study

Master's candidates who elect to complete their program by a combination of full-time and part-time study are governed by the following elapsed-time limitations: five calendar years if the candidate is registered as a full-time student for two or three terms and part-time for the balance; four calendar years if the candidate is registered for four or five terms as a full-time student and part-time for the balance.

8.2.4 Study in the Master of Adult Education Program

The M.Ad.Ed. program is, with the exception of the foundations institute, a distance-learning program. This program provides an effective learning experience for professional adult educators. Candidates come from a wide variety of career areas such as literacy, health education, higher education, vocational education, human resources training and development, community development, and educational technology. All program requirements must be completed within five years of commencement of the program.

8.2.5 Extensions

An extension to the time limit of up to one year beyond that indicated above may, upon recommendation of the department and approval of the chair of the committee on graduate studies, be granted to candidates who have demonstrated satisfactory academic progress and paid an extension fee. Requests for extensions beyond one year are normally not considered, and may be granted only with the approval of the graduate studies committee.

8.2.6 Leaves of Absence

Upon recommendation of her/his Department and the approval of the Chair of the Committee on Graduate Studies, a student may request a leave of absence from a program, of up to one year, for medical or family reasons (e.g., parental leave). The period of this leave of absence will not count towards the time limit in the program.

8.2.7 Transfer Credit

Once registered in a graduate program, students may be granted credit for six credits from another university if approval is obtained from the relevant department chair before registration in the course.

8.3 PROGRAM REQUIREMENTS

8.3.1 General

Students are expected to be familiar with all university and department regulations. See chapter 3 and the relevant department in chapter 9.

The passing grade in all graduate courses is 60 and a general average of 70 is required for graduation.

Students in part-time programs are assessed, and their academic standing is reviewed annually, by the committee on graduate studies. To maintain a satisfactory standing, students must be successful in 12 of any 18 consecutive credits with a passing grade of 60, and in addition must maintain a moving average of 70. Students who fail courses beyond this number or who do not maintain the required average will be placed on academic probation. A student on academic probation who subsequently fails a course or does not achieve a moving average of at least 70 may be liable to academic dismissal.

If a student believes that work is not proceeding satisfactorily for reasons outside her/his control, the student may make representation to her/his supervisory committee, the department chair, the director of the school (if applicable) and, if the matter remains unresolved, the chair of the committee on graduate studies.

Research undertaken towards a thesis or research project involving human subjects normally requires approval by the university research ethics board (REB); see section 3.24. Before such a research project is initiated and before registration in the thesis is permitted, students must obtain REB approval, or must provide a letter signed by their research supervisor and by the chair of the REB, stating that the project does not require REB approval.

Research undertaken towards a thesis or research project involving animal use or testing normally requires review and approval by the StFX animal care committee.

8.3.2 Master of Arts

The degree requirements are:

- A minimum residence of 12 months for candidates with an honours degree, and a minimum residence of two years for other candidates.
- Students must earn a total of 30 credits in graduate work; original research may account for up to 12 credits.
- Candidates must satisfy course, seminar, and comprehensive examination requirements as determined by the candidate's supervisory committee and approved by the department chair.
- On the recommendation of the department chair, candidates may be required to demonstrate a reading knowledge of French, German or Russian, and an examination in the designated language must be passed within six months after registration.

8.3.3 Master of Science

The degree requirements are:

- A minimum residence of 12 months for candidates with an honours degree, and a minimum residence of two years for other candidates.
- Students must earn a total of 36 credits in graduate work, normally over a 24-month period: 6 credits of research, 12 credits of course work, and 18 credits for the thesis.
- Candidates must satisfy course, seminar, and comprehensive examination requirements as determined by the candidate's supervisory committee and approved by the department chair.

8.3.4 Master of Adult Education

The M.Ad.Ed. program is, with the exception of the Foundations Institute, a distance-learning program. Students must earn a total of 36 credits in graduate work. Students may not use courses taken elsewhere for credit towards the M.Ad.Ed. degree.

There are two routes by which a student may complete the requirements for the M.Ad.Ed.: a thesis route or a synthesizing examination route.

For successful completion of the degree, candidates must demonstrate a comprehensive knowledge of the area of study and an understanding of the principles and practices of adult education. To fulfill these requirements candidates must:

- design a learning program that includes
 - a critical review of the literature;
 - a comprehensive annotated bibliography; and
 - a learning plan that incorporates a professional portfolio;
- conduct a professional development research project;
- evaluate the program learning experience with reference to the learning plan;
- complete and submit an academic thesis or complete, present, and defend a research project and synthesizing examination which demonstrates that the learning objectives of the program have been achieved.

All program requirements must be fulfilled, and the completed thesis must be submitted and approved, within five years of commencement of the program. Exceptions to the five-year requirement may, upon recommendation of the department and the approval of the chair of the committee on graduate studies, be granted to a limited number of candidates who have demonstrated satisfactory academic progress and paid an extension fee equal to one-third of the tuition for the M.Ad.Ed.

All program requirements must be fulfilled within five years of commencement of the program unless an extension has been granted. Students who have been unable to pursue their course of study for four months or more due to medical reasons and who have otherwise demonstrated satisfactory progress, may request a medical extension of up to one year. This request must be made in writing to the department chair, be accompanied by a physician's statement, and requires the approval of the department and of the chair of graduate studies. In such cases, no tuition or extension fee is required.

A final corrected copy of the successful thesis must be approved by the chair of the Committee on Graduate Studies no later than April 15 for Spring Convocation and November 15 for Fall Convocation.

8.3.5 Master of Education

StFX offers the M.Ed. degree with specialization either in educational administration and policy or in curriculum and instruction. In both streams students must complete the specified core courses, though they may also select classes appropriate to their own interests.

There are two options by which a student may complete the requirements for the M.Ed.: a thesis route and a course-based route; see section 9.17. Students who choose the thesis route must complete 24 credits in graduate education courses and a thesis worth 12 credits. Those in the course-based route must complete 36 credits in graduate education courses.

This degree fulfills the requirements of the Nova Scotia Department of Education for an increase in level of teacher certification. Graduate courses which may be taken for credit towards a M.Ed. are listed in section 9.17.

8.4 THESIS REGULATIONS

8.4.1 M.Ad.Ed. Program

M.Ad.Ed. students choosing to follow the thesis route are required to prepare a thesis based on original research under the guidance of the chair or faculty advisor. Theses are evaluated by two faculty members of the Department of Adult Education, and an external examiner. A final corrected copy of the successful thesis must be submitted to the chair of the committee on graduate studies for approval at least two weeks prior to the date of the convocation at which the candidate expects to graduate. The final copy of any thesis based on a research project requiring ethical approval must include a copy of the appropriate certificate of approval. Students are responsible for providing copies of the approved thesis so that they may be deposited with the StFX university library, the department thesis collection, and the National Library of Canada, and for paying the appropriate thesis fee.

8.4.2 MA, M.Sc., M.Ed. Programs

Upon admission to, or registration in, a thesis program, and after consultation with the candidate and with Department faculty members, each candidate will be assigned a thesis Supervisory Committee by the Department Chair. This Committee will include the candidate's thesis advisor and at least one other faculty member, normally chosen from the Department.

Candidates must make a formal presentation of the thesis proposal. The formal presentation is normally made to the faculty of the Department for which the thesis is being written, and it is open to members of the Committee on Graduate Studies, other interested faculty members, and graduate students. The Department Chair (and/or the candidate's thesis supervisor) will ensure that at least two weeks notice is given of the date, time, and place of the presentation of the thesis proposal.

After presentation of the proposal, after obtaining the approval of the appropriate ethics committee(s), and on the recommendation of the candidate's thesis supervisory committee, and the Department Chair or Director of the School, the candidate will be permitted to register in the thesis.

When completed, the thesis is submitted to the Chair of the candidate's supervisory committee for approval. The thesis is read by at least one other faculty member, designated by the Department Chair. The thesis is also read by an external examiner chosen by the Department Chair after consultation with the candidate's Supervisory Committee. The external examiner is a faculty member external to the candidate's Department and may be, as appropriate, external to the University. After consultation with the candidate's Supervisory Committee, the Department Chair will appoint a thesis examination committee consisting of the external examiner, the candidate's thesis advisor, and at least one (but no more than three) other members of the Department. (Members of the Supervisory Committee may serve as members of the Examining Committee.) The Chair of Graduate Studies or her/his designate will be a non-voting member of this Committee ex officio.

The external examiner must submit a report on the thesis to the Chair of the Supervisory Committee and to the Chair of the Committee on Graduate Studies.

A public presentation and defence of the thesis is presented by the candidate after receipt of the external examiner's report and following the approval of the supervisory committee. Normally, at least two weeks notice is given (to the Chair of Graduate Studies) concerning the date, time, and place of the presentation and defence.

Immediately following the public presentation, an examination of the candidate is held. Normally, the public presentation and examination will not exceed 120 minutes.

The examining committee will then, in camera, arrive at a unanimous decision, agree on any changes to be made to the thesis, determine who will be responsible for ensuring that these changes are made, and consider whether the student is to be nominated for an Outstanding Graduate Student Research Award. Should the Committee not be able to arrive at a decision on the disposition of the thesis, the matter will be referred to the Committee on Graduate Studies.

The decision of the Examining Committee, along with their names and, as appropriate, signatures, will be recorded on the thesis examination form, with a copy retained by the Department and a second copy sent to the Chair of Graduate Studies.

A final corrected copy of the successful thesis must be submitted to the Chair of the Committee on Graduate Studies for approval at least two weeks prior to the date of the convocation at which the candidate expects to graduate. Students are responsible for a) providing copies of the approved thesis; b) for ensuring that they are deposited with the University Library and the National Library of Canada; and c) for completing and submitting the required 'non-exclusive use' form, and for paying the appropriate thesis fee.

8.5 OUTSTANDING GRADUATE STUDENT RESEARCH AWARD

Students who have completed their degree with a master's thesis of outstanding quality may be considered for an outstanding graduate student research award.

8.6 GRADUATION

Students are responsible for ensuring that they have registered for convocation by the required date and that they have fulfilled all degree and program requirements by the requisite deadlines.

9. DEPARTMENT AND PROGRAM INFORMATION

- 9.1 **Adult Education**
- 9.2 **Anthropology**
- 9.3 **Aquatic Resources**
- 9.4 **Art**
- 9.5 **Biology**
- 9.6 **Business Administration**
- 9.7 **Canadian Studies**
- 9.8 **Catholic Studies**
- 9.9 **Celtic Studies**
- 9.10 **Chemistry**
- 9.11 **Classical Studies**
- 9.12 **Computer Science**
- 9.13 **Co-operative Education**
- 9.14 **Development Studies**
- 9.15 **Earth Sciences**
- 9.16 **Economics**
- 9.17 **Education**
- 9.18 **Engineering**
- 9.19 **English**
- 9.20 **Environmental Sciences**
 - » **French** see 9.27 Modern Languages
 - » **German** see 9.27 Modern Languages
 - » **Graduate Studies** see Section 8
- 9.21 **History**
- 9.22 **Human Kinetics**
- 9.23 **Human Nutrition**
- 9.24 **Information Systems**
- 9.25 **Interdisciplinary Studies**
- 9.26 **Mathematics, Statistics, and Computer Science** see also 9.12 Computer Science; 9.36 Statistics
 - » **Mi'kmaq** see 9.27 Modern Languages
- 9.27 **Modern Languages**
- 9.28 **Music**
- 9.29 **Nursing**
- 9.30 **Philosophy**
- 9.31 **Physics**
- 9.32 **Political Science**
- 9.33 **Psychology**
- 9.34 **Religious Studies**
 - » **Service Learning** see 9.25 Interdisciplinary Studies
- 9.35 **Sociology**
 - » **Spanish** see 9.27 Modern Languages
- 9.36 **Statistics**
- 9.37 **Women's Studies**

Unless otherwise noted, all courses meet for three hours of lecture each week. Laboratories are normally three hours each week. Six-credit courses normally meet for a full year, three-credit courses for one term (a half year). In addition to the courses listed, students may request a directed study course as described in section 3.5. Certain advanced-level courses are not offered every year. Others are offered on an alternating basis, as noted in course descriptions. See glossary for degree and subject abbreviations.

Course Restrictions

Credit may be earned for only one of the following: STAT 201, 231, PSYC 292, SOCI 305 and 300. Normally, STAT 201 and PSYC 292 may not be taken for credit in a B.Sc. program.

Students may not receive credit for both a full-year six-credit course and any course that is equivalent to one-half of the full-year course. For example, students may not earn credit for ESCI 171 or 172 and ESCI 170.

Credit may not be earned for both courses that are cross-listed. The complete list of equivalent courses is available at www.stfx.ca/services/registrar

9.1 ADULT EDUCATION

The university offers both the Diploma in Adult Education and the Master of Adult Education (M.Ad.Ed.).

Diploma in Adult Education

See chapter 4 for the Diploma in Adult Education.

Master of Adult Education

M. Coady, Ph.D.
L. English, Ph.D.
B. Foroughi, M.Sc.
A. Quigley, Ed.D.
C. Roy, Ph.D.
T. Turay, Ph.D.

Graduate Program

The admission procedures and requirements for the M.Ad.Ed. degree are given in chapter 8. Students have five years to complete 36 credits. Further details can be found on the department's web page: www.stfx.ca/academic/adulted/

Foundations Institute

This is an intensive three-week residential session during which students become familiar with the foundations of, and requirements for, the master's program.

Master of Adult Education Courses:

500 Learning Plan and Annotated Bibliography

Development and submission of a learning plan including: a learning narrative, learning goal statement, research project proposal, and learning contract with learning intents. Second, development and submission of an annotated bibliography demonstrating critical reading of a broad range of foundational literature, as well as literature in the chosen area and aspect of study as seen in the learning plan. Six credits.

510 Professional Portfolio and Literature Review

Development and submission of a professional portfolio consisting of learning experiences, accomplishments, and demonstrated professional competencies, supported by documentation. Second, development and submission of a critical review of the literature in the field with an emphasis on the area and aspect of study as seen in the learning plan. Six credits.

520 Practical Research Project

Developing a practical research project to achieve learning intents. This project is typically completed in the student's place of practice and typically requires approval of the StFX Research Ethics Board. At the end of this phase, the student submits a project report that includes a detailed description of the learning intents, program design, means of implementation, and evaluation of the project. Twelve credits.

530 Learning Program Evaluation

This phase includes a report on the student's personal and professional learning with reference to the learning plan developed in ADED 500. This reflective report evaluates knowledge gained and changes in practice, and is accompanied by a narrative. Six credits.

Alternate Routes to Graduation

There are two routes by which a student may complete the requirements for the M.Ad.Ed.

- 1) complete and submit an academic thesis OR
- 2) complete, present, and defend a project and synthesizing examination which demonstrates that the learning objectives of the program have been achieved.

600 Thesis

The thesis is a scholarly contribution to the field of adult education. Upon completion of the preceding phases of the program, students draft an outline and write a thesis in consultation with their faculty advisor. The thesis provides an opportunity for students to analyze and reflect on their professional project, in light of the relevant adult education literature. The completed thesis is submitted to an external examiner and to the committee on graduate studies for approval. Six credits.

601 Synthesizing Examination

The synthesizing examination is the alternative route to complete the M.Ad.Ed. It follows satisfactory completion of the preceding phases of the program. The synthesizing examination is intended to provide an opportunity for students to reflect on their professional project and bring the relevant literature and student's research project together with the particular reference to practice. The synthesizing examination will be attended by two faculty members of the adult education department, chair of the committee on graduate studies or designate, and will be open to the public.

9.2 ANTHROPOLOGY

S. Vincent, Ph.D., Program Co-ordinator
C. Fawcett, Ph.D.
M. Haller, Ph.D.
J. McMillan, Ph.D.

Anthropology is the holistic study of human culture and biology in the past and present. Anthropologists teach about human evolution and global archaeology as well as contemporary cultures around the world. The anthropology program offers honours, advanced major or major degrees. Students may select program elective courses to meet their own interests in a general anthropology stream, or may choose to follow suggested patterns in the following core areas: Archaeology, the Anthropology of Development or First Nations Anthropology. These streams are described on the anthropology program website. Students not pursuing degrees in anthropology may take a minor, a pair or electives.

Major and Advanced Major

Students pursuing a major or advanced major in anthropology must complete the following requirements: ANTH 110; 3 credits from ANTH 243, 253; 3 credits ANTH 211; 223; 233; ANTH 303 and either ANTH 304 or 305; 18 ANTH additional credits, 12 of which must be at the 300 or 400 level.

Advanced Major students are required to write a senior paper.

For program regulations, see section 4.1.

Honours

Students pursuing an honours in anthropology must complete the following requirements: ANTH 110; at least 3 credits from 200 level archaeology courses (ANTH 243; 253) and at least 3 credits from 200 level social anthropology courses (ANTH 211; 223; 233); ANTH 303, 304 and 305; 33 additional credits in ANTH, 12 of which must be at the 300 or 400 level; ANTH 400.

110 Introduction to Anthropology

A general survey of the field of anthropology, this course uses ethnographic material from societies around the world to explore the diversity of human life, similarities between societies, the importance of culture; human evolution and the development of human societies; the impact of global processes. Students will be introduced to archaeology, and to linguistic and socio-cultural anthropology. Six credits.

211 Health and Illness in Cross-cultural Perspective

An examination of health and illness from a cross-cultural perspective, this course covers diet and nutrition; gender and reproduction; the cultural construction of anatomy and physiology; the meaning of illness, medical pluralism and the medical system; pain and culture; cross-cultural psychiatry; health care systems in the developing world; ritual and the management of misfortune and the health of indigenous peoples in Canada and other parts of the world. Prerequisite: ANTH 110 or permission of the instructor. Six credits.

223 Anthropology of Globalization

Globalization has affected more than the world economy: people, politics and culture all travel globally, with wide-ranging consequences. This course will examine the history of global processes by focusing on how different peoples around the world have engaged in or resisted them. Ethnographic studies will be used to explore global diversity as well as the effects of efforts to impose global uniformity. Prerequisite: ANTH 110 or DEVS 200 or permission of the instructor. Students who have received credit for ANTH 220 cannot enroll in this course. Three credits. Offered 2009-2010 and in alternate years.

233 Ethnographic Studies

This course explores the rich cultural diversity of human societies around the globe through an ethnographic lens. Using a variety of ethnographic works, students will analyse how anthropologists have represented this diversity. Course material will include classic and current texts about 'other' and 'own' societies, the

representation of indigenous peoples, ethnographic film, as well as portrayals of culture in popular media. Prerequisite: ANTH 110 or permission of the instructor. Students who have received credit for ANTH 230 cannot enroll in this course. Three credits. Not offered 2009-2010.

243 Principles of Archaeology and Prehistoric Societies

This course offers an examination of modern archaeological research including how archaeologists work in the field, their analytical techniques, and some of the principal methodological and theoretical issues facing the field. A wide variety of archaeological examples (from lavish Egyptian tombs to simple nomadic settlements) will be used to illustrate the main themes of the course. Students will participate in the process of archaeological research through a series of practical exercises and assignments. Prerequisite: ANTH 110 or permission of the instructor. Students who have received credit for ANTH 240 cannot enroll in this course. Three credits. Offered 2009-2010 and in alternate years.

253 Origins of Cities

Urban living is an increasingly common experience for humans across the globe. City life, however, is not a modern phenomenon. This course is a broad introduction to the process of urbanism and the rise of early pre-industrial cities in both the New and Old Worlds. Specific cases are examined in order to elucidate the varying roles cities played in ancient civilizations and how knowledge of these roles can aid in our current understanding of modern urban life. Prerequisite: ANTH 110 or permission of the instructor. Students who have received credit for ANTH 250 or 260 cannot enroll in this course. Three credits. Not offered 2009-2010.

303 Anthropological Theory

This course will give students an understanding of past and present trends in anthropological theory, including approaches such as historical particularism, structural functionalism, culture and personality, neo-evolutionism, cultural ecology, Marxist anthropology, structuralism, ethno-science, symbolic anthropology, applied anthropology, feminism, and post-modernism. Prerequisites: ANTH 110 and at least 6 ANTH credits at the 200 level. Three credits.

304 Principles and Methods of Fieldwork

This course introduces students to qualitative field methods used by anthropologists. Through lectures, seminars and field assignments students will learn skills such as participant observation, writing field notes, interview techniques, research ethics, the analysis of documents, and writing up fieldwork. Prerequisites: ANTH 110. Three credits. Offered 2009-2010 and in alternate years.

305 Anthropological Data Analysis

This course introduces students to the basic principles of statistics and quantitative analysis of anthropological data. Through lectures, seminars and lab assignments students will learn skills such as quantitative research design and methods, data analysis, and computer applications in anthropological research. Prerequisite: ANTH 243 or 253 or 303 or permission of the instructor. Three credits. Not offered 2009-2010.

310 Anthropology of Tourism

Tourism is an important industry as well as a source of identity and meaning for individuals, local groups, and nations. This course examines tourism using a variety of theoretical frameworks. Students analyse various forms of tourism, such as historical tourism, cultural heritage tourism, eco-tourism, ethnic tourism and development tourism. Attention is given to gender, ethnicity, nationalism, class, environmental and economic impact, and the political importance of tourism in a globalizing world. Prerequisite: ANTH 110. Three credits. Not offered 2009-2010.

320 Anthropology of Development

This course explores how development practice has affected the people it aims to help. Case studies allow students to learn about and consider the strengths and weaknesses of strategies promoting popular participation, gender equity, small-scale business, local knowledge and democratic reform. Students are also introduced to critiques of various approaches to development and an anthropological analysis of development institutions. Prerequisites: ANTH 110 or DEVS 200; ANTH 220 or 223 is recommended. Closed to students who have successfully completed ANTH 365. Three credits. Not offered 2009-2010.

324 Anthropology of Gender

From a cross-cultural perspective and using examples from physical anthropology, archaeology, linguistic anthropology and socio-cultural anthropology, students will explore various questions such as: Can the differences observed between

men and women best be explained by biology or culture? What factors explain the subordination of women found in many societies around the world? How are political, economic and symbolic powers acquired and used by men and women in cultural contexts around the world? Prerequisite: ANTH 110 or WMNS 200 or permission of the instructor. Cross-listed as WMNS 324. Closed to students who have successfully completed ANTH 225 or WMNS 225. Three credits. Not offered 2009-2010.

326 Cross-cultural Families and Households

An anthropological study of the history and current conditions of families in various parts of the world. Using a cross-cultural perspective, students will examine the family in the context of social, political, economic, and cultural change, and the unequal power relationships between men and women. Course material will focus on ethnographic examples of different forms of the family. Prerequisite: ANTH 110 or WMNS 200 or permission of the instructor. Cross-listed as WMNS 326. Three credits. Offered 2009-2010 and in alternate years.

331 Anthropology and Indigenous Peoples

Students are introduced to issues of colonialism, self-determination, Aboriginal title, development, and the conflicts of Indigenous peoples from a critical anthropological perspective. The course is comprised of three sections. The first examines Indigenous diversity in the early contact period. The second explores the impact of colonization on Indigenous cultures. In the third we analyze contemporary politics, economic and social development, resource use, health, law, gender, and environmental issues in First Nation communities. Prerequisite: ANTH 110 or permission of the instructor. Three credits.

332 Mi'kmaq Studies: Advanced Critical Issues in Indigenous Anthropology

Using theories and methods relevant to Indigenous knowledge, self-determination, resistance and sustainability of Mi'kmaq of Atlantic Canada, in the first section we explore Mi'kmaq oral histories, cosmology and sociocultural organization. In the second section we look at the impact of colonization on the Mi'kmaq culture. In the third section we look at contemporary issues such as the impact of court decisions on treaty implementation, justice practices, economic development, resource use and cultural production. Prerequisites: ANTH 110 and 331. Three credits. Offered 2009-2010 and in alternate years.

341 North American Archaeology

This course explores the prehistory of North America's Native Peoples as well as how these societies were radically transformed by European colonization. Students will discover that even though great spans of time separate modern and ancient native cultures, cultural continuity exists. Prerequisites: ANTH 240/243, 250/253 or permission of the instructor. Three credits. Offered 2009-2010 and in alternate years.

342 Ancient Mesoamerica

This course will use archaeological and ethnohistorical information to examine the people who lived in Mesoamerica (currently, Mexico, Belize, Honduras and Guatemala) prior to and at the time of early contact with Europeans. Students will use archaeological data to study the Aztecs, Maya and Zapotecs and their predecessors. Students will also refine their knowledge of archaeological inquiry and methods. Prerequisites: ANTH 240/243, 250/253 or permission of the instructor. Three credits. Offered 2009-2010 and in alternate years.

371 Archaeological Field Methods

This course teaches students the basic archaeological field methods of site survey and excavation through participation in an actual archaeological field project either locally or in another part of Canada or abroad. The course will examine a range of archaeological techniques and methodological approaches. It will also introduce students to the ethical issues they need to consider when conducting archaeological field research in Canada and abroad. Prerequisite: ANTH 240 or 243 or permission of the instructor. Closed to students who have successfully completed ANTH 345. Three credits. Not offered 2009-2010.

372 Archaeological Laboratory Methods

This course teaches students methods of analysing, cataloguing and reporting on materials recovered from archaeological site survey and/or excavation. Students will learn how to disseminate information to professional and public audiences. Prerequisite: ANTH 371 or permission of the instructor. Three credits. Not offered 2009-2010.

400 Honours Thesis Research

A required course for all senior honours students. Six credits.

415 Anthropology of HIV/AIDS

This course examines global HIV/AIDS from an anthropological perspective. Using a holistic and cross-cultural approach, students will think about how kinship systems, gender, class, sexual orientation, nationality, ethnicity and global economic and political structures affect how individuals in different populations learn about and give meaning to HIV/AIDS, the risks they face, and the degree to which they can protect themselves and receive treatment if infected. Prerequisite: ANTH 211 or DEVS 200 or permission of the instructor. Three credits. Not offered 2009-2010.

425 Power and Change

Power and change can be volatile processes. This course allows students to understand and analyse them from an anthropological point of view. Topics may include topics as the tension between indigenous collective rights and individual human rights; the tortuous local politics of constructing identity; the effects of and reactions to globalization; the cultural causes and consequences of terror and war. Prerequisite: 12 credits ANTH or permission of instructor. Closed to students who have successfully completed ANTH 340. Three credits. Offered 2009-2010 and in alternate years.

435 Advanced Indigenous Issues

A course for senior students who want to use anthropological work to learn about specific issues of concern to Canada's First Nations people. Topics may include contemporary in-depth analyses of: Indigenous law, treaty and aboriginal rights, cultural production and sustainability. Prerequisite: ANTH 331. Three credits. Not offered 2009-2010.

445 Advanced Archaeological Seminar

This course will examine various topics of interest to archaeologists. Students may learn about topics such as zooarchaeology, human osteology, regional settlement patterns and GIS, archaeological theory, chiefdoms, archaeology and society, archaeology and Canada's First Nations or Japanese archaeology. Prerequisite: ANTH 240/243 or 250/253. Three credits. Offered 2009-2010 and in alternate years.

492 Selected Topics in Anthropology

This course explores contemporary issues in anthropology. The subject focus will change from year to year to reflect faculty involvement in a specific area of research. Students should consult with the program co-ordinator for current information. Prerequisites: ANTH 110 and 6 credits of ANTH courses at 200 level, or permission of the instructor. Three or six credits.

499 Directed Study

Under the direction of a professor, students will work in an area of anthropology not available in other course offerings. Interested students must consult with a faculty member or with the program co-ordinator. See section 3.5. Three or six credits.

9.3 AQUATIC RESOURCES

D. Garbary, Ph.D. ISAR Co-ordinator
L. Patterson, M.Sc., ISAR Program Officer

Advising Faculty

J. Apaloo, Ph.D.	Mathematics, Statistics & Computer Science
P. Clancy, Ph.D.	Political Science
G. Ferguson, Ph.D.	Earth Sciences
M. Haller, Ph.D.	Anthropology
T.W. Hynes, Ph.D.	Business Administration
R. Martinez-Espineira, Ph.D.	Economics
J. Phyne, Ph.D.	Sociology
W. Radford, M.A.Ed.	Director, StFX Extension
J. Williams, Ph.D.	Biology
W. Yasmeen, Ph.D.	Economics

WATER, a dynamic natural resource, is used as a focal point around which students can examine our changing world in terms of climate change, environmental management, freshwater policy, aboriginal use, erosion and flood events, adaptation of fisheries, cultural perceptions and ancient use, economic valuation, to name but a few.

Interdisciplinary Studies in Aquatic Resources (ISAR), a four-year program (comprised of 120 credits) leading to a BA, B.Sc. or a BBA degree, offers an integrated approach to the understanding, use and sustained management of aquatic resources as both natural and social systems. Aquatic ecosystems include groundwater, watersheds, wetlands, lakes, rivers, and oceans.

ISAR prepares students for careers in natural resource management, government or private sector research and/or policy development, consultancy services, community development, and private enterprise. Depending on their program of study, students will also be positioned favorably for graduate or professional study in such areas as environmental law, public policy and administration, marine biology, oceanography, environmental sciences, human ecology, fisheries science and/or management, geographic information systems, conservation, and social science research.

All students complete a major in aquatic resources, and a major in one of: biology; business administration; economics; earth sciences; mathematics, statistics, and computer science; or public policy and social research (political science; sociology and/or anthropology). ISAR students complete a mandatory work term (AQUA 400) and participate in the senior seminar (AQUA 450).

Students may enter the ISAR program in their 1st or 2nd year of study at StFX. Students entering the program in 2nd year will complete AQUA 100 and AQUA 200 simultaneously.

ISAR students interested in completing an advanced major or honours degree in their second major field of study: biology; business administration; economics; earth sciences; mathematics, statistics and computer science; political science; sociology or anthropology; must satisfy the requirements outlined in chapters 4, 5 or 7.

Major Program

Major candidates are required to complete:

- a core ISAR major program of AQUA 100, 200, 325, and 400, 450; ESCI 171; BIOL 112; ECON 101, 102; plus BSAD 101;
- 36 credits in the second major discipline, or 48 credits for public policy and social research majors, including at least 18 credits of AR-designated courses from that discipline;
- at least 6 credits of AR-designated courses in each of two of the participating academic departments other than the major.

Candidates must also satisfy the requirements outlined in chapters 4, 5 or 7.

Progression Requirements

All full-time ISAR major students completing the first-year required courses (AQUA 100; ECON 101, 102; BIOL 112; ESCI 171) must achieve a minimum average of 65 in order to maintain their ISAR major and proceed to the second year of study in the program.

Students are encouraged to meet regularly with the co-ordinator or program officer to discuss their academic progress, work term opportunities and career aspirations.

BA Major in Economics and Major in Aquatic Resources

Year 1	AQUA 100; ECON 101, 102; BIOL 112; ESCI 171; one of ANTH 110, PSCI 100 or SOCI 100; 6 credit arts/science elective at the 100-level.
Years 2 and 3	AQUA 200, 325; BSAD 101; ECON required and/or electives; AR-designated courses; arts or science electives.
Year 4	AQUA 400, 450; ECON required and/or elective courses; AR-designated courses; arts or science electives.

BA Major in Public Policy and Social Research and Major in Aquatic Resources

Year 1	AQUA 100; ECON 101, 102; BIOL 112; ESCI 171; one of PSCI 100 or SOCI 100; 6 credit arts/science elective at the 100-level.
Year 2	AQUA 200; BSAD 101; 6 credits PSCI at the 200-level; 6 credits SOCI or ANTH; PSCI, SOCI and/or ANTH electives; AR-designated courses; arts or science electives.
Year 3	AQUA 325 and preparation for AQUA 400; PSCI, SOCI and/or ANTH credits; AR-designated courses; arts or science electives.
Year 4	AQUA 400, 450; PSCI, SOCI and/or ANTH credits; AR-designated courses; arts or science electives.

BBA with Aquatic Resources Major

Year 1	AQUA 100; ECON 101, 102; BIOL 112; ESCI 171; BSAD 101, 102; one of ANTH 110, PSCI 100 or SOCI 100.
Years 2 and 3	AQUA 200, 325; BSAD 221,223, 231, 261, 331, 341, 332; BSAD electives (including 3 credits TECH); INFO 101, 102; MATH 205; STAT 201; AR-designated courses; arts or science electives.

Year 4 AQUA 400, 450; BSAD 456, 471, 472; BSAD electives; AR-designated courses; arts or science electives.

B.Sc. Major in Biology and Major in Aquatic Resources

Year 1 AQUA 100; ECON 101, 102; BIOL 112; ESCI 171; MATH 111,112; 6 credit science elective at the 100-level (CHEM 100 is recommended for those intending to major in biology or earth sciences).

Years 2 and 3 AQUA 200, 325; BSAD 101; BIOL 201, 202, 203, 204; STAT 231; AR-designated courses; arts or science electives.

Year 4 AQUA 400, 450; minimum of 3 credits BIOL at the 400-level; BIOL electives; AR-designated courses; arts or science electives.

B.Sc. Major in Earth Sciences and Major in Aquatic Resources

Year 1 AQUA 100; ECON 101, 102; BIOL 112; ESCI 171; MATH 111,112; 6 credit science elective at the 100-level (CHEM 100 is recommended for those intending to major in biology or earth sciences).

Years 2 and 3 AQUA 200, 325; BSAD 101; 3 or 6 credits CHEM; ESCI 201, 215, 216, 246, 271, 275 or 276, 305, 366, 386, 387; AR-designated courses; arts or science electives.

Year 4 AQUA 400, 450; ESCI 406, 465, 471; AR-designated courses; arts electives.

B.Sc. Major in Mathematics, Statistics, and Computer Science and Major in Aquatic Resources

Year 1 AQUA 100; ECON 101, 102; BIOL 112; ESCI 171; MATH 111,112; 6 credit science elective at the 100-level.

Years 2 and 3 AQUA 200, 325; BSAD 101; 6 credits science electives; MATH 253, 277, 265, 287; CSCI 125, 235; STAT 231; AR-designated courses; arts or science electives.

Year 4 AQUA 400, 450; MATH 367, 387; AR-designated courses; arts and/or science electives.

All courses are restricted to Aquatic Resources Majors or permission to enroll may be requested of the ISAR co-ordinator and instructor.

100 Introduction to Aquatic Resources I: Natural Science Applications

This course explores the living and non-living characteristics that determine the nature of aquatic resource ecosystems, and examines human interaction with these resources. Case studies expose students to the natural as well as some of the social science applications of aquatic resource use, while field trips and laboratory exercises introduce the methodologies used to study these ecosystems. Lab and field trips. Six credits.

200 Introduction to Aquatic Resources II: Social Science Applications

This course explores the political, economic and sociological dimensions of aquatic resource systems. It examines both freshwater and ocean environments. In the process, key concepts and frameworks of social science are applied to a variety of case studies, historical and contemporary. Topics include watershed politics, multiple resource use, integrated watershed management, alternative governance arrangements, coastal communities, the move toward sustainable fisheries and aquaculture and coastal and ocean management. Six credits.

325 Aquatic Resources Field Camp

This course is a week-long field camp on integrated watershed management, convened during the final week of the summer. It consists of assigned reading, talks by experts in the watershed management and field trips to watershed sites. Students must complete the field camp prior to the beginning of either their third- or fourth-year of study. No credit.

400 Work Experience/Student Internship

Students will spend the equivalent of one term, normally the summer between the junior and senior year, gaining hands-on experience in an aquatics-related work setting. Placements may include research labs, aquatic resource businesses, community organizations, public policy agencies. To focus the applied learning experience, students develop a topic for special study, in collaboration with the work experience provider and an academic advisor. Prerequisite: AQUA 200. Three credits.

450 Senior Seminar in Aquatic Resources

The seminar represents the capstone for students completing their aquatic resources major. Each year the seminar considers an important interdisciplinary theme in the aquatics field. Students also develop and present the results of their major essay projects. Visits by ISAR guest speakers are co-ordinated with seminar work. Three credits.

AR-Designated Courses, by Department

Note: [AR] will appear after all AR-designated courses in the academic calendar information for each of the disciplines in question

Anthropology		Credits
ANTH 223	Anthropology of Globalization	3
ANTH 233	Ethnographic Studies	3
ANTH 243	Principles of Archaeology and Prehistoric Societies	3
ANTH 253	Origin of Cities	3
ANTH 303	Anthropological Theory	3
ANTH 304	Principles and Methods of Fieldwork	3
ANTH 305	Anthropological Data Analysis	3
ANTH 310	Anthropology of Tourism	3
ANTH 320	Anthropology of Development	3
ANTH 331	Anthropology and Indigenous Peoples	3
ANTH 332	Mi'kmaq Studies	3
ANTH 341	North American Archaeology	3
ANTH 342	Ancient Mesoamerica	3
ANTH 371	Archaeological Field Methods	3
ANTH 372	Archaeological Laboratory Methods	3

Biology		Credits
BIOL 201	Animal Biology	3
BIOL 202	Plant Biology	3
BIOL 203	Introductory Ecology	3
BIOL 221	Humans and the Environment I	3
BIOL 222	Humans and the Environment II	3
BIOL 306	Ichthyology	3
BIOL 307	Field Biology	3
BIOL 311	Marine Biology I	3
BIOL 312	Marine Biology II	3
BIOL 321	Environmental Ecology of Mariculture	3
BIOL 407	Integrated Resource Management	3
BIOL 472	Freshwater Ecology	3

Business Administration		Credits
BSAD 101	Introduction to Business	3
BSAD 102	Business Decision-Making	3
BSAD 221	Introductory Financial Accounting	3
BSAD 231	Foundations of Marketing	3
BSAD 261	Foundations of Management	3
BSAD 332	Marketing Research	3
BSAD 356	Entrepreneurship/New Venture Development	3
BSAD 381	Operations Management	3
BSAD 472	Business, Sustainability, and Profitability	3

Computer Science		Credits
CSCI 235	Micro-computers in Science	3

Development Studies
Inquire with ISAR co-ordinator or program officer

Earth Sciences		Credits
ESCI 271	Environmental Earth Science	3
ESCI 272	Global Change and the Climate System	3
ESCI 305	Geochemistry of Natural Waters	3
ESCI 366	Hydrology	3
ESCI 386	Oceanography	3
ESCI 387	Coastal Oceanography	3
ESCI 406	Advanced Environmental Geochemistry	3
ESCI 465	Hydrogeology	3
ESCI 471	Geographic Information Systems	3
ESCI 472	Ocean-Atmosphere Interactions	3

Economics		Credits
ECON 201	Intermediate Microeconomic Theory I	3
ECON 211	Local and Community Development Economics	3

ECON 241	Canadian Economic Policy & Problems	3
ECON 301	Intermediate Microeconomic Theory II	3
ECON 281	Environmental Economics	3
ECON 341	Regional Economics	3
ECON 342	Maritime Economy	3
ECON 381	Natural Resource Economics	3
Mathematics		Credits
MATH 287	Natural Resource Modelling	3
MATH 387	Mathematical Modelling	3
Philosophy		Credits
PHIL 210	Philosophy of Science	6
PHIL 333	Environmental Ethics	3
Political Science		Credits
PSCI 220	Canadian Politics	6
PSCI 240	Business and Government	6
PSCI 250	World Politics	6
PSCI 321	Federalism	3
PSCI 322	Atlantic Canada	3
PSCI 341	Canadian Public Administration	3
PSCI 342	Canadian Public Policy	3
PSCI 343	Law and Politics	3
PSCI 346	The Politics of Resource Management	3
PSCI 347	Politics of the Environment	3
PSCI 351	Canadian Foreign Policy	3
Sociology		Credits
SOCI 300	Research Methods	6
SOCI 301	Classical Social Theory	3
SOCI 302	Topics in Contemporary Theory	3
SOCI 307	Qualitative Research Methods	3
SOCI 321	Sociology of Atlantic Canada	3
SOCI 360	Social Policy	3
SOCI 366	Coastal Communities	3
Statistics		Credits
STAT 201	Elementary Statistics	3
STAT 231	Statistics for Students in the Sciences	3
STAT 331	Statistical Methods	3

9.4 ART

I.M. Delgado, MFA
S. Gregory, Ph.D.

Part Time

K. Brown, BFA
J. Fecteau, BA
M. Gibson, MFA
G. Hills

J. Vusich, Ph.D.
R. Young, M.Ad.Ed.

S. Jan, BA
M. MacFarlane, BFA
G. McCulloch
M. Nicholson, B.Ed.Sc.
I. Pygott
L. Quigley, BA
J. Redgrave, F.A.Dip.
B. Segal, MGDC
B. Sparks, BFA, MA
A. Syperek, BFA
O. Tetu

Art courses may be used as electives, a pair, or minor.

Minor in Studio Art

ART 100; 141 and 142 and 12 additional credits in studio courses It is recommended that students take ART 141 and 142 before their senior year.

Minor or Subsidiary in Art History

ART 141, 142, and 18 additional credits in art history courses.

100 Drawing

An elementary course in drawing and composition with mixed media, including some work in color. The focus will be on line, skeletal forms, planes, mass forms, still life and the figure. Six credits.

115 Introduction to Design I

This studio course introduces basic design elements and principles providing students with a working knowledge of how visual communication is structured. Three credits.

125 Materials and Methods

Students will create small works in watercolor, oil, acrylic and egg tempera. The goal is a working knowledge of each medium's properties, brush handling, supports, and preservation. Three credits.

141 History of Art I

A survey of the visual arts in the western world from prehistoric cave paintings to the great Gothic cathedrals of the late Middle Ages. This will include the art of the ancient world-Egypt, Greece and Rome-as well as Byzantine, Islamic and European art of the Medieval period. Three credits.

142 History of Art II

Beginning with the Italian Renaissance this course continues with an examination of the Western European tradition: the Baroque, Neoclassicism, Romanticism, the 19th Century, and the revolution of Modernism in the early 20th century. Three credits.

145 Introduction to Color

This course deals with the vocabulary, nature and physical properties of color: hue, value and intensity. Studio assignments provide practice in learning color relationships in unified and contrasting color schemes. Three credits.

200 Painting I

An introduction to watercolor and acrylic painting techniques. Work on drawing skills, design, color and composition will be emphasized. Prerequisite: ART 100 or portfolio demonstrating drawing and design skills. Six credits.

202 Scenic Design

This course will cover the steps in the creation of theatre sets. The course will be, principally, project based with 'hands on' experience at each stage of the growth from conception to finished project. Facts and theory, while covered, will be subordinate to the creative process. There will be a series of smaller projects each week, which in turn will lead to the completion of a major design project for a play chosen by the instructors. Prerequisite: ART 100 or permission of the instructor based on the student's resume of theatre experience or letter of interest. Three credits.

203 Stage Properties and Costume Design

This course will concentrate on lighting design for theatre. Prerequisite: Art 100 or permission of the instructor based on the student's resume of theatre experience or letter of interest. Three credits.

211 Stained Glass Studio I

Original design and color compositions are combined with studio work in stained glass. Three credits.

212 Stained Glass Studio II

Original design and color compositions are combined with studio work in stained glass. Prerequisite: ART 211. Three credits.

221 Batik Studio

Batik, an art form dating back thousands of years, is a method of making colored designs on textiles by waxing the parts not to be dyed. Prerequisite: ART 100 and/or 115 or portfolio demonstrating drawing and design skills. Three credits.

222 Weaving Studio

This course teaches the fundamentals of tapestry weaving. Students learn basic skills while completing a sampler tapestry, and then apply their newly acquired knowledge to a small tapestry of their own design. Students are introduced to the history of tapestry production through visual presentations. On occasion this course may be offered in conjunction with StFX Service Learning. Prerequisite: One of Art 100, 115, 145 or portfolio demonstrating drawing and design skills. Three credits.

231 Etching Studio I

Students will learn the basic techniques of intaglio printmaking: hardground, softground, drypoint and aquatint. They will be required to produce a series of prints demonstrating competence in each technique. Prerequisite: ART 100 or portfolio demonstrating drawing skills. Three credits.

232 Etching Studio II

Students will complete a portfolio of prints using the techniques learned in Etching Studio I. The emphasis will be on creativity. Prerequisite: ART 231. Three credits.

235 Chinese Art History

This course provides a brief history of Chinese art beginning with prehistoric ritual vessel decoration, continuing through the rise of ink painting, and concluding with

the golden age of the scholar painters and decorative artists, ca. 1700. Three credits. Not offered 2009-2010.

236 20th-Century Chinese Art History

This course will begin with a review of the late Qing Dynasty art of the nineteenth century and then cover twentieth-century visual culture in China. This period brought many political changes as the last dynasty ended and factions within and outside of China fought for control. The arts of this turbulent time were influenced by thousands of years of tradition as well as by contemporary political events, and ideas from the West. Prerequisite: ART 235. Three credits. Not offered 2009-2010.

240 Pastels

This studio course introduces pastels as a painting medium. Pastels consist of crayon-like sticks of compressed pigment in either a chalk or wax binder. It is an expressive, direct medium that has been widely used by the European and English masters. In this course, colour mixing and pastel techniques on a variety of papers will be explored. Students will complete a number of landscape, still life, and portrait paintings. Emphasis will be put on developing compositional skills using pastels. Prerequisite: ART 100. Three credits.

251 Medieval Art

A survey of major development in the art and architecture of the Middle Ages in Europe, from Early Christianity through the late Gothic period. The course will examine the how works of medieval art and architecture reflect and respond to changing theological, devotional and societal needs. Prerequisites: ART 141, 142 or HIST 100 or 110. Three credits.

252 Baroque Art

A survey of painting, sculpture and architecture and related visual arts in Europe during the 17th and early 18th centuries. The course will consider some of the major artistic centres of the period, in Italy, France, the Netherlands and Spain; and the work of major artists including Bernini, Caravaggio, Poussin, Rubens, Rembrandt, Vermeer and Velázquez. Prerequisites: ART 141, 142 or HIST 100 or 110. Three credits.

255 Watercolour - Techniques and Approaches

Students familiarize themselves with the materials and the basic techniques of transparent watercolour in this course. Instruction will include various classic and innovative approaches to this versatile medium, using paintings by well-known masters of the art of watercolour as a jumping-off point for their own exploration in the watercolour medium. Prerequisite: ART 100 or equivalent. Three credits.

258 Impressionism

An important movement in French painting during the second half of the 19th century, Impressionism greatly influenced modern art. This course will critically examine the subject in an historical and international context. Prerequisite: a survey course in art history or permission of the instructor. Three credits. Not offered 2009-2010.

260 20th Century: Modern Art

This course examines the origins of modernist endeavor in the late 19th century and covers art up to the end of World War II. Attention will be paid to major movements and artists, parallel movements in literature and music, the social and political context, and new technologies. Prerequisite: a survey course in art history. Three credits.

261 Contemporary Art

This course examines art from the end of World War II to the present day. Attention will be paid to major movements and artists, the social and political context, and changing assumptions about what art should be and do. Prerequisite: a survey course in art history. Three credits.

300 A Cultural and Intellectual History of Canada

This course is an historical analysis of Canadian literature, art, and architecture, and the intellectual forces that have shaped Canadian society. Cross-listed as HIST 300. Six credits.

312 Art and Politics

Cross-listed as PSCI 312; see PSCI 312. Three credits.

320 Painting II

A continuation of ART 200 with emphasis on composition, technique, and creativity in acrylic painting. Prerequisite: ART 200 or portfolio demonstrating painting skills. Six credits.

330 Catholicism and the Arts

Cross-listed as CATH 330; see CATH 330. Six credits.

343 Issues in Canadian Art Through World War II

Students will consider Canadian art practice and institutions from pre-European contact up to the Group of Seven. Topics can include aboriginal practice and the representation of native peoples, the construction of wilderness and place, and the role of the church in Quebec in the context of social and political change. Prerequisites: ART 141, 142 or survey of Canadian art or permission of the instructor. Three credits. Not offered 2009-2010.

344 Issues in Contemporary Canadian Art

Students will consider selected topics which can include: Michael Snow and his contemporaries, post-colonialism and contemporary aboriginal art, landscape and the critique of nature, feminism. Prerequisites: ART 141, 142 or survey of Canadian art, or permission of the instructor. Three credits. Not offered 2009-2010.

346 Botanical Art and Illustration: Drawing

This course will be concerned with developing drawing to accurately reproduce plant forms. Non flowering and flowering plant form and diversity will be covered using pencil, pen and ink. Prerequisite: ART 100 or portfolio demonstrating drawing or painting skills. Three credits.

347 Botanical Art and Illustration: Painting

This course will be concerned with developing drawing to accurately reproduce plant forms. Non flowering and flowering plant form and diversity will be covered using pencil and watercolour. Prerequisites: ART 100, 346 or portfolio demonstrating drawing or painting skills. Three credits.

350 Anatomy for the Artist: Skeleton and Musculature

This course covers anatomical terminology, the drawing of the skeletal bones (axial and appendicular) and musculature. Prerequisite: ART 100 or portfolio demonstrating drawing skills. Six credits.

356 Christian Art: The Life of Christ

Iconography is the identification and interpretation of images. This course is an introduction to the iconography of Christian art, with an emphasis on images of the Life and Passion of Christ. The course will examine how images develop over history, and how they may be understood in light of historical events, changes in theological thought, and in the artist's own spirituality. Prerequisites: ART 141, 142 or permission of the instructor. Three credits.

357 Christian Art: The Saints

This course is an introduction to the iconography of Christian art, with an emphasis on images of Mary and the saints. The course will examine how images develop over history, and how they may be understood in light of historical events, changes in theological thought, and in the artist's own spirituality. Discussion will include how such images were used as objects of personal devotion but also for the conveying of important theological and social values. Prerequisites: ART 141, 142 or permission of the instructor. Three credits.

363 Advanced Drawing I

Through the use of still life and the figure, this course concentrates on drawing techniques and materials. It reinforces composition and the elements of good design introduced in Art 100 and 200. Prerequisite: ART 100 or 350 or a portfolio approved by the instructor.

364 Advanced Drawing II

This course deals with exclusively with the figure, the classic subject of drawing. Live models are present for all classes. The professor will demonstrate techniques and give critiques of class work. Students are required to do assignments outside of class. Prerequisite: ART 100 or 350 or a portfolio approved by the instructor.

371 Italian Renaissance Art I

A survey of the visual arts in Italy from the late 13th C through the end of the 15th C (from early Gothic painters such as Giotto to the precursors of the High Renaissance in Florence and Venice). The course will consider works of art from the point of view of artistic style and technique, and will also examine how the work of art functions within its social and cultural context. Prerequisites: ART 141, 142 or HIST 100 or 110 or permission of the instructor. Three credits.

372 The Northern Renaissance

This course is an examination of the art of the Renaissance in Northern Europe. It will proceed more or less chronologically from the late Gothic period through the mid-sixteenth century. We will consider matters of artistic style and technique

(in painting, sculpture and the graphic arts), but will also examine what works of art can tell us about what people thought was important in Renaissance France, Germany, and the Netherlands. Many interesting social changes during the period, such as the Protestant Reformation, had profound consequences for art in the North. Prerequisites: ART 141, 142 or HIST 100 or 110 or permission of the instructor. Three credits.

373 Italian Renaissance Art II

A survey of the visual arts in Italy from the late 16th C, beginning with the new grand manner developed by Leonardo da Vinci and Michelangelo. With the development of the idea of artistic genius, problems linked to artistic license arose as the century progressed. The course will consider works of art from the point of view of artistic style and technique, and will also examine how the work of art functions with its social and cultural context. Prerequisites: ART 141, 142 or HIST 100 or 110 or permission of the instructor. Three credits.

385 Selected Topics I

The topic for 2009-2010 will be Design II. A companion course to ART 115, this course provides an opportunity for students to build a portfolio of work based on their knowledge of visual communication design. Design process and creative problem solving will be emphasized. A working knowledge of photo editing and web software would be helpful. Use of a laptop and digital camera are required. Projects will focus on 2D and website designs. Prerequisite: ART 115 or portfolio approved by the instructor. Three credits.

386 Selected Topics II

Prerequisite: ART 100 or 350 or portfolio approved by the instructor. Three credits.

387 Cartooning and Humorous Illustration

In term one, students will learn the concepts, techniques, and methods of creating cartoon characters and humorous illustrations, and writing stories and gags. In term two, students will work on the finished concept in a variety of media, including pen and ink, brush, marker and pencil, in both black and white and color, developing a personal style of expression, both visual and conceptual. Prerequisite: Art 100 or portfolio demonstrating drawing skills. Six credits.

399 Directed Study Seminar

See section 3.5. Three credits.

435 Seminar in Italian Renaissance Art

This course will be an intensive investigation into an aspect of Italian Renaissance art. Topics may include: Michelangelo and his biographers; Giorgio Vasari's *Lives of the Artists*; Raphael in Rome; Renaissance art in Venice; Italian Mannerism. Students will learn to use and assess important primary sources from the Renaissance period, and will also examine the secondary literature in some depth. Prerequisite: ART 370, or 372 or permission of the instructor. Three credits.

499 Directed Study

See section 3.5. Three or six credits.

9.5 BIOLOGY

J.A. Buckland-Nicks, Ph.D.

A. Brackenbury, Ph.D.

M.E. DeMont, Ph.D.

M.E. Galway, Ph.D.

D.J. Garbary, Ph.D.

L.L. Graham, Ph.D.

V. Karunakaran, Ph.D.

R.F. Lauff, M.Sc.

W.S. Marshall, Ph.D.

J. E. McKenna, Ph.D.

A.G. Miller, Ph.D.

M. Pulsifer, M.Sc.

R. Rasmussen, Ph.D.

R.A. Scrosati, Ph.D.

N. Seymour, Ph.D., Senior Research Professor

B.R. Taylor, Ph.D.

P.J. Williams, Ph.D.

R.C. Wyeth, Ph.D.

Biology is the science of living organisms and their interactions in the world around us. Many biology courses deal with the human condition, as well as the influence that humans have on the global environment. The biology department offers courses that emphasize the structure and function of organisms from the

molecular level to the level of global ecology. Programs of study are available in microbiology, animal and plant biology, cell and molecular biology, ecology and evolution.

The major, advanced major, and honours degrees prepare students for advanced training and careers in basic and applied biology and in the biomedical sciences; for graduate study in biology, medicine, dentistry, physiotherapy, and veterinary science; for teaching at both the primary and the secondary level.

Biology is a highly integrative science that is informed by a conceptual background in other sciences including mathematics, chemistry, physics, and earth sciences. Joint degree programs with these and other sciences are available. In addition to the regular biology programs, students may also study biology through the Interdisciplinary Studies in Aquatic Resources program or the Environmental Sciences program.

Department Requirements

The biology core program (BIOL 111, 112, 201, 202, 203 and 204) is usually a prerequisite for all third- and fourth-year BIOL courses.

Students wishing to complete a pair in biology should take BIOL 111, 112, 201 and 202. BIOL 201, 202, 203, 204 are normally taken in the second year.

Science students who must take BIOL 203 as part of their program may not use BIOL 221 as credit for science A.

Credit for BIOL 111 and 112 with an average of 55 is required for all students continuing in biology programs.

CHEM 100 is a prerequisite for all second-year BIOL courses, except 251 and 252.

Advanced major and honours students normally take CHEM 225, 255 and STAT 231 in their second year. Students interested in the health professions should take CHEM 220 in their second year.

CSCI 235 is recommended for students who lack basic skills in word-processing, spreadsheets, and computer-assisted presentations.

Biology students may take no more than six credits of cross-listed courses as BIOL credits.

The biology department provides guidelines for students wishing to explore a specific area of biology. Joint programs are available for those interested in studying two scientific areas. A co-op education program is also available in biology.

Major Program

Program requirements are given in chapter 7. Students in the major program must take BIOL 111, 112, 201, 202, 203, 204 and 18 additional biology credits, of which 12 credits must be at the 300 or 400 level, to complete 36 credits for science A.

Advanced Major and Honours Program

Program requirements are given in sections 5.1 through 5.3. Honours and advanced major students select their courses in consultation with the department chair. PHYS 100 or 120 is required in the honours program and may count as science A. In the advanced major program PHYS 100 or 120 is strongly recommended but may not count as science A. BIOL 491 is a required, non-credit course taken in the fourth year. Course requirements are shown below.

Advanced Major Program

Students must take BIOL 111, 112, 201, 202, 203, 204, 491; CHEM 100, 220 or 225 and 255; MATH 111, 112; STAT 231. An additional 24 BIOL credits, of which 18 must be at the 300 or 400 level (at least 3 credits must be BIOL at the 400 level, other than 491); 18 credits arts electives, to include one pair; 15 credits approved electives; 24 credits open electives.

Honours Program

Students must take BIOL 111, 112, 201, 202, 203, 204, 491, 493; CHEM 100, 220 or 225 and 255; MATH 111, 112; PHYS 100 or 120; STAT 231; An additional 33 credits of BIOL or other approved science courses, of which 24 credits must be at the 300 or 400 level (at least 3 credits must be BIOL at the 400 level, other than BIOL 475, 491 or 493); 18 credits arts electives to include one pair; 15 credits approved electives; 6 credits open electives.

Joint Honours and Joint Advanced Major

Joint honours and joint advanced major programs may be offered with other departments. For course patterns see sections 7.2 and 7.3. Students considering a joint honours or advanced major should consult with the relevant department chairs as early as possible.

Biology and Environmental Sciences

See section 9.20

[AR] Indicates Designated Course in Aquatic Resources

105 Introductory Cell and Molecular Biology

This course will focus on the structure and function of cells, cell division, patterns of inheritance, and the molecular basis of inheritance. Restricted to nursing students. Three credits and tutorial.

111 Introductory Cell Biology

An introduction to cells, their structure and function, and the techniques used to study them. Provides a basic introduction to cells as the building blocks of all life. Required for all students continuing in biology. Three credits and lab.

112 Diversity of Life

This course emphasizes the interrelationships of living systems and their roles in global ecology, exploring organismic diversity, functional morphology, and ecology from an evolutionary perspective. Required for all students continuing in biology. Three credits and lab.

115 Microbes in Human Biology

An introduction to microorganisms from a human perspective, this course deals with viruses, bacteria and fungi. Topics include bacterial structure and function, bacterial genetics and antibiotic resistance, and viral structure and infection. Restricted to nursing students. Prerequisites: BIOL 105. Three credits and tutorial.

201 Animal Biology [AR]

An introduction to major groups of animals, emphasizing the structure, physiology and way of life of certain species. Prerequisite: an average of 55 in BIOL 111, 112. Three credits and lab.

202 Plant Biology [AR]

An introduction to the diversity, form and function of plants emphasizing the biology of land plants. Organisms are treated from the perspectives of evolution, reproduction, physiology, and ecology. Prerequisite: an average of 55 in BIOL 111, 112. Three credits and lab.

203 Introductory Ecology [AR]

An introduction to the fundamental concepts of ecology, focusing on factors affecting the abundance and distribution of plant and animal populations. Prerequisite: an average of 55 in BIOL 111, 112. Three credits and lab.

204 Introductory Genetics

An introduction to the mechanisms of inheritance, genome structure, and genetic analysis. Concepts include: DNA structure and function; gene regulation, mutation, repair, linkage; gene manipulation. Laboratory involves problem solving and genetic crosses with fruit flies. Prerequisite: an average of 55 in BIOL 111, 112. Three credits and lab.

221 Humans and the Environment I

This course introduces the basic science necessary to understand a number of current environmental issues. Within each broad area, the mechanisms and dynamics of the living and non-living systems will be covered, with the goal of understanding how human activity can alter the structure and function of terrestrial ecosystems. Prerequisites: Open to arts or science students in their third or fourth year and second year environmental sciences students. Three credits.

222 Humans and the Environment II

This course introduces current environmental issues related to resource use and environmental degradation. After a brief introduction to resource types and use, both non-renewable and renewable energy sources are discussed, followed by water, mineral, and food/soil resources. In each case, the course material will progress from global, Canadian, and finally Nova Scotian perspectives. The last half of the course will deal with environmental degradation, and will provide students with an understanding of cause, extent, and impacts of all forms of pollution. Prerequisites: BIOL 203 or BIOL 221. Three credits.

231 Plants and Civilization

An introduction to the role of plants in human affairs. Topics will include plants as medicine, food, fibres, and psychoactive agents. The course will introduce basic plant structure, and integrate chemistry with utilization. Important themes will be the role of plants in aboriginal cultures and the processes of plant domestication and breeding. Prerequisite: BIOL 112 (science students); ANTH 110 (arts students); or permission of the instructor. Three credits and lab. Not offered 2009-2010.

251 Human Anatomy and Physiology I

Using an integrated approach to the study of the integumentary, skeletal, muscular, nervous and endocrine systems, this course provides students with a comprehensive working knowledge of the anatomy and physiology of these systems. First priority given to students in human kinetics, human nutrition and nursing. Three credits and lab.

252 Human Anatomy and Physiology II

An integrated study of the cardiovascular, respiratory, urinary, reproductive and digestive systems, this course provides students with a comprehensive working knowledge of the anatomy and physiology of these systems. First priority given to students in human kinetics, human nutrition and nursing. Prerequisite: BIOL 251. Credit may be awarded for only one of BIOL 252 and 304. Three credits and lab.

285 Paleontology: The History of Life

Cross-listed as ESCI 285; see ESCI 285. Three credits and lab.

Note: Any student wishing to take a 300-level course must have either the biology core program or a minimum average of 70 in BIOL courses and permission of the instructor.

301 Form and Function in Animals

This course will introduce and apply the physical concepts required to understand form and function in the complexity of biological processes. Prerequisites: BIOL 201; PHYS 100. Three credits and lab.

302 Evolution

An introduction to the evolutionary process, including natural selection and adaptation, Darwin and his detractors, the process of speciation, methods of phylogenetic reconstruction, human evolution. Prerequisites: BIOL 201, 204. Three credits and evening lab.

303 Human Biomechanics

This course provides a mechanical analysis of physiological processes such as blood flow and introduces the basic physical principles. Current issues from the field of biomedical engineering will be introduced. Prerequisites: BIOL 201; PHYS 100. Three credits and lab. Students may not obtain credit for both BIOL 303 and HKIN 376. Not offered 2009-2010.

304 Vertebrate Physiology

This course uses an integrative approach to study the function of organ systems, including neural, cardiovascular, muscular, respiratory, renal, reproductive and endocrine. Examples of how vertebrates, including humans, respond to different demands imposed by their environment and activities will be discussed. Prerequisite: BIOL 201. Three credits and lab.

306 Ichthyology [AR]

Introduces students to the diversity of fish in terms of morphology and physiology, ecology, and behavior, as well as the basic concepts of fisheries science and management. The emphasis will be on a global perspective for the lecture component, while laboratory work will focus on Atlantic Canadian species and conditions. Prerequisites: BIOL 201, 203. Three credits and lab.

307 Field Biology [AR]

Provides practical experience in the observation, collection, identification and quantification of organisms in nature. Held for two weeks in intersession, the course emphasizes field ecology, dealing with some or all of the following groups of organisms: birds, small mammals, fish, plants, marine algae, marine invertebrates, insects. Prerequisite: BIOL 203. Three credits and lab.

311 Marine Biology I [AR]

An introduction to marine habitat and the ecological factors that determine population regulation and community structure for marine organisms. The course will include an overview of marine ecological theory, field work, and laboratory observations, focusing on Nova Scotia shores. Prerequisite: BIOL 203. Three credits, lab and literature research project.

312 Marine Biology II [AR]

This course focuses on animal life in the marine environment. Lectures emphasize the ecological and functional relationships among organisms in selected marine habitats such as coral reefs, intertidal zone and deep sea. Human use of and impact on marine resources is discussed. Prerequisite: BIOL 201. Three credits and lab. Not offered 2009-2010.

315 Introductory Microbiology

Provides a broad perspective on the microbial world and its role in the biosphere. The diversity, morphology and physiology of prokaryotic microorganisms will

be discussed. Laboratories stress basic microbiological techniques including microscopic examination, isolation from natural environments, enumeration and examination of physiology. Prerequisites: biology core program and either CHEM 220 or 225, and 255. Open to human kinetics students upon completion of BIOL 201, 204; CHEM 220 or 225 and 255. Open to human nutrition students upon completion of BIOL 111, CHEM 225, 255. Three credits and lab.

317 Molecular Biology

An introduction to the isolation and analysis of peptides and nucleic acids using standard molecular methodology. Topics include: electrophoretic techniques; manipulation of DNA, encompassing the introduction of foreign DNA into host cells and the use of gene cloning, gene amplification, and DNA sequencing. In labs students will apply these methods in interpreting gels and in creating genetically modified bacteria. Prerequisites: BIOL 204, 315; CHEM 220 or 225, and 255. Three credits and lab.

320 Biology of Cancer

An introduction to the problem of cancer, emphasizing the cellular and molecular biology of carcinogenesis in humans and model systems. The multi-causal, multi-step nature of the process will be highlighted, including the role of viruses, oncogenes, carcinogens and ionizing radiations. Students will write an article on an aspect of cancer research. Prerequisites: BIOL 204, 395. Three credits and lab.

321 Environmental Ecology of Mariculture [AR]

This course explores the environmental implications of mariculture, the aquaculture of marine species. Students are introduced to the various types of mariculture with emphasis on Canadian examples, and then to the environmental impact of mariculture on coastal marine ecosystems, including legal implications and licensing practices. Prerequisites: AQUA 100 and BIOL 203; or the biology core program. Three credits and lab.

331 Statistical Methods

Cross-listed as STAT 331; see STAT 331. Three credits and a one-hour lab.

335 Developmental Biology

An introduction to animal embryology placed in a modern context. Laboratories emphasize key events in the embryogenesis of selected animals, including experiments on metamorphosis and regeneration. Prerequisite: BIOL 201. Three credits and lab. Not offered 2009-2010.

342 Invertebrate Zoology

A comparative study of the morphology, behavior, physiology, ecology and taxonomy of invertebrate animals. Students will learn in both lecture and lab the remarkable diversity of both form and function in these animals, while also learning to ask critical questions about the organisms and designing experiments that will lead to further insight into invertebrate zoology. Prerequisite: BIOL 201. Three credits and lab.

343 Comparative Anatomy of Vertebrates

A comparative study of the anatomy and evolution of chordate animals with emphasis on the vertebrates. In the laboratory, students will study the anatomy of representative vertebrates and will complete a project focusing on native species. Prerequisite: BIOL 201. Three credits and lab.

345 Communities and Ecosystems

A lecture and seminar course outlining the theory of ecosystem ecology. Included are the fundamental processes of mineral cycles, energy flow and internal regulation of communities. The concepts of succession, food webs and biodiversity are illustrated with comparative examples drawn from aquatic and terrestrial ecosystems. Prerequisite: BIOL 203. Three credits.

384 Experimental Research in Biology

This course provides training in experimental design and data analysis, with emphasis on research questions that are common in biology. All relevant aspects of experimental research will be covered, i.e., identifying a problem, formulating a hypothesis, designing an experiment, analyzing and interpreting data, and delineating future research steps. Concepts and techniques will be applied with numerical examples. Prerequisite: BIOL 203. Three credits and lab.

385 Animal Behavior

An introduction to the principles of ethology drawing on examples from all animal phyla, with an emphasis on vertebrates. Students learn the physiological, ecological and evolutionary bases of behavior. Topics covered will span simple reflexes through complex social behaviors, including, for example, locomotion,

predation, communication, mating, and human behaviors. Participation in field trips is required. Prerequisite: BIOL 201. Three credits and lab.

395 Cell Biology

An introduction to the eukaryotic cell, including relationships between biochemical mechanisms and organelle functions, and techniques used to study cell function. Prerequisite: CHEM 220 or 255. Three credits and lab.

401 Comparative Physiology and Biophysics

An introduction to the physical aspects of biological systems, including the application of solid and fluid mechanics to living systems and the mechanics of locomotion. Prerequisite: BIOL 301. Three credits and lab.

403 Physiology of Sensations

This course introduces students to the anatomical structures, neural pathways, and physiological mechanisms utilized to sense our external environment. Emphasis will be placed on proprioception in humans, spinal reflexes, equilibrium, vision, smell, taste, and auditory perception. Current literature will be discussed as it relates to each of the senses. Prerequisites: BIOL 201, 251 and 252 or BIOL 304. Three credits and lab.

404 Comparative Endocrinology

Covers principles and concepts in vertebrate and invertebrate control systems, including the principal actions of hormones and neurohormones, hormone interactions, and endocrine disorders. Prerequisite: BIOL 252 or 304. Three credits and lab.

407 Integrated Resource Management [AR]

An introduction to integrated resource management planning and land-use decision-making in an industrial landscape, using the principles of landscape ecology, ecosystem management and conservation biology. Lectures examine the challenges of biodiversity conservation, and wildlife and water management using these methods within the context of forest management. Guest lecturers from industry and other land user groups will discuss the opportunities, constraints, and problems presented by multi-stakeholder approaches. Prerequisite: BIOL 203. Three credits and lab.

415 Biogeography

A lecture and seminar course on the description and interpretation of past and present distributions of plants and animals. There will be integration of evolutionary, ecological and historical concepts, and both aquatic and terrestrial organisms will be considered. Prerequisite: BIOL 302. Three credits and evening tutorial. Not offered 2009-2010.

417 Microbial Pathogenics

This course provides a general overview of a human host's defense mechanisms, including immune and inflammatory responses, and describes the pathogenic interactions between humans and different types of microbes with an emphasis on bacterial systems. Prerequisites: BIOL 201, 204, 315. Three credits.

430 Genes and Development

Introduces the molecular-genetic basis of development in multi-cellular organisms, and the use of model organisms, mutants, gene cloning and gene engineering to explore how genes, proteins and cells interact in the development of animal and plant bodies. Laboratory work focuses on the study of development in the fruit fly, *Drosophila* and the mustard cress, *Arabidopsis*. Prerequisites: BIOL 204, 395. Three credits and lab. Not offered 2009-2010.

450 Advanced Topics in Behavioral Neuroscience

Cross-listed as PSYC 430; see PSYC 430.

470 Environmental Microbiology

Examines the role of prokaryotes in the bio-geochemical cycling of elements, describing some of the more unusual prokaryotes, such as the ecto- and endo-symbionts of marine organisms, photosynthetic and bioluminescent bacteria. Topics include: the contributions of microbes to the development of soils; microbial mats and stromatolites; bog metal deposits; acid drainage. Labs examine microbial ecosystem development and diversity. Prerequisite: BIOL 203, 204, 315. Three credits and lab.

472 Freshwater Ecology [AR]

A study of the physical, chemical and biological features of fresh water that affect the abundance and distribution of plants and animals. Includes field trips to local freshwater ecosystems. Prerequisite: BIOL 203. Three credits and lab.

474 Environmental Biology of Soils

An introduction to the diversity of soil organisms and their roles in ecosystem processes. The nature of soil as habitat for bacteria, fungi, and animals, and the connections between soil and the aboveground environment will be considered along with the role of soils and soil organisms in decomposition, nutrient cycling, plant nutrition and ecosystem succession. Students must complete a semester-long lab project. Prerequisite: BIOL 203. Three credits and lab.

475 Accessing the Biological Literature

Library resources and on-line databases will be used to write an essay relevant to the honours student's interest or thesis. Restricted to honours students. Three credits.

481 Selected Topics

The topic for 2009-2010 is Development and Evolution. Three credits.

491 Senior Seminar

Seminars on topics of major biological interest are presented by faculty members and visiting scientists. Required for all biology advanced major and honours students in their final year of study. No credit.

493 Honours Thesis

For details, see the department website or the chair. Three credits.

499 Directed Studies

Students with an average of at least 75 may, on a tutorial basis under the guidance of a professor, pursue an area of interest not normally offered by the department. Three credits and seminar.

GRADUATE COURSES

501	Advanced Biomechanics
502	Advanced Topics in Membrane Biology
504	Topics in Vertebrate Physiology
511	Advanced Marine Ecology
515	Topics in Microbiology
517	Topics in Molecular Biology
525	Advanced Cell Biology
533	Advanced Topics in Biometrics
551	Advanced Population Ecology
571	Advanced Topics in Ecology
580	Seminars in Phycology
585	Topics in Avian Biology
590	Topics in Botany
595	Topics in Cell Biology
598	Research
599	Thesis

9.6 BUSINESS ADMINISTRATION

D. Anthony, MBA
 K. Collins, Ph.D.
 R. Delorey, PMP, MBA
 M. Diochon, Ph.D.
 G. Durepos, MA
 M. Fuller, Ph.D.
 C. Galea, Ph.D.
 L. Gallant, MBA, CFP, FCA
 S. Litz, Ph.D.
 B. Long, MBA
 K. MacAulay, Ph.D., CA
 R.F. Madden, MBA, FCA
 T. Mahaffey, Ph.D.
 N. Maltby, MBA
 B. Morrison, MBA
 B. Mukerji, Ph.D.
 M. Oxner, Ph.D., CA, CFA
 V. Vishwakarma, Ph.D.

Part Time

C. Gillies, LL.B.

The objective of the Bachelor of Business Administration program is to teach students the knowledge, skills, perspectives, and attitudes to help them become effective managers. To attain this objective the BBA program combines

the acquisition of conceptual knowledge with the development of analytical, communication and leadership skills. Each stream in the BBA program consists of an integrated set of required courses in BSAD, ECON, INFO, MATH, and STAT, complemented by elective courses in the arts and/or sciences.

BBA students work with faculty who have significant practical business experience and whose research interests are relevant to practicing managers. Faculty employ a variety of applied learning approaches (projects, presentations, simulations, field trips). In-class learning approaches include class discussions, case analyses, lectures, readings, films and guest speakers. The goal is to ensure that each graduate is prepared to contribute effectively in large or small organizations, or to begin graduate study.

The BBA program provides 15 streams: BBA general; BBA with aquatic resources; BBA Major in accounting, enterprise development, finance, information systems, leadership studies, and marketing; BBA Honours in accounting, enterprise development, finance, information systems, leadership studies, and marketing; and BBA Joint Honours in business administration and economics. Each BBA stream offers a primarily classroom-based option and a co-op, work-study option.

Students who wish to study business administration and another discipline may choose the B.Sc. with Advanced Major in a Science with Business Administration (see chapter 7); the BA with Major or Advanced Major in economics and a minor in business administration (see section 9.16); or the BIS program (see section 9.24).

To earn a BBA degree, students must successfully complete courses with a combined value of 120 credits. All BSAD courses are one-term, three-credit courses. Normally BBA students earn 30 credits per year for each of four years. At least 36 of each student's 60 BSAD credits must be earned at StFX.

Transfer students should consult with the department chair prior to registration to confirm their course selections.

Department Requirements:**Arts/Science Electives**

BBA students must earn 36 credits of arts/science electives. Normally these credits are earned as 12 credits (2 full-year courses or equivalent) in each of years one to three. The arts/science electives must include, a pair (12 credits), in each of two different subjects. The third 12 credits of arts/science electives may be additional courses in paired subjects or courses in other subjects.

Economics, information systems, mathematics and statistics courses required to earn the BBA degree may not count as arts/science electives.

At least one of the two pairs must be in an arts subject. For maximum flexibility, students are advised to complete at least one arts/science pair by the end of their second year.

For allowable arts and science subjects, see section 5.1.3.

The following professional and applied subjects are not permitted as arts/science electives are:

Adult Education	Human Kinetics
Aquatic Resources	Human Nutrition
Education	Information Systems (see below)
Engineering	Nursing

Computer Science 100 (CSCI 100) may not count toward the BBA degree since BBA students have credit for INFO 101. However, students may use other CSCI courses as arts/science electives or as a pair.

Economics courses (ECON) may count as an arts pair except for BBA students enrolled in the joint honours in business administration and economics degree. All BBA students may count ECON courses as electives.

Information Systems (INFO) courses may count as BSAD electives with permission of the chair. INFO courses may also count as open electives. INFO courses may not count as arts/science electives for BBA students.

Earning a Minor in an Arts or Science Elective Subject

Any BBA student earning 24 of the 36 arts/science electives in one arts subject qualifies for a minor in that subject. BBA students contemplating a minor in a science subject should consult the department chair as some restrictions apply. Students earning a minor in an arts or science subject must still earn a pair in a second subject.

Open Electives

All BBA streams except joint honours in business administration and economics include six credits of open electives. Students may satisfy this requirement by

completing BSAD courses, arts/science courses (as above) or, with permission of the appropriate chair or dean, courses in selected subjects not normally permitted as arts/science electives including information systems, engineering, human kinetics, human nutrition and nursing.

BSAD/INFO Tech-Designated Elective

During their third or fourth year BBA students, except those in the major or honours in information systems streams, must earn credit for one of eight information and communications technology electives:

- BSAD 319 Management of Information Technology
- BSAD 415 Electronic Business
- BSAD 416 Project Management and Practice
- BSAD 418 Topics in Information Systems
- INFO 245 Introduction to Enterprise Resource Planning (ERP)
- INFO 275 Database Management Systems
- INFO 348 Advanced ERP using SAP
- INFO 448 Implementation, Configuration and Use of ERP

Admission to the BBA Program

General admission requirements for the BBA program are outlined in chapter 1. Admission to the BBA program may be restricted based on quotas, general average, and course grades, as specified by the StFX University Senate.

Advancement in the BBA Program

BSAD 200-level courses are prerequisites for 300-level courses. Admission to 400-level courses normally requires completion of one or more courses at the 300 level. Permission of the instructor to register in a course may override the normal prerequisites.

Substitutions

A BBA student may substitute courses in subjects other than business administration for BSAD electives. Substitutions are not automatic. Students must apply in writing to the department chair indicating the career or program rationale for requesting a substitution.

Students with credit for MATH 111 in these programs may wish to substitute MATH 111 for the MATH 205 requirement.

Students in the joint honours in business administration and economics, majors in finance, and majors in information systems may substitute ECON or INFO courses for selected BSAD courses with the permission of the chair.

Affiliations with Professional Associations

The Department of Business Administration maintains ongoing relationships with the Atlantic School of Chartered Accountancy, the Certified General Accountants' Association, and the Society of Management Accountants. Graduates may earn credit for most courses toward completion of the CA, CGA or CMA professional accounting designations. Graduates may also earn credit for courses the Canadian Institute of Management Program, the Fellows Program of the Institute of Canadian Bankers, and other professional certification programs.

300- and 400-Level BSAD Electives

Many BSAD electives at the 300 and 400 level may be taken in either the third or fourth year. Permission of the instructor to register in a course may override the normal prerequisites.

Co-op Work Terms

Once admitted to the co-op program, students may choose three four-month work terms or one 12- to 16-month term. Each work term provides students with valuable experience. After each term, students participate in seminars and write a report which integrates theoretical course material with the work and learning experiences.

BBA General Degree

- | | |
|--------|--|
| Year 1 | BSAD 101, 102; ECON 101, 102; INFO 101, 102; 12 credits arts/science electives |
| Year 2 | BSAD 221, 223, 231, 261; STAT 201; MATH 205; 12 credits arts/science electives |
| Year 3 | BSAD 341; 15 credits BSAD electives; 12 credits arts/science electives |
| Year 4 | BSAD 471; 3 credits tech elective; 18 credits BSAD electives; 6 credits open electives |

BBA with Aquatic Resources Major

Students seeking to build an integrated knowledge and skills base to assume management positions in private and public sector aquatic enterprises will find

the BBA with Aquatic Resources an ideal alternative. The degree combines studies in management, marketing, accounting and finance on a base of public policy and aquatic science. Students participate in a summer work internship between their third and fourth years and undertake a major research project in their senior year.

- | | |
|--------|--|
| Year 1 | BSAD 101, 102; ECON 101, 102; AQUA 100; ESCI 171; BIOL 112; 6 credits arts/science electives |
| Year 2 | INFO 101, 102; BSAD 231, 261; STAT 201; MATH 205; 12 credits AR-designated courses |
| Year 3 | BSAD 221, 223, 331, 341, 332; 9 credits BSAD electives; 6 credits AR-designated courses |
| Year 4 | BSAD 471, 456, 472; 12 credits BSAD electives; 3 credits tech elective; AQUA 400, 450 |

BBA Major Degrees

The BBA program offers majors in accounting, enterprise development, finance, information systems, leadership studies, and marketing.

Accounting

- | | |
|-------------|--|
| Years 1 & 2 | Same as general degree |
| Year 3 | BSAD 321, 322, 323, 324, 341, 342; 12 credits arts/science electives |
| Year 4 | BSAD 424, 471; 3 credits tech elective; 15 credits BSAD electives (at least 6 credits must be from the 420 series); 6 credits open electives |

Enterprise Development

- | | |
|-------------|---|
| Years 1 & 2 | Same as general degree |
| Year 3 | BSAD 331, 341, 356; 9 credits BSAD electives; 12 credits arts/science electives |
| Year 4 | BSAD 332, 457 (or 456), 458, 471; 3 credits tech elective; 9 credits BSAD electives; 6 credits open electives |

Finance

- | | |
|--------|---|
| Year 1 | Same as general degree |
| Year 2 | ECON 201, 202; BSAD 221, 223, 231, 261; STAT 201; MATH 205; 6 credits arts/science electives |
| Year 3 | BSAD 341, 342; 12 credits BSAD electives; 12 credits arts/science electives |
| Year 4 | BSAD 471, 492; 3 credits tech elective; 9 credits from the BSAD 34_ or 44_ series or BSAD 454; 6 credits arts/science electives; 6 credits open electives |

Note: For the major in finance stream ECON 201, 202 are regarded as BSAD electives.

Information Systems

- | | |
|--------|--|
| Year 1 | BSAD 101, 102; ECON 101, 102; INFO 101, 102; 12 credits arts/science electives |
| Year 2 | BSAD 221, 223, 231, 261; STAT 201; MATH 205; INFO 245, 275; 6 credits arts/science electives |
| Year 3 | BSAD 319, 341, 361, 381; 6 credits BSAD/INFO electives; 12 credits arts/science electives |
| Year 4 | BSAD 415, 471, 492; BSAD/INFO 416; INFO 415; 9 credits BSAD/INFO electives; 6 credits open electives |

Leadership Studies

- | | |
|-------------|---|
| Years 1 & 2 | Same as general degree |
| Year 3 | BSAD 341, 358, 361, 362; 12 credits BSAD electives; 6 credits arts/science electives |
| Year 4 | BSAD 461, 471, 492; 6 credits BSAD electives; 3 credits tech elective; 6 credits open electives; 6 credits arts/science electives |

Marketing

- | | |
|-------------|--|
| Years 1 & 2 | Same as general degree |
| Year 3 | BSAD 331, 341; 12 credits BSAD electives including 3 from the BSAD 33_ or 43_ series; 12 credits arts/science electives |
| Year 4 | BSAD 332, 471, 492; 12 credits BSAD electives including 9 from the BSAD 33_ or 43_ series; 3 credits tech elective; 6 credits open electives |

BBA Honours Degrees

The BBA program offers honours degrees in accounting, enterprise development, finance, information systems, leadership studies, and marketing; and a Joint Honours Degree in Business Administration and Economics.

All BBA Honours degrees follow the same patterns as the major degrees except students substitute BSAD 391 for a BSAD elective in year three and substitute BSAD 494 for 492 in year four.

BBA Joint Honours Degree

The normal course sequence for the BBA with Joint Honours in Business Administration and Economics.

Joint Honours in Business Administration and Economics

Year 1	Same as general degree
Year 2	BSAD 221, 223; STAT 201; MATH 111 or 205; ECON 201, 202, 301, 302; 6 credits arts/science electives
Year 3*	BSAD 231, 261, 341, 391; 6 credits ECON electives at the 300/400 level; 12 credits arts/science electives
Year 4*	BSAD 471, 494; ECON 493; 9 credits ECON electives at the 300/400 level; 3 credits tech elective; 3 credits BSAD elective; 6 credits arts/science electives

* If the honours thesis is done in the economics department, BSAD 494 is replaced by ECON 494, and three credits ECON elective are replaced by three credit BSAD elective.

The Gerald Schwartz School Co-op Program

The Schwartz School offers a co-op, work-study option, The Expanded Classroom. BBA and BIS students may earn their degrees by completing a 12 month co-op placement following their third year or by completing three four-month co-op placements during their third and fourth years. To prepare for the co-op placement, students must complete several personal skill development workshops. To remain in the co-op program, BBA and BIS students are required to maintain an average of at least 70. For further details consult the StFX website or contact the appropriate department chair.

Business Administration Courses

All BSAD courses are one-term, three-credit courses. Normally students take 200-level courses in second year, primarily 300-level courses in third year and primarily 400-level courses in fourth year.

Not all BSAD electives at the 300 or 400 level are offered every year.

[AR] Indicates Designated Course in Aquatic Resources

[Tech] Indicates Technology Elective

101 Introduction to Business [AR]

An introduction to the Canadian business environment including exposure to the issues, trends, forces, organizations and personalities affecting businesses in Canada. The course exposes students to the types of teaching/learning experiences they will encounter in the BBA program, including case studies, teamwork, exercises, presentations, simulations, readings and lectures. Three credits.

102 Business Decision-Making [AR]

Introduces students to the challenge of making business decisions, to the primary areas of business (management, marketing, operations, finance), and to the role of the general manager. The course provides an introduction to the core vocabulary and analytical tools appropriate to the functional areas, and helps students develop their analytical, presentation, small-group management, and self-management skills. Prerequisite: BSAD 101. Three credits.

221 Introductory Financial Accounting [AR]

An introduction to the basic concepts, principles and procedures underlying financial accounting and financial statement preparation. Required for all BBA students; a prerequisite for all 300- and 400-level financial accounting and finance courses. Prerequisite: second-year status or higher. Three credits.

223 Introductory Managerial Accounting [AR]

An introduction to the basic concepts of management accounting and the use of accounting information for managerial decisions. Required for all BBA students; a prerequisite for all 300- and 400-level courses in managerial accounting. Prerequisite: second-year status or higher. Three credits.

231 Foundations of Marketing [AR]

Customers do not buy products: they buy benefits, satisfactions, and solutions to their problems. This course provides students with the customer and marketplace focus central to effective marketing. The course employs exercises and cases to develop students' analytical skills and provides opportunities to demonstrate these skills through memos and reports. Prerequisites: BSAD 101, 102. Three credits.

261 Foundations of Management [AR]

Introduces students to the role and function of managers in organizations and covers the changes taking place in organizations and their environments. Topics include: the history of management thought, the changing business environment, organization structure, approaches to business strategy, communication and presentation skills. Prerequisites: BSAD 101, 102. Three credits.

319 Management of Information Technology [Tech]

A management-level overview of information systems and related planning, organizational and control issues. The course covers fundamental concepts in systems, computing and communications technology, applications, information management, systems development, internal control, and strategic uses of information technology. Prerequisite: third- or fourth-year status. Three credits.

321 Intermediate Managerial Accounting I

Develops the ability to request and use accounting information in the process of planning and control. Topics include cost accounting, cost and revenue analysis for decision-making, budgeting, and performance analysis. Prerequisite: BSAD 223. Three credits.

322 Intermediate Managerial Accounting II

Examines in greater depth the topics introduced in BSAD 321, applying the concepts to more complex cases. Essential for students pursuing a career in accounting; useful to non-accounting students with an interest in managerial uses of accounting information. Prerequisite: BSAD 321. Three credits.

323 Intermediate Financial Accounting I

An examination of accounting and reporting problems of the business enterprise as they relate to published financial statements. The course examines controversial aspects of financial accounting with reference to current writings and the pronouncements of professional accounting bodies. Emphasis is placed on income measurement and accounting for assets. Prerequisite: BSAD 221. Three credits.

324 Intermediate Financial Accounting II

A continuation of the examination of accounting and reporting problems of the business enterprise as they relate to published financial statements. Emphasis is placed on accounting for debt, equity and special topics. Prerequisite: BSAD 323. Three credits.

331 Marketing Management

Marketing strategies are developed to capitalize on marketplace opportunities and overcome marketplace problems. The key components of an overall marketing strategy are selection, positioning, product-service, pricing, distribution, and promotion. Students will create and implement marketing strategies in a variety of settings, using cases and projects to develop effective communication skills. Prerequisite: BSAD 231. Three credits.

332 Marketing Research [AR]

The role of marketing research is to provide relevant, timely, valid information to reduce uncertainty in decision-making. This course examines the research process, including problem definition, data sources, research types, sampling, measurement, data collection and data analysis. Although the context is marketing, the research process examined is applicable to all areas of business research. Prerequisites: BSAD 231; third- or fourth-year status. Three credits.

333 Professional Sales: Building Relationships

This course addresses the nature of professional selling. The course covers changes in the traditional selling process; strategically planning sales within a larger account strategy; strengthening communications; and building partnerships. Prerequisite: BSAD 231. Three credits.

341 Introductory Financial Management

Covers fundamental aspects of financial decision-making, including financial analysis and planning, valuing stocks and bonds, capital budgeting, accessing capital markets, the cost of capital, and working capital management. Prerequisite: BSAD 221. Three credits.

342 Cases in Financial Management

Enhances students' knowledge of the financial management topics covered in BSAD 341 through the application of financial decision-making techniques and theories to business cases. Topics include risk and capital budgeting, dividend policy, leasing, and bond refunding. Prerequisite: BSAD 341. Three credits.

345 Personal Financial Management

This course draws on the principles of finance and applies them to decisions faced by individuals in the management of their personal finances. The course

explores the planning process using readings, cases and problems. Prerequisite: BSAD 341 or permission of the instructor. Three credits.

351 Business Law

Introduces the legal system in Canada and provides a practical examination of laws affecting Canadian businesses, including: forms of ownership; the management and composition of corporations; the powers and duties of the board of directors; contract law (sale of goods, employment, insurance, real estate); creditor-debtor rights including bankruptcy; and the initiation and conduct of civil court actions. Third- or fourth-year status. Three credits.

356 Entrepreneurship/New Venture Development [AR]

This course uses a new venture context to examine small business and entrepreneurship. Students will develop, operate, and wind down a campus-based business, building the knowledge and skills to launch a new venture successfully, and learning that both technical business knowledge and entrepreneurship are needed to deal effectively with uncertainty and change. Prerequisites: BSAD 221, 223, 231, 261. Three credits.

357 International Business Management

This course examines the theory and methods of doing business internationally. International Business Management involves selected aspects of globalization, international trade theory and policy, culture, the global monetary system, international operations, marketing and strategy. Prerequisites: BSAD 221, 223, 231, 261. Three credits.

358 Business and Society

An examination of the role and responsibilities of managers of public and private enterprises in dealing with social and ethical issues regarding their employees, suppliers, customers, government and society generally. Prerequisite: BSAD 261. Three credits.

361 Organizational Analysis

Introduces students to four perspectives for making sense of organizational dynamics: structural, human resource, political, and symbolic. Classes feature lectures and discussion of key ideas, and case-based application of the perspectives to gain insight into challenging work situations. Students work with peers in teams. Prerequisite: BSAD 261. Three credits.

362 Career Dynamics

Considers the concept of career in today's competitive realities. The course focuses on the transition from the culture of university learning (pay to work) to the culture of contributing value in an organization (work for pay), and provides opportunities for students to develop personal strategies and tactics for making the transition from university studies to good work. Prerequisite: BSAD 361 or permission of the instructor. Three credits.

363 Human Resource Development

Describes the functions of human resource management, including personnel planning, selecting, testing, training, developing, evaluating and compensating. Prerequisite: BSAD 261. Three credits.

367 Current Challenges: Women in Management

Reviews the recent growth of women managers in today's organizational world. Students examine gender roles in organizations and identify some of the barriers women experience in reaching the top. The course explores the systemic discrimination facing women, and presents potential management models for women and men. Cross-listed as WMNS 367. Prerequisite: BSAD 261. Three credits.

381 Operations Management [AR]

This course takes an integrated, systems-oriented approach to the operations function of manufacturing and service organizations. Students will explore operations decision-making using the underlying disciplines: behavioral, quantitative, economic, and systems. Prerequisite: third- or fourth-year status. Three credits.

391 Foundations of Management Research

An introduction to effective research in business and management. Topics include: the scientific method in management research; approaches to issues in management; developing conceptual models and hypotheses; defining a thesis; conducting a literature search; evaluating research; and understanding the limitations of management research. Required for all honours students; open to other third- and fourth-year BBA students with an average of at least 70 as a BSAD elective. Three credits.

415 Electronic Business [Tech]

Cross-listed as INFO 446; see INFO 446. Three credits.

416 Project Management and Practice [Tech]

This course covers the factors necessary for successful management of system development or enhancement projects. Technical and behavioral aspects of project management are discussed. Prerequisite: INFO 415. Cross-listed as INFO 416. Three credits.

418 Topics in Information Systems [Tech]

This course will explore in detail a current topic or issue in information systems. Content will vary from year to year. Restricted to BIS and BBA/IS major students. Prerequisite: INFO 135. Cross-listed as INFO 418. Three credits.

424 Financial Accounting Theory

A study of the development of accounting theory and the relationship of theory to practice. Major contributions to accounting theory will be examined. Prerequisite: BSAD 323. Three credits.

425 Auditing

An examination of audit strategy, procedures, and risk, as well as reporting standards and ethical and legal considerations in the current business environment. Emphasis is placed upon the theory of auditing in the context of the attest function. Prerequisite: BSAD 323. Three credits.

426 Advanced Accounting I

Develops an understanding of the financial reporting process by examining theory and practice in the management of financial disclosure. The course also deals with the accounting treatment of inter-corporate investments and consolidations. Prerequisite: BSAD 324. Three credits.

427 Management Control Systems

Focuses on managing organizational performance to optimize the implementation of organizational strategies. Within an established framework, this course reviews the process through which an organization manages performance, and specific techniques that are used to control the implementation of strategy. Concepts are reinforced via case analysis. Prerequisite: BSAD 321. Three credits.

428 Advanced Accounting II

Examines such accounting topics as the financial reporting of international activities, non-business organizations, and estates and trusts. The reporting requirements for interim and segmented financial statements and bankruptcy and receivership are examined. Prerequisite: BSAD 426. Three credits.

431 Services and Non-Profit Marketing

Focuses on instilling a customer orientation for service and non-profit organizations. Students will learn how to manage demand fluctuations, employees, and the customer mix. Prerequisite: BSAD 231. Three credits.

432 Retailing

Focuses on improving the management of retail institutions in Canada through a marketing orientation. Areas considered include the retail environment, store layout, product mix control, channel effort, and financial management. Prerequisite: BSAD 231. Three credits.

434 Marketing Communications

Focuses on the design and implementation of integrated marketing communication strategies. Advertising and sales promotion activities are emphasized. Topics include: defining the roles and objectives of marketing communications; selecting media; creating advertisements; and evaluating results. Prerequisite: BSAD 231. Three credits.

435 Sales Force Management

An introductory course in sales force management. Topics include: organizing the sales effort; establishing territories and quotas; hiring, training, compensating and supervising sales people; analyzing and evaluating the sales effort; and the ethical responsibilities associated with a sales career. Prerequisite: BSAD 231. Three credits.

443 Investment Management

Examines marketable securities as an investment medium, and the analytical techniques that may be employed in selecting a security and meeting an individual investor's requirements. Prerequisite: BSAD 341. Three credits.

444 Advanced Financial Management

Considers a broad range of financial management issues using the theory and procedural skills developed in earlier courses and applied to comprehensive case situations. Topics include working capital management, capital structure,

dividend policy, cost of capital, capital budgeting, and mergers and acquisitions. Prerequisite: BSAD 342. Three credits.

446 Selected Topics in Finance

Examines in greater depth the topics introduced in earlier finance courses. Topic selection is based on the interests of the instructor and students. Prerequisite: permission of the instructor. Three credits.

448 International Financial Management

This course focuses on financial management of the firm in the international marketplace. It provides grounding in the academic literature on international financial management, and develops professional decision-making skills. Students will read extensively and class discussions will include current issues and business cases. Prerequisites: BSAD 341, 342 or permission of the instructor. Three credits.

454 Taxation

Examines the Canadian tax system with emphasis on the Income Tax Act and its effect on business decisions. The course examines the determination of income for corporations and individuals, the taxation of corporate distributions, and the computation of tax. Prerequisite: 341. Three credits.

456 Small Business Management

This course examines the unique aspects of managing a small firm, its growth and its harvest. The course incorporates current theory and practice in dealing with a variety of general management topics, and students will gain practical decision-making experience in small business management issues. Prerequisites: BSAD 221, 223, 231, 261. Three credits.

457 Social Entrepreneurship/Community Enterprise Development

The context, models, trends, opportunities, and challenges associated with social entrepreneurship focus on areas of public concern such as economic development, education, community welfare, and healthcare. These issues are examined using case studies, group projects, and experiential learning. Emphasis is on how entrepreneurship is combined with the tools of business to create effective responses to social needs and innovative solutions to social problems. Prerequisite: BSAD 356. Three credits.

458 Research Project: Enterprise Development

Students in the enterprise development major are required to complete a field-based project. This project may be completed for or with a community-based economic development organization or as the implementation of a new venture business plan. Approved projects may be completed either during the summer after third year or during the fourth year. Restricted to enterprise development majors; equivalent to BSAD 492 for other majors. Three credits.

461 Leadership

This course will provide students with a solid understanding of the theoretical and practical aspects of leadership. Students will learn how leadership skills can be fostered, and will develop their capacities for motivating and coaching others. Prerequisite: BSAD 261. Three credits.

462 Industrial Relations

Examines the history, current structure, and future of industrial relations in Canada, including trade unions and management, collective bargaining, and contract administration. Students will benefit from guest lectures and from engaging in negotiation-simulation exercises. Prerequisite: BSAD 261. Three credits.

464 Negotiation and Conflict Management

Managers are constantly negotiating and dealing with conflict. This course will equip students with the tools to negotiate their personal and corporate objectives and to deal with and resolve conflicts in organizations. The key elements of negotiation and conflict-resolution will be learned through theoretical discussion, skill-building workshops, and negotiation and conflict resolution exercises. Prerequisite: BSAD 361. Three credits.

466 Lessons in Leadership from Legends and Literature

This course approaches the concept of leadership by examining profiles of selected leaders and exploring contemporary approaches to leadership via literary works and films. Three credits.

467 Leading Change: The Challenge of Creating and Sustaining Organizational Change

A major challenge facing all organizations is how to adapt to change. Pressures for change come from many areas, including social, technological, demographic,

environmental, and political. This course explores the challenge of leading and sustaining organizational change, including starting a change process, the challenges leaders face when initiating change, and sustaining change. Prerequisite: BSAD 361. Three credits.

468 Selected Topics in Leadership

This course builds on previous leadership courses. Topic selection is based on the interests of students and the instructor, and may include lessons in leadership drawn from literature and the arts. Prerequisites: BSAD 361, fourth-year status. Three credits.

471 Business Policy

Employing case studies, lectures and presentations, this course examines the formulation and implementation of corporate strategy. Restricted to seniors. Prerequisite: BSAD 341. Three credits.

472 Business, Sustainability, and Profitability [AR]

For years, business has been portrayed as responsible for much of the social inequity and environmental degradation around the world. This course explores ways in which business can be a positive force in global sustainability. From this perspective, business is the dominant organizing force with the capital, global reach, flexibility, dynamism, and self-interest to make economic, social, and environmental sustainability a reality. Prerequisite: BSAD 361. Three credits.

492 Consulting Project for Majors

Exposes students to applied research in business through completion of a consulting assignment. Required for all majors in finance, information systems, leadership studies, and marketing. Open to fourth-year honours students as a BSAD elective. Prerequisite: fourth-year status. Three credits.

494 Honours Thesis

Under the supervision of a faculty member, honours students will prepare and submit a thesis. Normally students develop and present draft proposals as part of BSAD 391, then complete the proposal, conduct the fieldwork and present/defend their theses as part of BSAD 494. Prerequisite: BSAD 391. Three credits over the full year.

9.7 CANADIAN STUDIES

J. Bickerton, Ph.D.,

Co-ordinator

Students in BA programs may count as a pair or minor (subject B) courses that have as their common characteristic substantial Canadian content. The minor must be made up of at least two subjects and not more than three, and may not include any course at the 100 level. Subjects (but not courses) drawn upon to make up such a concentration may also be used to make up other subject requirements for the BA degree. Courses acceptable for such a pair or minor are listed below.

	Credits
Anthropology	
ANTH 310 Anthropology of Tourism	3
ANTH 331 Anthropology and Indigenous Peoples	3
ANTH 332 Mi'kmaq Studies	3
ANTH 341 North American Archaeology	3
ANTH 435 Advanced Indigenous Issues	3
Art	
ART 300/HIST 300 A Cultural and Intellectual History of Canada	6
ART 343 Issues in Canadian Art Through World War II	3
ART 344 Issues in Contemporary Canadian Art	3
Development Studies	
DEVS 202 International Development: Canada	3
Economics	Credits
ECON 241 Canadian Economic Policy and Problems	3
ECON 310 Canadian Economic History	6
ECON 341 Regional Economics	3
ECON 342 Maritime Economy	3
ECON 391 Public Finance I: Expenditures	3
ECON 392 Public Finance II: Taxation	3
English	Credits
ENGL 263 Canadian Literature I: 18th and 19th Centuries	3
ENGL 264 Canadian Literature II: The 20th Century and After	3

ENGL 347	African-Canadian Literature	3
ENGL 348	First Nations Literature	3
ENGL 365	Canadian Prose Genres	3
ENGL 366	Special Topics in Canadian Literature	3
ENGL 367	The Canadian Novel	6
ENGL 368	Canadian Poetry	6
French		Credits
FREN 361	Acadian Literature	3
FREN 362	Acadian Language and Culture	3
FREN 363	Québécois Literature I	3
FREN 364	Québécois Literature II	3
History		Credits
HIST 200	A History of Canada	6
HIST 202	Western Canada: The Prairies	3
HIST 204	Western Canada: British Columbia	3
HIST 207	History of Quebec	6
HIST 209	The Maritime Provinces, 1500-1950	6
HIST 300	A Cultural and Intellectual History of Canada	6
HIST 308/MMNS 308	Canadian Women's Gender History	6
HIST 309	The Working Class in Canadian Society	6
HIST 310	Canadian Immigration and Ethnic History	6
HIST 314	Canada and the Cold War Era	3
HIST 341	A History of Canadian-American Relations	3
HIST 398/MMNS 398	Sexuality, Gender, and the Body in Historical Perspective	3
HIST 400	Seminar in Canadian History	6
Human Kinetics		Credits
HKIN 332/MMNS 332	Gender in Sport and Physical Activity	3
Political Science		Credits
PSCI 220	Canadian Politics	6
PSCI 240	Business and Government	6
PSCI 321	Federalism	3
PSCI 322	Atlantic Canada	3
PSCI 323	Parties and Elections	3
PSCI 324	Provincial Politics	3
PSCI 341	Canadian Public Administration	3
PSCI 342	Canadian Public Policy	3
PSCI 343	Law and Politics	3
PSCI 344	Citizenship and Identity	3
PSCI 345/MMNS 345	Women and Politics	3
PSCI 346	Resource Management	3
PSCI 351	Canadian Foreign Policy	3
PSCI 421	Canadian Politics I (Seminar)	3
PSCI 422	Canadian Politics II (Seminar)	3
Sociology		Credits
SOCI 210/MMNS 210	Sociology of Marriage and the Family	6
SOCI 215/MMNS 215	Race, Class, Gender, and Sex	6
SOCI 230	Sociology of Education	6
SOCI 290	Social Inequality	6
SOCI 312	Social Movements	3
SOCI 321	Sociology of Atlantic Canada	3
SOCI 322	The Antigonish Movement as Change and Development	3
SOCI 330	First Peoples	6
SOCI 350	Criminal Justice and Corrections	6
SOCI 360	Social Policy	6
SOCI 366	Coastal Communities	3
SOCI 424/MMNS 424	Women and Work	3

9.8 CATHOLIC STUDIES

R. Kennedy, Ph.D.

Co-ordinator

Advising Faculty

J. Cormier, Ph.D.

S. Gregory, Ph.D.

J. Khoury, Ph.D.

K. MacAulay, Ph.D.

A. Quigley, Ph.D.

Department

Chemistry

Erasmus Chair, Art

English

Business Administration

Adult Education

Catholicism stands essentially for a universal order in which every truth of the natural or social order can find a place.

- Christopher Dawson

Catholic studies is an interdisciplinary program in the theology, history, artistic culture, literature, philosophy, and institutions associated with Roman Catholicism.

Students who major in Catholic studies must take RELS 100 as a prerequisite to the program; 24 credits from the following core courses in Catholic studies; and 12 credits from the electives listed below.

200 An Introduction to Catholic Traditions and Culture

Required for all students who major in Catholic studies, this course examines the nature of the Roman Catholic faith. It also provides a history of the Church in four major areas: the early Church through the Trinitarian and Christological Councils; the development of the medieval Church; Reformation and Counter Reformation; the Church of the First and Second Vatican Councils. Topics will include liturgical celebration and sacraments. Six credits.

241 Sin and Salvation in the Catholic Tradition

This course will study the themes of sin and salvation as they appear in the Bible, in literature, and in two great theological controversies, the Pelagian controversy of the 5th century, and the Protestant Reformation of the 16th century. Three credits.

245 Christ in the Catholic Tradition

This course will examine the person, nature, and work of Christ as these are understood in the Catholic tradition. Topics and texts will include: the Bible, theological works from different historical periods, literary presentations of Christ, and artistic depictions of Christ. Three credits.

251 The End of the World in the Catholic Tradition

The purpose of this course is to give students an interdisciplinary understanding of eschatology, which is the study of theological and religious views about 'last things' (death, heaven, purgatory, hell). This topic will be presented from three points of view: historical sources, including scripture; doctrinal issues; artistic depictions. Three credits.

300 Classic Texts in Roman Catholicism

An interdisciplinary seminar on the works of important thinkers in the Catholic tradition such as Augustine, Anselm, Thomas Aquinas, Ignatius Loyola, Blaise Pascal, John Henry Cardinal Newman. The seminar focuses on one or two figures each year. Prerequisite: RELS or CATH 200 or permission of the instructor. Six credits.

321 Classic Debates in Christianity & Science

This course reviews the major historical developments in Christian teaching on science. The course has four parts: understanding the relationship between secular and Scriptural knowledge (or reason and faith) in the Early Church; creation and the philosophy of nature in the 13th century; Galileo and the Inquisition; and 19th-century debates over evolution. Three credits.

322 Contemporary Issues in Christianity & Science

This course examines the contemporary interaction between the sciences and Christianity. Topics may include: recent Christian responses to methodologies in the sciences; evolutionary theory and the interpretation of creation narratives in the book of Genesis; the meaning of human embodiment and its relevance to understanding sexuality and issues in bioethics; neuroscience and the phenomenon of religious experience; the impact of contemporary cosmology, technology, and biology on Christian theology. Three credits.

330 Catholicism and the Arts

This course traces literary, musical, and artistic themes in great Catholic art from early Christian to contemporary. Cross-listed as ART 330. Six credits.

341 Catholic Social Teaching

Rooted in scripture, philosophy, and theology, Catholic social teaching proposes principles of justice that emphasize the dignity of the person, the value of economic and political institutions, and the importance of a common good. This course explores these principles and their application to contemporary social, political, and economic issues with reference to official documents of the Catholic Church. Prerequisite: CATH 200 or permission of the instructor or third-year standing.

Electives

The following courses may be chosen as electives to complete the program in Catholic studies. Normally a student will take no more than 9 credits from any one

of these subject areas. Should a student take CATH 330, only 6 further credits may be taken from the art electives.

	Credits
Art	
ART 251 Medieval Art and Architecture	3
ART 252 Baroque Art and Architecture	3
ART 371 Italian Renaissance Art I	3
ART 372 The Northern Renaissance	3
ART 373 Italian Renaissance Art II	3
ART 435 Seminar in Italian Renaissance Art	3
Celtic Studies	
CELT 131 Celtic Civilization I	3
English	
ENGL 207 World Masterpieces II: Medieval and Renaissance	3
ENGL 312 17th-Century Literature	6
ENGL 390 Chaucer	6
ENGL 392 Medieval Literature	6
History	
HIST 335 Thought and Art in the Middle Ages: Monks, Scholastics, Scientists and Artists	6
Music	
MUSI 315 History of Music I	3
Philosophy	
PHIL 240 Philosophy of Religion	6
PHIL 361 Early Medieval Philosophy	3
PHIL 362 Philosophy in the High Middle Ages	3
Religious Studies	
RELS 253 Introduction to the Hebrew Bible	3
RELS 255 Introduction to the New Testament	3
RELS 265 Introduction to the Gospels	3
RELS 275 Introduction to Paul's Letters	3
RELS 323 Mary and the Identity of Women	3
RELS 325 Early Christian Women	3
RELS 363 The First Christians	3
RELS 365 Spirituality in Medieval Christianity	3
RELS 383 Reformation Christianity	3
RELS 385 Modern Christianity	3
RELS 440 Jesus	6
Sociology	
SOCI 322 The Antigonish Movement as Change and Development	3

9.9 CELTIC STUDIES

M. Linkletter, Ph.D.
Sr. M. MacDonell, Ph.D., Professor Emerita
M. Newton, Ph.D.
K.E. Nilsen, Ph.D.

Celtic studies encompasses a wide range of history, geography, and culture: from the ancient Celts of continental Europe to the modern Celtic peoples of Scotland, Ireland, Wales, Cornwall, Brittany, and the Isle of Man. The program focuses on the Gaelic language, history, and culture of Scotland, Nova Scotia, and Ireland. The department offers four years of Scottish Gaelic and two years of Irish Gaelic. The Celtic literature, history and folklore courses are taught in English and have no language requirement. However, CELT 420, an honours seminar, is taught in Gaelic.

Interest in Celtic studies has grown in recent years and a number of graduates of the program have found employment in the field; others have gone on to obtain advanced degrees in Celtic.

Students may count courses in Celtic history as courses in the Department of History.

Major Program

See chapter 4.

Advanced Major

Advanced majors must complete 36 credits in Celtic studies, including: CELT

100 or 110; 120 or 131 and 132; 200 or 210; 333 or 350; 6 credits CELT at the 400 level; 6 additional credits CELT; and a senior paper.

Honours Program

Honours candidates are required to complete: CELT 100; 120 or 131 and 132; 200; 110 or 300; 420 or 430; 490 (thesis); 27 credits CELT of which up to 12 credits may be cross-listed courses: CELT/ENGL 273, 274, 392.

Master of Arts

The Master of Arts degree may be offered in Celtic studies. See chapter 8.

100 Scottish Gaelic

Designed for students who have no knowledge of the language, this course provides instruction in basic Gaelic grammar, phonetics, and sentence structure. Texts and recordings are used for practice in reading and conversation. May not be taken concurrent with CELT 110. Six credits.

110 Irish Gaelic

An introduction to the Irish language as it is spoken in the Gaeltacht or Irish-speaking districts. Students will be introduced to the basics of spoken and written Irish. May not be taken concurrent with CELT 100. Six credits.

120 Celtic Literature

Designed to acquaint students with the wide scope of Celtic literature that has survived in both manuscript and oral tradition. Selections in translation will be chosen from poetry and prose in Irish, Scottish Gaelic, Manx, Welsh, Cornish, and Breton, with a view to establishing parallels and divergences among these literatures. Six credits. Not offered 2009-2010.

131 Celtic Civilization I

This course will provide an introduction to the Celtic peoples from earliest times to the Middle Ages. Topics will include history, language, art, literature, mythology and early Celtic Christianity. Three credits.

132 Celtic Civilization II

This course covers the Celtic languages and cultures of Scotland, Ireland, Wales, Brittany, the Isle of Man, and Cornwall from ca. 1500 to the present. Topics will include music, folklore, literature, present-day revival movements, and the meaning of Celtic culture in North America today. Three credits.

161 Selected Topics

The topic for 2009-2010 is Modern Welsh. This course will introduce students to basic Welsh. Students will learn to speak, read and write Welsh. May not be taken concurrently with CELT 100 or CELT 110. Six credits.

200 Second-Year Scottish Gaelic

Includes selected readings of riddles, proverbs, poetry, and folktales as well as conversation and composition. Six credits.

210 Second-Year Irish Gaelic

A continuation of CELT 110, this course introduces advanced grammatical concepts and includes conversation and composition practice. Readings from modern Irish literature and folklore will be used to illustrate differences in the three major dialects. The course will include an introduction to Irish script and the manuscript tradition. Six credits.

220 Celtic Paganism

This course examines the religious practices and beliefs of the ancient Celtic peoples that we can glean from archaeology, reports of Greek and Roman commentators, place-name evidence, and the mythology in medieval Irish and Welsh narrative tradition. Other topics include syncretism, the adaptation of pagan festivals into Christian holidays, the persistence of elements of paganism into the Christian era, witchcraft in Scotland and Ireland in the context of the European phenomenon and neo-Celtic paganism today. Three credits.

230 Celtic Christianity

This course is an exploration of the development of Christianity amongst the Celtic peoples. A major facet will be the medieval hagiographic tradition and saints' cults from the fourth to the twelfth centuries. Other topics include monasticism, peregrini, the Hiberno-Scottish mission to the continent, conflict with Roman Catholicism, material culture, the modern use of the term "Celtic Christianity," and the various types of Christianity in the Celtic countries. Three credits. Not offered 2009-2010.

300 Third-Year Scottish Gaelic

An advanced-level course with emphasis on attaining fluency. The course will concentrate on the Gaelic of Nova Scotia with readings from local publications.

The class will also work on transcribing recordings of local speakers. Prerequisites: CELT 100, 200. Six credits.

333 The Scottish Gael: Old World and New

In the first semester, the class will study Scottish history; in term two, we will examine the Scottish diaspora in North America. Six credits. Not offered 2009-2010.

340 Scottish Gaelic Poetry

Examines the influence and decline of the Irish classical period in the works of several major Scottish Gaelic poets of the 17th and 18th centuries, notably Mary MacLeod, Duncan Ban MacIntyre, Alexander MacDonald (MacMhaighstir Alasdair). Prerequisite: any CELT course or approval of the instructor. Six credits.

350 The Folklore of Ireland and Scotland

Studies in the oral traditions of Gaelic Ireland and Scotland, including the folktale; the storyteller; folklore collectors; folksong tradition; clan legends; fairies; psychic phenomena; calendar customs. Six credits.

353 Gaelic Music and Dance

This course examines the development of musical and dance traditions of Gaelic Scotland and Nova Scotia including Gaelic song, bagpipe and fiddle music, and various forms of solo and social dancing. The course emphasizes that music and dance cannot be studied in isolation but must be placed in the larger cultural context and in response to social and technological change. The concepts of "tradition" and "authenticity" guide our examination of the past and present. Three credits. Not offered 2009-2010.

361 Selected Topics I

An opportunity for students to explore topics not covered in other courses; content varies from year to year. Three credits.

362 Selected Topics II

A further opportunity for students to explore topics not covered in other courses; content varies from year to year. Three credits.

420 Seminar on Scottish Gaelic Immigrant Literature

A study of prose and poetry written in North America, emphasizing Nova Scotian examples, and including material from such current and historical publications as *MacTalla*, *Mosgladh*, *The Casket*, *Clàrsach na Coille*. Six credits. Prerequisite: three years of Gaelic.

430 Irish Gaelic Poetry

Explores the history of poetry in the Irish language: 500-2000 AD. The class will cover *Filíocht na Sgol*, metrics, religious poetry, nature poetry and eulogy. It will also deal with the rise of *amhrán* poetry and modern Irish poetry. Six credits. Not offered 2009-2010.

490 Honours Thesis

Three credits.

499 Directed Study

A directed study course in advanced topics in Celtic studies. See section 3.5. Three or six credits.

GRADUATE COURSES

Master of Arts in Celtic Studies

Consult the department chair for a list of available courses.

9.10 CHEMISTRY

M.A.S. Aquino, Ph.D.

J.F. Beck, Ph.D.

J.F. Cormier, Ph.D.

D. Klapstein, Ph.D.

D. Leait, Ph.D.

B. Lynch, Ph.D., Senior Research Professor

D.G. Marangoni, Ph.D.

B.J. MacLean, Ph.D.

E. J. McAlduff, Ph.D., Professor Emeritus

D. Morgan, Ph.D.

G. Orlova, Ph.D.

T. Smith-Palmer, Ph.D.

Chemistry deals with matter at the molecular and atomic levels, seeking to explain structures, properties, and reactions, and to develop syntheses of

new substances and new uses for known substances. The study of chemistry prepares graduates for advanced work in biology, engineering, geology, medicine, and other professions; for careers in industry, government agencies, science journalism, and teaching. StFX chemistry graduates can be found carrying out tasks as varied as art conservation, pharmaceutical research, and industrial product development.

Faculty members are actively engaged in pure and applied chemistry research, and opportunities exist for students to participate. Chemistry laboratories are equipped with a wide range of modern instrumentation, including spectroscopic equipment (atomic absorption, FT-infrared, multi-nuclear magnetic resonance, photoelectron, ultraviolet/visible); chromatographic analyzers; and instrumentation to carry out calorimetry, capillary electrophoresis, differential thermal analysis, polarography, and thermogravimetric analysis. Junior and senior courses involve frequent practical experience with this equipment.

The department offers honours, advanced major, and major programs at the B.Sc. level. Joint honours and advanced major programs are offered in conjunction with other science departments and business administration. General requirements are given in chapter 7.

Department Requirements

Students must choose their courses in consultation with the department chair; programs and required courses are listed below. Students considering an advanced major or honours degree must complete the physics and second mathematics requirements (see below) by the end of their second year and take CHEM 220, 245, 265 in their second year. Potential honours students should also take CHEM 231, 232 in their second year. All chemistry students are required to take CHEM 325 in the first term of their junior year. For the recommended course sequence, see the department's website at www.stfx.ca/academic/chemistry/

Chemistry students are required to attend all department seminars during their third and fourth years. Credit for a course may not be earned if the lab component is not reasonably completed. Students who are concerned that their health may be adversely affected by a lab should consult the professor or department chair. As well, students who are subject to a medical condition, e.g., frequent fainting, seizures, that may endanger them or others in a lab setting, are required to inform the professor, in confidence, so that steps can be taken to minimize the danger to the student and others in the lab.

Major

The course pattern for major in chemistry is:

CHEM	6 credits introductory (100 or 120); 3 credits analytical (265); 3 credits inorganic (245); 6 credits organic (220); 3 credits physical (231); 3 credits structural (325); 6 credits electives from 255, 321, 322, 331, 332, 341, 342, 355, 361, 362, 421, 422, 451, 452; 6 credits CHEM or other science; for a total of 36 credits; plus 391, 491(department seminars); if 331 is taken then CHEM 232 is also required
Science B	12 credits in another science
Science C	6 credits in another science (science B or C must be MATH and include MATH 111, 112 or 121 and 122)
Science electives	6 credits science electives
Arts X	12 credits in a humanities or social science discipline
Arts Y	12 credits in a humanities or social science discipline
Arts Z	6 credits in a humanities or social science discipline. Subjects X, Y, and Z must be different. One of X, Y and Z must be in humanities and another in social science.
Open Elec	30 credits

Advanced Major

The course pattern for advanced major in chemistry is:

CHEM	6 credits introductory (100 or 120); 9 credits analytical (265, 361, 362); 6 credits inorganic (245, 341); 6 credits organic (220); 6 credits physical (231, 232); 3 credits biochemistry (255); 6 credits electives which must include 331, 332, 342, 421 or PHYS 120, and 422; for a total of 42 credits; plus 391 and 491
Science B	12 credits in another science
Science C	6 credits of in another science (science B or C must be MATH and include MATH 111, 112 or 121 and 122)
Arts X	12 credits in a humanities or social science discipline
Arts Y	6 credits in a humanities or social science discipline
Approved Elec	18 credits approved electives; unless it is taken as a

science B or C course, these electives must include CHEM 325(structural), PHYS 120, and 6 credits must be from MATH 253, 254, 267, 367 (or 221). The balance must come from science, MATH, or CSCI courses or PHIL 210

Open Elec 24 credits

Honours

The course pattern for honours in chemistry is:

CHEM 6 credits introductory (100 or 120); 9 credits analytical (265, 361, 362); 9 credits inorganic (245, 341, 342); 12 credits organic (220, 421, 422); 12 credits physical (231, 232, 331, 332); 3 credits biochemistry (255); 3 credits honours thesis (493); 6 credits electives (may be in another science); for a total of 60 credits; plus 391 and 491

Science B 12 credits in another science

Science C 6 credits in another science (science B or C must be MATH and include MATH 111, 112 or 121, 122)

Arts X 12 credits in a humanities or social science discipline

Arts Y 6 credits in a humanities or social science discipline

Approved Elec 18 credits approved electives; unless it is taken as a science B or C course, these electives must include CHEM 325(structural), PHYS 120, and 6 credits must be from MATH 253, 254, 267, 367 (or 221). The balance must come from science, MATH, or CSCI courses, or PHIL 210

Open Elec 6 credits arts or science electives

B.Sc. with Joint Honours and

B.Sc. with Joint Advanced Major Degree

Joint honours and joint advanced major degree programs are available between chemistry and each of the following: biology, computer science, earth sciences, mathematics, physics, business administration advanced major only). Please note that a joint program may take more than four years to complete, and, where applicable, the physics and second six credits of mathematics must be completed by the end of the sophomore year. Interested students should consult the chair of the chemistry department.

Chemistry and Environmental Sciences

See section 9.20

Master of Science

Research fields available include various aspects of analytical, environmental, inorganic, organic and physical chemistry. General requirements for graduate degrees are outlined in chapter 8. For specific requirements, consult the chemistry faculty or department chair.

Note: All 200-level and higher chemistry courses require CHEM 100 or 120 as a prerequisite.

100 General Chemistry

The fundamental principles of chemistry, including atomic and molecular structure, bonding, elementary thermo-chemistry and thermodynamics, oxidation-reduction reactions, kinetics and equilibrium reactions with particular reference to the behavior of solutions, and an introduction to organic chemistry. This course emphasizes the application of chemical principles in areas of interest to students in the life sciences. Six credits and lab.

120 Principles of Chemistry

Reaction types and stoichiometry; applications of equilibria; principles of chemical thermodynamics; electrochemistry; atomic structure and models of chemical bonding; chemical kinetics; properties of gases, liquids, solids, and solutions; chemistry of the representative elements; introduction to organic chemistry. The applications are in areas of interest to students contemplating further studies in chemistry, engineering, mathematics, and the physical sciences. Six credits and lab.

150 Fundamentals of General and Biological Chemistry

Topics include: basic concepts of general chemistry; introduction to organic nomenclature and the reactivities of functional groups; coverage of the fundamentals of biological chemistry. May not be used as a prerequisite for any other chemistry course. Open to students in nursing, human kinetics, and arts; may not be taken for credit by other science students. Restricted enrollment. Six credits and lab.

220 Organic Chemistry

Areas of study include: the properties and reactions of common classes of organic compounds; relationships between the structures of organic compounds and their physical and chemical properties; relationships between these properties and their technological uses and biological activities; reaction mechanisms; spectroscopic techniques with emphasis on nuclear magnetic resonance; and stereochemistry. Prerequisite: CHEM 100 or 120. Six credits and lab.

222 Organic Chemistry II

The second term of CHEM 220; topics include aromatics, reaction mechanisms and spectroscopy. Prerequisite: CHEM 221. Three credits and lab.

225 Principles of Organic Chemistry

An introduction to organic chemistry. The course focuses on the properties and reactions of common classes of organic compounds; the relationship between the structures of organic compounds and their physical and chemical properties. Some reaction mechanisms are also covered. Prerequisite: CHEM 100 or 120. Three credits and lab.

231 Physical Chemistry I

An introduction to physical chemistry, this course begins with the properties of ideal and real gases; covers the fundamental principles of thermodynamics (the three laws of thermodynamics) and their application to physical and chemical transformations, and chemical reaction equilibrium and concludes with the chemical potential and its application to phase equilibria. Prerequisites: CHEM 100 or 120; MATH 111 and 112 or 121 and 122. Three credits and lab.

232 Physical Chemistry II

Building upon the principles developed in CHEM 231, this course describes the thermodynamics of real systems. Students will learn the applications of chemical thermodynamics, including phase equilibria in multi-component systems, ideal and real solutions, and electrochemistry; the principles governing the dynamics of systems, including the kinetic molecular theory of gases, transport properties, and the rates of chemical reactions. Prerequisite: CHEM 231. Three credits and lab.

245 Basic Inorganic Chemistry

An introductory course on the properties and uses of the main group elements; the practical and commercial uses of various inorganic compounds and elements; and the factors contributing to the energies and types of chemical bonds. Prerequisite: CHEM 100 or 120. Three credits and lab.

255 Introductory Biochemistry

Areas of study include the chemistry of carbohydrates, fats, proteins, nucleic acids and some enzymes. Biochemical energetics, metabolism pathways and some commonly used experimental biochemical techniques are also examined. Prerequisite: CHEM 220 completed (recommended) or concurrent or CHEM 225 or 221. Three credits and lab.

265 Basic Analytical and Environmental Chemistry

An introductory course which includes a survey of aqueous titration methods, the evaluation of analytical data, and an introduction to electrochemistry, UV visible absorption spectroscopy and chromatography. Prerequisite: CHEM 100 or 120. Three credits and lab.

321 Intermediate Organic Chemistry

A continuation of CHEM 220, this course covers: addition and condensation polymerization; di-valent carbon compounds; pericyclic reactions; Woodward Hoffmann rules; mass spectrometry of organic compounds; organic chemistry of sulfur, phosphorous, and silicon compounds; mechanisms of nucleophilic substitutions. Prerequisite: CHEM 220. Three credits and lab.

322 Heterocyclic Chemistry

The course consists of a survey of aromatic compounds, focusing mainly on aromatic heterocycles containing one or two heteroatoms. Synthesis, structural aspects, and chemical properties of these compounds will be examined. Some more complex special cases, including purine and pyrimidine systems, will also be included. Prerequisites: CHEM 220. Three credits and lab. Not offered 2009-2010.

325 Organic Structural Methods

Methods for deducing the structural features of organic compounds will be examined, with emphasis on the use of spectroscopic techniques. While the theory and instrumentation of each technique will be presented, the course will focus on the interpretation of spectral data to provide information on functional

groups, bonding, and stereochemistry. Use will be made of spectral data correlation charts, compilations and databases. Required for, and restricted to, students in degree programs where chemistry is science A. Required in the first term of the junior year. Prerequisites: CHEM 220, PHYS 120. Three credits and tutorial.

331 Introduction to Quantum Mechanics

The course deals with quantum mechanics and its applications to the structure of atoms and molecules. The topics covered are: the postulates of quantum mechanics and their applications to simple physical systems, including particle in a box; the quantum mechanical model for vibration and rotation of molecules; the hydrogen atom and many electron systems; introduction to the Variation Principle and Hückel's molecular orbital method. Prerequisite: CHEM 232. Three credits and lab/tutorial.

332 Introduction to Molecular Spectroscopy & Statistical Thermodynamics

The course deals with the characterization of patterns of molecular quantized energy levels in rotational, vibrational and electronic spectra of both linear and non-linear molecules. Other topics include: photoelectron spectroscopy and magnetic resonances; introduction to statistical thermodynamics including partition functions and calculations of various thermodynamics properties, equilibrium constants and rate constants. Prerequisite: CHEM 331. Three credits and lab/tutorial.

341 Inorganic and Theoretical Chemistry I

An introduction to molecular symmetry and group theory and its applications to vibrational spectroscopy. Also included are basic coordination chemistry of the transition metals, including discussion of some common inorganic techniques, and inorganic electrochemistry. Prerequisite: CHEM 245. Three credits and lab.

342 Inorganic and Theoretical Chemistry II

Electronic and magnetic properties of transition metal compounds. Introduction to organometallic chemistry, homogeneous and heterogeneous catalysis, inorganic reaction kinetics and mechanisms. Prerequisite: CHEM 341. Three credits and lab.

355 Advanced Biochemistry

The course focuses on the biosynthesis and metabolism of important biological molecules. Topics include lipids, amino acids, nucleotides, other carbohydrate metabolism pathways, and plant hormones. Prerequisites: CHEM 220, 255. Three credits and lab.

361 Instrumental Analytical Spectroscopy

The course deals with instrumental design and the analytical application of UV/visible, atomic, and infrared absorption spectrometers, Raman spectrometers, and fluorimeters. Included are sample preparation, data analysis, method optimization and radiochemistry. Prerequisite: CHEM 265. Three credits and lab/tutorial.

362 Instrumental Separations & Analysis

This course looks at liquid and gas chromatography, capillary electrophoresis and electrochemistry. Included are sample preparation, data analysis, and method optimization. Prerequisite: CHEM 361. Three credits and lab.

381 Industrial Chemistry

May be used as a chemistry elective in the majors program and as an approved or open elective in other chemistry degree programs. Cross-listed as ENGR 228; see ENGR 228. Prerequisites: CHEM 221 or 225 or 220 (concurrent), 231, 232 (concurrent). Three credits and problem session.

391 Chemistry Seminar I

Introduction to seminar techniques using topics in modern chemistry, chemical information sources, basic molecular modeling and drawing. Required for, and restricted to, students in degree programs where chemistry is science A. Required in the first term of the junior year. No credit.

411 Computational Chemistry

A survey of modern computational chemistry methods, focusing mainly on Density functional theory. This course is addressed to honors students mainly. Areas of interest include accurate predictions of geometries, energetics, and reaction mechanisms as well as IR, Raman, UV and NMR spectra. Prerequisites: CHEM 330, 341 (completed or concurrent). Three credits and research project.

421 Physical Organic Chemistry

A survey of theoretical models and experimental tools to correlated data related to the structure, property, and reactivity of organic compounds. This course is

intended for advanced majors and honours students in chemistry. Topics include qualitative models (resonance, hybridization, VSEPR, qualitative molecular orbital theory), quantitative computational chemistry methods (Hartree-Fock, semi-empirical and density functional theory methods), and spectroscopic methods (IR and NMR). Extensive use is made of theoretical and spectroscopic studies in assignments, computational and experimental labs. Prerequisites: CHEM 220, 232; PHYS 120. Three credits and lab.

422 Advanced Organic Chemistry: Structure & Mechanism

Building on the structures and energetics of organic reactive intermediates, this course will examine their role in reaction mechanisms. Several important classes of reactions will be analyzed in detail with respect to stereoelectronic effects. This course will also examine some of the methodology used to determine organic reaction mechanisms. The synergy between experimental and computational results will be discussed. Prerequisite: CHEM 421. Three credits and lab.

432 Electrochemical Methods

This course investigates modern electrochemical techniques, including potential step and potential sweep methods, pulse voltammetry, controlled-current experiments, hydrodynamic voltammetry, and AC impedance. Particular attention will be given to processes that occur at the electrode-solution interface in the use of these techniques (mass transport, charge transport kinetics, current-time and current-potential profiles). Topics of current interest, such as fuel cells, chemically modified electrodes, corrosion, ion-selective electrodes, ultramicroelectrodes, and catalysis are included. Prerequisite: CHEM 232, 361, 362 (concurrent). Three credits and lab. Not offered 2009-2010.

434 Colloids and Interfaces

Covers the properties of colloids, surfaces, interfaces, and polymers, and provides a qualitative description of the colloidal state, including colloids and their preparation and properties. Topics include: experimental techniques used to determine colloidal properties; interfacial phenomena; the properties of surface active agents; the stabilization of colloidal systems. Prerequisites: CHEM 231, 232. Three credits and lab.

435 Introduction to Polymer Chemistry

This course introduces the basic principles and techniques employed in polymer chemistry. The following topics are emphasized: polymerization reactions and mechanisms; kinetics of polymerization; molecular mass methods; molecular sizes and shapes; polymer morphology; thermal, mechanical and rheological properties; and the thermodynamics of polymer solutions. Prerequisites: CHEM 220, 231, 232. Three credits.

442 Bio-Inorganic Chemistry

A survey of metal ions in biological systems. Topics include: ion pumps, oxygen carriers such as hemoglobin, metalloenzymes, nitrogen fixation, photosynthesis, biologically important trace metals, biomimetic systems and inorganic drugs. Discussion of various physical techniques used in bio-inorganic chemistry will also be included. Prerequisites: CHEM 341; CHEM 342 completed or concurrent. Three credits and lab. Not offered 2009-2010.

443 Inorganic Materials

Discussion of current areas of interest in inorganic materials research. Topics include: superconductors, magnetic and electronic materials, nonlinear optics, polymeric co-ordination complexes, biogenic materials, intercalation compounds and liquid crystals. Prerequisites: CHEM 341; CHEM 342, completed or concurrent. Three credits and lab. Not offered 2009-2010.

451 Bio-Organic Chemistry I

A discussion of isomerism and proisomerism is followed by an analysis of the reactions observed in the biosynthesis of amino acids. The dominant theme is a development of reaction mechanism possibilities in biological reactions. The course is intended for advanced majors and honours students in chemistry and in biology and is conducted at that level. Prerequisite: CHEM 220, CHEM 391, completed or concurrent; or permission of the instructor. Three credits.

452 Bio-Organic Chemistry II

The dominant theme, continuing from CHEM 451, is the development of reaction mechanism possibilities in biological reactions. An analysis of the reactions observed in the biosynthesis of terpenoids is followed by an examination of the mechanisms of action of a number of enzymes based on the protein structure, active site geometry and amino acid residues therein. Prerequisite: CHEM 451. Three credits.

455 Medicinal Chemistry

Topics include the drug development process, receptors, drug interaction, pharmacodynamics, pharmacokinetics and quantitative structure activity relationships. Chemical properties and mode of action of some of the following classes of drugs will be discussed: antibacterial drugs, drugs that work on the central nervous system, anticancer drugs, antiviral drugs, and analgesics. Case studies of current drugs going through approval processes will be included. Prerequisites: CHEM 220, 255. Three credits and lab.

461 Topics in Instrumentation and Analysis

This course typically starts with a brief introduction to electronics, signals, noise and data manipulation. This is followed by a survey of molecules with bioanalytical applications (enzymes, immunoglobulins, avidin/biotin, cyclodextrins), and a discussion of selected bioanalytical methods and their applications in sensors. A variety of instrumentation is used in the lab, with some attention paid to assembly of equipment, maintenance and repair. Prerequisite: CHEM 361, 362; may be taken concurrently. Three credits and lab.

462 Topics in Analysis and Spectroscopy

Topics are typically selected from the following: NMR, fluorescence, FTIR, Raman, methods used for surface analysis, capillary electrophoresis, mass spectrometry, flow injection analysis and process analytical chemistry. Prerequisite: CHEM 361, 362; may be taken concurrently. Three credits and lab.

471 Topics in Chemistry

This course examines current specialized chemistry topics not normally covered in other courses. See section 3.5. Three credits.

491 Chemistry Seminar II

Presentations by visitors, faculty, staff, senior honours and advanced major students on aspects of chemical science. Attendance is mandatory for students in all B.Sc. and M.Sc. degree programs where chemistry is science A. No formal credit is given for this course, but satisfactory completion of senior essays from majors students, senior essays and presentations from advanced majors students, and presentations based on their theses from honours students, are requirements for the B.Sc. degree.

493 Honours Thesis

Based upon a program of experimental research involving the use of modern chemical techniques to solve a problem in the areas of analytical, inorganic, organic, or physical chemistry. An acceptable thesis based on the research must be submitted before the conclusion of lectures for the academic year to satisfy the department requirements for the B.Sc. with Honours in chemistry. Three credits and lab.

499 Directed Study

Designed for students with high academic standing. Explores current topics in chemistry and new methods in chemical research. See section 3.5. Three credits.

GRADUATE COURSES**Credits**

511	Computational Chemistry	3
521	Advanced Organic Chemistry	3
530	Physical Chemistry III	3
532	Electrochemical Methods	3
534	Colloids and Interfaces	3
535	Polymers	3
536	Adv. Top. in Colloid Chemistry	3
540	Advanced Topics	6
542	Advanced Inorganic Chemistry	3
543	Inorganic Materials	3
561	Adv Analytical Chemistry I	3
561	Topics Instrument & Analysis	3
562	Adv Analytical Chemistry II	3
591	Adv Instrument I: Bioanalysis	3
593	Adv Instrument II: Capillary	3
594	Instrumentation III Electronic	3
595	Nucleic Acids	6
598	Research	6
599	Thesis	18

Additional courses are available depending on the requirements and interests of the student and the availability of faculty.

9.11 CLASSICAL STUDIES

C. Byrne, Ph.D., Co-ordinator

S. Baldner, Ph.D.

E. Carty, M.Litt.

Students in arts, science, and applied programs may take any of the courses listed below as electives or use 12 credits for a pair in classical studies. Students in BA programs may also use classical studies as a minor.

BA with a Minor in Classical Studies

Course requirements for the minor are: CLAS 110 or 120; CLAS 230 or 240; one of CLAS 110, 120, 230 or 240 or ENGL 206 and 207; PHIL 351, 352; or RELS 340 or 345.

110 Latin I

For students with no previous knowledge of Latin, this course will teach a reading command of the language. Recommended for those interested in classical languages, literature, history, philosophy, and religious studies. Six credits.

120 Introductory Greek

The aim of this course is to familiarize students with the basic structural features of classical Greek. In addition to grammar and vocabulary, the class will consider simple texts from classical Greek philosophy and literature as well as from the New Testament. Six credits.

230 Latin II

A follow-up to CLAS 110, this course includes oral work designed to enhance reading skills, and the study of hymns, poems, epitaphs, and speeches, as well as selections from the New Vulgate. Prerequisite: CLAS 110. Six credits.

240 Greek Literature in Translation

The study of selected works of ancient Greek literature, read in translation, concentrating on the principal figures and themes of ancient Greek mythology. Texts will include the epic poetry of Homer and the tragedies of Aeschylus, Sophocles, and Euripides. Crosslisted as RELS 220. Six credits.

9.12 COMPUTER SCIENCE

I. Gondra, Ph.D.

M. Lin, Ph.D.

W. MacCaull, Ph.D.

M. van Bommel, Ph.D.

P. Wang, Ph.D.

L.T. Yang, Ph.D.

Computer science is the study of computation. For any given problem, a central question is whether a solution can be computed, and, if so, what are the most efficient and practical ways to carry out the computation. Computer science also involves questions that have the potential to change how we view the world. What is the nature of intelligence and can we reproduce it in a machine? How do we represent the knowledge we have about the world and apply this knowledge to help make better decisions?

A computer is a mechanical device that manipulates symbols according to specified rules. As a discipline, computer science lies at the intersection of mathematics, science, and engineering, but it also has very strong ties to many other disciplines. Bioinformatics employs computers for storing and analyzing protein and genome sequences in order to interpret and predict biological structure and function. Business is served by providing the means to perform complex calculations and to interpret large amounts of data to make informed business decisions. The film industry relies on computer-generated graphics for three-dimensional animation. Psychology and philosophy share with computer science the desire to understand the nature of reasoning, learning and intelligence. Computer Science has many subfields, such as algorithms, artificial intelligence, automated theorem proving, databases, graphics, high-performance computing, networking, programming languages, robotics, security, and verification. A common misconception is that computer science is equivalent to programming. Programming is a necessary tool, but it is not the focus.

The Department of Mathematics, Statistics, and Computer Science offers courses leading to BA and B.Sc. degrees with Major, Advanced Major, and Honours in Computer Science as well as a B.Sc. Advanced Major degree in Computer Science with Business. All degrees closely follow the Computer Science curriculum recommendations of the 2001 ACM and IEEE Computing Curricula. Students must meet the general requirements of both the faculty and the department in which they are registered; course and program regulations for mathematics and statistics are listed in sections 9.24 and 9.36.

Students completing a program in computer science have a wide variety of options, including graduate studies in emerging areas of computer science such as robotics, computer-aided vision, and artificial intelligence; and employment in areas such as systems and network analysis, software engineering and computer programming, database, information technology consulting, and data communications. Students are advised to choose their program of study in consultation with faculty and the chair of the Department of Mathematics, Statistics, and Computer Science.

Students pursuing a major, advanced major or honours degree in computer science must take certain core courses: CSCI 161, 162, 255, 365, 375, 491; MATH 111, 112, 277. MATH 111 and 112 are counted as approved or open electives in advanced major and honours programs. CSCI 100 and 235 are available only as approved or open electives in all programs in the department.

Major in Computer Science

In addition to the core requirements, students must take an additional 12 credits which may be chosen from CSCI, MATH, or STAT.

Advanced Major in Computer Science

In addition to the core requirements, students must take CSCI 256, 275, 465, 485; MATH 253, and a STAT course. B.Sc. students require an additional six credits, which may be taken from CSCI, MATH, or STAT.

Typical Advanced Major Pattern:

Year 1 CSCI 161, 162; MATH 111, 112
 Year 2 CSCI 255, 256, 275; MATH 253, 277; STAT 231
 Year 3 CSCI 365, 375; additional CSCI courses
 Year 4 CSCI 465, 485, 491; additional CSCI courses

B.Sc. Advanced Major in Computer Science and Business

In addition to the requirements for Advanced Major in Computer Science, students take CSCI 235, plus 36 credits in Business and Economics. Details of the program can be obtained from the department chair.

Honours in Computer Science

In addition to the core requirements, students must take CSCI 256, 275, 356, 465, 485, 487, 493, 495; MATH 253 and a STAT course, plus 9 credits chosen from CSCI, MATH or STAT.

Typical Honours Pattern:

Year 1 CSCI 161, 162; MATH 111, 112
 Year 2 CSCI 255, 256, 275; MATH 253, 277; STAT 231
 Year 3 CSCI 356, 365, 375; additional CSCI courses
 Year 4 CSCI 465, 485, 487, 491, 493, 495; additional CSCI courses

Co-op Program in Computer Science

This is a five-year program leading to the BA or B.Sc. in Computer Science, with a co-operative education designation. The program is offered in conjunction with the Gerald Schwartz School of Business and Information Systems as part of the expanded classroom initiative. Students will complete three four-month work terms or one 12 to 16-month work term. After each term, the student participates in seminars and completes a reflective report which integrates theoretical course material with the work and learning experiences.

Admission is restricted to students who meet the requirements for admission to the BA or B.Sc. with honours in Computer Science. For further information, see the department website at www.sfx.ca/academic/mathcs/

Master of Science Program

A research-based M.Sc. program is available covering the areas of systems, theory, and applications. *General requirements for graduate degrees are outlined in section 8.* For specific requirements, consult the department chair or visit www.sfx.ca/academic/mathcs/masters/

[AR] Indicates Designated Course in Aquatic Resources

100 Introduction to Computing

An introduction to computer systems, hardware, and software, covering practical applications of computers in society. The course will use standard microcomputer software packages and access external databases to focus on information collection, analysis, and presentation. Two projects will provide the opportunity for a student to show an understanding of the concepts. Restricted to students in the Faculty of Arts, and the Departments of Human Kinetics and Human Nutrition. Six credits.

125 Computer Programming in C [AR]

Cross-listed as ENGR 144; see ENGR 144. Three credits and a two-hour lab.

161 Introduction to Programming

An introduction to computers, algorithms and programming. Topics include problem analysis, algorithm development, data representation, control structures, arrays, and file manipulation. Three credits and a two-hour lab.

162 Programming and Data Structures

Continuing from the material in CSCI 161, this course covers memory management and data abstraction via classes and objects, and introduces the linear data structures lists, stacks, and queues. Structured programming is encouraged via modular development. Prerequisite: CSCI 161. Three credits and a two-hour lab.

235 Micro-Computers in Science [AR]

An introduction to the hardware, operating systems and utilities of microcomputers. Typical micro-computer applications include word processing, spreadsheets, and database management systems. Examples and applications are taken from the sciences. Restricted to students in the faculty of science. Three credits and a two-hour lab.

255 Advanced Data Structures

Linear data structures such as lists, stacks, and queues are reviewed. Objects are introduced using C++ classes and templates. Multi-linked lists and trees together with their fundamental algorithms are covered. Searching, sorting, and hashing are described and implemented in C++. Prerequisite: CSCI 162. Three credits and a two-hour lab.

256 Data Structures and Algorithm Analysis

Analysis and design techniques are applied to non-numeric algorithms for data structures. Algorithmic analysis is used to select methods of manipulating data. Prerequisite: CSCI 255; MATH 277. Three credits and a two-hour lab.

275 Database Management Systems

An introduction to the theory associated with the design and implementation of databases. Topics include: database models (relational model in detail), design, normalization, SQL, and a DBMS (ORACLE). Prerequisite: CSCI 255. Three credits and a two-hour lab.

335 Operations Research [AR]

The course will cover selected topics from linear programming; transportation and assignment models; networks; scheduling; inventory models; decision-making; queuing theory; forecasting and simulation. Packaged software and spreadsheets will be used. Prerequisites: MATH 112; a programming course. Three credits.

345 Computer Graphics

Covers fundamental mathematical, algorithmic, and representational issues in computer graphics. Topics include graphics programming, geometrical objects and transformations, 2-D and 3-D data description, manipulation, viewing projections, clipping, shading and animation. Prerequisites: MATH 253; CSCI 255. Three credits and a two-hour lab.

356 Theory of Computing

An introduction to the theoretical foundations of computer science, examining finite automata, context-free grammars, Turing machines, undecidability, and NP-completeness. Abstract models are employed to help categorize problems as undecidable, intractable, tractable, and efficient. Prerequisites: CSCI 256; MATH 277. Three credits. Offered 2009-2010 and in alternate years.

365 Computer Organization

This course covers basic computer arithmetic, architectures, and instruction sets; in-depth study of the central processing unit, memory and input/output organization; and microprogramming and interfacing. Prerequisite: CSCI 255. Three credits and a two-hour lab.

375 Operating Systems

An overview of operating systems functions: file management, CPU scheduling, process management, synchronization, memory management, and deadlock handling. UNIX will be introduced and used in this course. Prerequisite: CSCI 365. Three credits and a two-hour lab.

383 Object-Oriented Programming and Design

An in-depth study of the object-oriented programming paradigm. Topics include: objects, messages, classes; inheritance, polymorphisms, encapsulation; pure and hybrid languages; object-oriented problem solving. Concepts will be practiced with C++. Prerequisite: CSCI 255. Three credits and a two-hour lab.

455 Parallel Computing: Architectures, Algorithms, and Applications

Introduces parallel programming techniques as a natural extension to sequential programming. Students will learn techniques of message-passing parallel programming; study problem-specific algorithms in both non-numeric and numeric domains. Topics will include: numeric algorithms; image processing and searching; optimization. Prerequisites: CSCI 255, 365. Three credits and a two-hour lab. Not offered 2009-2010.

465 Data Communication Systems and Networks

This course covers communication systems; environments and components; common carrier services; network control, design and management; distributed and local networks. Prerequisite: CSCI 365. Three credits and a two-hour lab.

467 Computer and Network Security

Covers the theory and practice of computer and network security, including cryptography, authentication, network security, and computer system security. Topics include secret and public key cryptography; message digests; authentication, including password-based, address-based, and cryptographic; network security; system security, including intruders, malicious software, and firewalls. Students will use and implement algorithms. Prerequisite: CSCI 465. Three credits. Not offered 2009-2010.

471 Topics in Computer Science

This course explores current topics in computer science, such as interface design, real-time control, and simulation. Prerequisite: CSCI 256. Three credits. See www.sftx.ca/academic/mathcs/topics.html for the current offering.

483 Interactive Programming with Java

This course introduces the object-oriented language Java and its application to interactive programming. Topics include: Java syntax and object inheritance structure, exception handling, GUI and Applet programming, Java networking and multithreading. Prerequisite: CSCI 375 completed or concurrent. Three credits and a two-hour lab.

485 Software Design

The course covers techniques for the design and management of large software projects, including structured programming, debugging, and testing methodologies. Examples of large systems will be provided and a programming project will be completed. Prerequisite: CSCI 375 concurrently. Cross-listed as ENGR 252. Three credits and a two-hour lab.

487 Organization of Programming Languages

Topics include structure of language definitions; control structures; data types and data flow; compilers vs. interpreters; introduction to lexical analysis and parsing. Prerequisite: CSCI 365. Three credits and a two-hour lab.

491 Senior Seminar

Cross-listed as MATH 491 and STAT 491. The purpose of this non-credit course is to assist students in carrying out research, composition, and oral presentation. Students will present a project topic in the fall term and their project in the spring. Attendance at departmental seminars is mandatory. No credit.

493 Senior Thesis

Students will prepare and present a thesis based on original research conducted under the supervision of a faculty member. Three credits.

495 Artificial Intelligence

An introduction to the core concepts of artificial intelligence, including state space, heuristic search techniques, knowledge representation, logical inference, uncertain reasoning, and machine learning. Specific methods covered include neural networks, genetic algorithms, and reinforcement learning. Prerequisite: CSCI 255. Three credits and a two-hour lab. Not offered 2009-2010.

GRADUATE COURSES

	<i>Credits</i>
521 Real Time Systems	3
522 High Performance Computing	3
526 Embedded Systems	3
541 Theory of Computing	3
542 Representation & Reasoning	3
543 Specification & Verification	3
544 Computational Logic	3
545 Artificial Intelligence	3
554 Matrix Computation	3
561 Computer & Network Security	3
562 Computer Graphics	3

563 Advanced Database Systems	3
564 Constraint Processing & Heuristic Search	3
598 Research	6
599 Thesis	18

9.13 CO-OPERATIVE EDUCATION

J. MacDonald, Manager

Co-operative Education utilizes learning partnerships between the university and employers to provide students with opportunities for relevant, paid employment while they are completing their academic studies. A combination of professional development training and practical work experience empowers students to apply and further develop the knowledge and skills they have acquired in their degree program.

Admission to the program is selective. Students must demonstrate professional qualities that are suitable for employment sponsorship by the University. A Co-operative Education option is offered in the following programs: Bachelor of Business Administration; Bachelor of Information Systems; Bachelor of Arts in Computer Science; Bachelor of Science in: Biology, Computer Science, and Human Nutrition.

Students complete a minimum of 12 months of paid, supervised professional employment, either in 4-month work terms, interspersed with on-campus academic study terms, or through a 12 to 16 month work term after their 3rd year of study. Upon successful completion of the work experience, students will enrol in COOP 405 for 3 units of academic credit.

101 – 103 Professional Development Workshops

To prepare for co-operative education work placements, students must complete several professional development seminars and assignments. Full participation is mandatory for progression in the Co-operative Education Program. Pass or fail assigned. No credit.

405 Work Term

Following the completion of their work term requirements, students reflect on, discuss and report on their employment experience. Prerequisites: Successful completion of COOP 101-103 and a minimum of 12 months of work experience. Three credits. Credits may only be used to satisfy elective requirements.

9.14 DEVELOPMENT STUDIES

J. Bickerton, Ph.D. Co-ordinator

Advising Faculty

S. Dodaro, Ph.D.	Department Economics
D. Fletcher, MA	Coady International Institute
D. Garbary, Ph.D.	Biology
B. Long, MBA	Business Administration
A. Mathie, Ph.D.	Coady International Institute
P. Tamas, Ph.D.	Development Studies
S. Vincent, Ph.D.	Anthropology

This interdisciplinary program in development examines the local and global social, economic, political, and cultural contexts in which development takes place. Students will investigate the theory and practice of development and social justice, and learn about the Antigonish Movement.

Students may complete either a joint advanced major or a joint major in development studies and another subject, a subsidiary or a minor in development studies, pair two courses, or simply take DEVS 201 and/or 202 as electives. See section 4.1 for degree regulations. Students interested in DEVS degree options should consult the coordinator as early as possible. Students graduating with a joint advanced major or joint major in development studies and another subject must complete ECON 101 and 102.

Note: For joint advanced major and joint major, no more than 12 credits of development studies designated courses (see below) may be in a single subject. Also, none of the development studies core or designated courses may be in the student's other declared subject.

Joint Advanced Major in Development Studies

Requirements:

- a) 36 credits in DEVS (subject A) and 36 credits in another subject (subject B); see definition of subject at 4.1.2) or 36 credits in another subject (subject A) and 36 credits in DEVS (subject B). The program or department requirements

for advanced majors are applicable in both subjects.

Students using DEVS as subject A or B must complete the following:

- i) DEVS 201, 202, 302, 303, 311, 401, 405 21 credits
- ii) DEVS core or designated courses 15 credits
- iii) ECON 101, 102

b) Course Pattern: see section 4.1.3

c) A senior paper is required for all advanced major students. The senior paper will be written in either DEVS 401 or 405 when development studies is subject A. When development studies is subject B, the senior paper will be written for the department or program that is subject A.

Joint Major in Development Studies

Requirements:

a) 36 credits in DEVS (subject A) and 36 credits in another subject (subject B). The program or department requirements for majors are applicable in both subjects.

Students must complete the following:

- i) DEVS 201, 202, 302, 303 12 credits
- ii) Minimum of 3 credits from 401, 405 3 credits
- iii) DEVS core or designated courses 21 credits
- iv) ECON 101, 102

b) Course Pattern: see section 4.1.3

Subsidiary in Development Studies

Requirements:

a) 24 credits in DEVS and 48-60 credits in the honours subject. Students are encouraged to include an additional six credits of DEVS core or designated courses if possible. No more than six credits of DEVS designated courses may be from a single department. None of the development studies core or designated courses may be in the student's honours subject.

Students must complete the following:

- i) DEVS 201, 202, 302, 303 12 credits
- ii) DEVS core or designated courses 12 credits

Minor in Development Studies

Requirements:

a) 24 credits in DEVS. No more than six credits of DEVS designated courses may be from a single department. Students must complete the following:

- i) DEVS 201, 202 6 credits
- ii) DEVS core or designated courses 18 credits

Pair

- i) DEVS 201, 202 6 credits
- ii) DEVS core or designated courses 6 credits

DEVELOPMENT STUDIES CORE COURSES

201 Introduction to International Development: The Global South

An introduction to development theory and practice as it applies to inequality between countries, and within countries of the Global South. The course provides students with a critical framework for analyzing development policies, programs, trends, and impacts, especially since the formation of the Bretton Woods institutions. Students will explore the concepts of sustainable development and of social and economic justice as they relate to development. Prerequisite: 24 credits or permission of the co-ordinator. Three credits.

202 Introduction to International Development: Canada

In this course, Canada's place in the world, its path to development, and the challenges it currently faces will be explored. These include the retention of its capacity to generate sufficient wealth to provide a high standard of living to its citizens, the persistence of inequalities that raise questions about the distribution of the benefits of development, and the challenge of sustainability, given the stresses that industrialized societies such as Canada's place on their physical and social environment. Prerequisite: 24 credits or permission of the co-ordinator. Three credits.

211 Local and Community Development Economics

Cross-listed as ECON 211; see ECON 211. Three credits.

223 Anthropology of Globalization

Cross-listed as ANTH 223; see ANTH 223. Prerequisite: ANTH 110 or DEVS 201 and 202. Three credits.

302 Globalization and Development

The course provides an analysis of the forces affecting the globalization process, its evolution over time, and its impacts on development. It takes a broad view, from an interdisciplinary perspective, of the factors at work, their nature and their consequences. Topics that are considered include the fact and policy dimensions of globalization, questions that pertain to equity and fairness, issues concerning production, consumption, global markets, governance, and the role of various international institutions. It also analyzes the mechanisms that link the global to the local level. Prerequisite: DEVS 201, 202 or ECON 101, 102. Three credits.

303 Topics in Globalization and Development

The course considers in detail a range of topics that pertain to the globalization process that are important to development. It provides an interdisciplinary analysis of such issues as: international trade and finance and their impacts, regionalization versus globalization, the environment and sustainability, culture and ideas, justice and human rights, gender and health issues, migration, MNCs, NGOs and civil society. The course also considers alternatives to the existing reality in terms of changes in institutions, practices, policies, local and grassroots responses (including the Antigonish Movement). Prerequisite: DEVS 302 or permission of the instructor. Three credits.

305 Economic Development I

Cross-listed as ECON 305; see ECON 305. Three credits.

306 Economic Development II

Cross-listed as ECON 306; see ECON 306. Three credits.

311 Internship in Development Studies I

The internship is designed to help students make the link between what they have learned in the classroom and what is happening in the wider community. This class will balance in-class preparation and reflection with experiential learning with a development agency. A job description and work plan will be developed by the student in consultation with the course supervisor and the host agency. Prerequisite: DEVS 201, 202 or permission of the instructor. Three credits.

312 Internship in Development Studies II

This internship builds on DEVS 311. Students may extend their placement from 311 or undertake a new posting. The class will be largely experiential. Students will be required to blog regularly, to submit critical reflection papers, to produce a research product of use to their host organization, to make an oral presentation and to submit a final written report. Prerequisite: DEVS 311. Three credits.

321 Anthropology of Development

Cross-listed as ANTH 320; see ANTH 320. Prerequisites: ANTH 110 or DEVS 201, 202. Three credits. Not offered 2009-2010.

322 Antigonish Movement as Change and Development

Cross-listed as SOCI 322; see SOCI 322. Prerequisites: SOCI 100 or DEVS 201, 202. Three credits.

354 International Political Economy

Cross-listed as PSCI 354; see PSCI 354. Prerequisites: PSCI 100 or DEVS 201, 202; PSCI 250 recommended. Three credits.

355 Global Issues

Cross-listed as PSCI 355; see PSCI 355. Prerequisites: PSCI 100 or DEVS 201, 202; PSCI 250 recommended. Three credits.

370 Third World/South-North Politics

Cross-listed as PSCI 370; see PSCI 370. Prerequisites: PSCI 100 or DEVS 201, 202. Six credits.

391 Selected Topics

Course content will cover current topics in Development Studies.

401 Theories of Development

This seminar takes an interdisciplinary approach to the study of theories that have shaped the conceptualization and practice of development around the world. The seminar focuses on current versions of general development theories such as: modernization, structuralism, Marxism, dependency theory, neoclassical and neoliberal theory, alternative development, and post-development. Examples of current theories that focus on key development issues are also covered. Prerequisite: DEVS 201, 202. Three credits.

405 Community-Based Development: Strategies and Practice

This seminar is an examination of community-based development. It explores

and evaluates strategies, practices and techniques used to strengthen people's capacity to build sustainable livelihoods, and examines the role of different agencies (e.g. local citizens, government, non government organizations, and the private sector) in stimulating development at the community level. The course will include development strategies used in the Global South and practices used in Canada, especially Atlantic Canada. Prerequisite: DEVS 201, 202. Three credits.

457 Community Enterprise Development

Cross-listed as BSAD 457; see BSAD 457. Prerequisite: DEVS 201, 202. Three credits.

499 Directed Study

Students will work with a course instructor on a topic which is not available through other course offerings. Prerequisites: DEVS 201, 202 and six additional credits in core development studies courses. See section 3.5. Three credits.

DEVELOPMENT STUDIES DESIGNATED COURSES

Anthropology		Credits
ANTH 211	Health and Illness in Cross-Cultural Perspectives	6
ANTH 223	Anthropology of Globalization	3
ANTH 310	Anthropology of Tourism	3
ANTH 320	Anthropology of Development	3
ANTH 324	Anthropology of Gender	3
ANTH 330	First Nations and Mi'kmaq Studies	6
ANTH 331	Anthropology and Indigenous Peoples	3
ANTH 332	Mi'kmaq Studies	3
ANTH 415	Anthropology of HIV/AIDS	3
ANTH 425	Power and Change	3
ANTH 435	Advanced Indigenous Issues	3
Aquatic Resources		Credits
AQUA 200	Introduction to AR II: Social Science Applications	6
Biology		Credits
BIOL 221	Humans and the Environment I	3
BIOL 222	Humans and the Environment II	3
BIOL 345	Communities and Ecosystems	3
BIOL 407	Integrated Resource Management	3
Business Administration		Credits
BSAD 358	Business and Society	3
BSAD 457	Community Enterprise Development	3
Earth Sciences		
ESCI 271	Environmental Earth Science	3
ESCI 272	Global Change and Climate System	3
ESCI 274	Health Impacts of Global Environmental Change	3
Economics		Credits
ECON 211	Local and Community Development Economics	3
ECON 281	Environmental Economics	3
ECON 305	Economic Development I	3
ECON 306	Economic Development II	3
ECON 310	Canadian Economic History	6
ECON 320	Economic System	6
ECON 341	Regional Economics	3
ECON 342	Maritime Economy	3
ECON 365	International Trade	3
ECON 366	International Payments and Finance	3
ECON 381	Natural Resource Economics	3
English		Credits
ENGL 247	Post-Colonial Literature	6
ENGL 347	African-Canadian Literature	3
ENGL 348	First Nations Literature	3
History		Credits
HIST 200	History of Canada	6
HIST 202	The Prairies	3
HIST 204	British Columbia	3
HIST 207	Quebec	3
HIST 209	The Maritime Provinces, 1500-1950	6
HIST 275	Modern Japan	6

HIST 308	Canadian Women and Gender History	3
HIST 309	Working Class in Canadian Society	3
HIST 310	Canadian Immigration and Ethnic History	6
HIST 326	Cuba	3
HIST 255	History of Colonial Latin America	3
HIST 256	History of Modern Latin America	3
HIST 337	History of Modern Mexico	3
HIST 370	Modern China	6
HIST 462	Latin America	3
Human Nutrition		
HNU 405	Food Availability	3
Interdisciplinary Studies		Credits
IDS 305	Immersion Service Learning	3
IDS 306	Service Learning: Theory and Practice	3
Philosophy		Credits
PHIL 333	Environmental Ethics	3
Political Science		Credits
PSCI 210	Comparative Politics	6
PSCI 247	Environmental Social Sciences I	3
PSCI 248	Environmental Social Sciences II	3
PSCI 250	World Politics	6
PSCI 291	Violence, Conflict and Politics	3
PSCI 315	Democratization	3
PSCI 322	Atlantic Canada	3
PSCI 346	The Politics of Resource Management	3
PSCI 347	Politics of the Environment	3
PSCI 353	International Organizations	3
PSCI 354	International Political Economy	3
PSCI 355	Global Issues	3
PSCI 360	Russian Politics	6
PSCI 361	Eastern Europe	3
PSCI 362	Chinese Politics	3
PSCI 370	Third World Politics	6
PSCI 372	Iran and the Muslim World	3
PSCI 380	African Politics and Society	6
PSCI 390	Politics and Society in Latin America	6
PSCI 395	Mexican Politics	3
Sociology		Credits
SOCI 321	Sociology of Atlantic Canada	3
SOCI 322	The Antigonish Movement as Change and Development	3
SOCI 330	Sociology of First Peoples	3
SOCI 364	Food and Society	3
SOCI 366	Coastal Communities	3
SOCI 426	Consumer Society	3

Other courses, not listed here, may be considered designated courses with permission of the development studies co-ordinator.

9.15 EARTH SCIENCES

A.J. Anderson, Ph.D.
 H. Beltrami, Ph.D.
 E. Bourlon, Ph.D.
 G. Ferguson, Ph.D.
 L. Kellman, Ph.D.
 M.J. Melchin, Ph.D.
 J.B. Murphy, Ph.D.
 D. Risk, Ph.D.
 R. Tobin, Ph.D.

The Earth is a dynamic and exciting planet, which has continually evolved over its 4.6 billion-year history. During this time, oceans and mountains were created and destroyed; catastrophic events occurred, such as meteorite impacts, volcanic eruptions and earthquakes; global greenhouses and icehouses developed; life forms evolved and became extinct. Earth science is devoted to understanding the origin, significance and order of these events so that we may more fully understand our planet; this is vital if we are to locate, use, and harness the Earth's resources and face the environmental challenges that confront us. Earth science employs physical, chemical, biological and mathematical methods to study the Earth's

materials, behavior, history and environment. An Earth scientist studies and interprets the Earth's evolution as revealed by its atmosphere, ocean and fresh waters, rocks, minerals and fossils; explores and develops valuable resources; and evaluates the environmental implications of these activities.

A degree in Earth sciences prepares students for graduate studies, as well as a wide range of careers in geology, climatology, oceanography, environmental science, resource exploration and development, government, industry, and financial institutions where geological knowledge is vital for investments and economic planning.

A number of options and concentrations are available for students interested in a B.Sc. in Earth sciences. We offer options in geoscience, environmental geoscience, geochemistry; joint programs with biology, business administration, chemistry, information systems, mathematics, and physics; and non-specialist courses for students interested in understanding the planet on which we all live. The most important laboratory instruction is in the field, where studies bridge the gap between textbook descriptions and actual occurrences.

Department Requirements

Recommended course sequences are shown below; variations in content require the permission of the department chair and/or the dean of science. See chapter 5 for information on the degree patterns, declarations of major, advanced major and honours, advancement and graduation requirements.

Approved electives may be in any discipline normally accepted for credit for science students: BIOL, CHEM, MATH, STAT, CSCI and PHYS (including PHYS 271, 272). However, some programs have recommended electives; students should consult the department chair for details. We strongly recommend that students take French or Spanish as one of their arts electives.

Major in Earth Sciences

Required courses for the Earth sciences major are ESCI 171, 172, 201, 215, 216, 375 or 376, 305; 18 additional ESCI credits from among the required courses of the geoscience concentration, the environmental earth science concentration, or the geochemistry concentration listed below. All earth sciences majors must take: CHEM 100 or 120; MATH 111, 112; 6 credits CHEM or MATH at the 200 and/or 300 level; additional ESCI, arts and elective courses as outlined in section 7.1. Variation in content require the permission of the department chair and/or dean of science.

Advanced Major and Honours in Earth Sciences

Geoscience Concentration

Year 1	ESCI 171, 172, MATH 111, 112; CHEM 100 or 120; PHYS 100 or 120, or BIOL 111, 112; 6 credits arts electives
Year 2	ESCI 201, 202, 215, 216, 245, 285; 6 credits science B or PHYS 100 or 120; 6 credits arts electives; (6 credits science B may be BIOL; CHEM 231, 232, 245 or 265; 6 credits MATH; or PHYS 241 and 3 credits PHYS)
Year 3	ESCI 301, 302, 305, 365, 366, 375; 6 credits science B or science electives; 6 credits arts electives
Year 4	ESCI 426, 435, 446, 475, 476, 491 (non-credit), 493 or 499; 12 credits science electives from ESCI, BIOL, CHEM, MATH or PHYS

Environmental Earth Science Concentration

Year 1	ESCI 171, 172; MATH 111, 112; CHEM 100 or 120; PHYS 100 or 120 (strongly recommended); 6 credits arts electives
Year 2	ESCI 201, 216, 246, 271, 272, 386; BIOL 111, 112; 6 credits arts electives
Year 3	ESCI 215, 305, 365, 366, 387, 471; 6 credits science B; 6 arts electives; 6 credits science B may be BIOL 203 and 3 credits BIOL; CHEM 231, 232, 245 or 265; 6 credits MATH; or PHYS 241 and 3 credits PHYS
Year 4	ESCI 376, 406, 465, 472, 475, 491 (non-credit), 493 or 499; 12 credits science electives from ESCI, BIOL, CHEM or PHYS

Geochemistry Concentration

Required courses for students in the honours and advanced major programs of the geochemistry concentration are: ESCI 171, 172, 201, 202, 215, 216, 245, 301, 302 or 435, 305, 375, 406, 491 (non-credit), 499; CHEM 100 or 120, 220, 231, 232, 245, 265; MATH 111, 112; PHYS 100 or 120; additional ESCI, arts and elective courses as outlined in section 7.1.

Joint Honours and Joint Advanced Major Programs

Joint honours and joint advanced major programs are offered in conjunction with

aquatic resources and with the departments of biology, chemistry, mathematics, statistics, and computer science. Joint advanced major programs are offered with the departments of business administration and physics. For general information on course patterns see section 7.1. Students should consult the appropriate department chair or program co-ordinator. Typical programs are shown below; variations are available at the discretion of the department.

Earth Sciences with Aquatic Resources

ESCI 171, 201, 215, 216, 271, 375 or 376, 305, 366, 386, 387, 406, 465. For additional ESCI credits, students should follow either the geoscience or environmental geoscience concentration listed above, and consult the chair of the Earth sciences department, as well as the co-ordinator of aquatic resources.

Earth Sciences and Biology

ESCI 171, 172, 201, 215, 216, 375 or 376, 271, 272, 285, 386; 27 credits BIOL; CHEM 100 or 120, 221, 255; MATH 111, 112, 231; CSCI 235; additional ESCI, arts and elective courses as outlined in section 5.1; interdisciplinary thesis and seminar.

Earth Sciences with Business Administration

Science A	(ESCI) 36 credits: ESCI 171, 172, 201, 215, 216, 305, 365, 366; 12 additional credits ESCI
Science B	(MATH) 12 credits: MATH 111, 112; any 6 additional credits MATH, STAT or CSCI
Science C	(CHEM) CHEM 100 or 120
BSAD	101, 102, 221, 223, 231, 261, 341, 471; 3 credits tech-designated; 3 credits BSAD electives
CSCI	235
ECON	6 credits
Arts X	12 credits humanities or social science
Arts Y	6 credits
Approved electives	9 credits BIOL, CHEM, ESCI, or PHYS

Earth Sciences and Chemistry

ESCI 171, 172, 201, 202, 215, 216, 375 or 376, 301, 302 or 435, 305, 406; CHEM 100 or 120, 220, 231, 232, 245, 246, 341, 342, 360; MATH 111, 112, 253 or 267; 3 additional credits MATH; PHYS 100 or 120; additional ESCI, arts and elective courses as outlined in section 7.1; interdisciplinary thesis and seminar.

Earth Sciences with Information Systems

Science A	(ESCI) 36 credits: ESCI 171, 172, 201, 215, 216, 305, 365, 366; 12 additional credits ESCI;
Science B or C	may be chemistry, mathematics/statistics or physics. Either B or C must be mathematics and must include at least 6 credits of calculus. CHEM 100 or 120 is required.
INFO	155, 156, 275, 325, 374, 375, 415, 416, 425, 465
CSCI	235 (3 credits)
STATS	231 (3 credits, may count toward math pair)
ECON	6 credits
Arts X	12 credits
Arts Y	6 credits
Approved electives	6 credits

Earth Sciences and Mathematics

ESCI 171, 172, 201, 215, 216, 245, 246, 375 or 376, 272, 475 (for additional credits, consult the Earth sciences department chair); 36 credits MATH; CHEM 100 or 120; PHYS 100 or 120; additional ESCI, arts and elective courses as outlined in section 7.1; interdisciplinary thesis and seminar.

Earth Sciences and Physics

ESCI 171, 172, 201, 215, 216, 245, 246, 272, 375 or 376, 302 or 435, 446, 472, 475 (for other credits, consult the Earth sciences department chair); 30 credits PHYS (consult the physics department chair); CHEM 100 or 120, 231 and 232 or 245 and 265; MATH 111, 112, 253, 267, 367; additional ESCI, arts and elective courses as outlined in section 7.1; interdisciplinary thesis and seminar.

Environmental and Earth Sciences

See section 9.20

Minor in Earth Sciences

Students will take ESCI 171 or 172 and 21 other credits ESCI.

Master of Science Program

See chapter 8 for admission regulations.

[AR] Indicates Designated Course in Aquatic Resources

171 Understanding the Earth I [AR]

An introduction to the study of rocks and minerals and the materials that make up planet Earth; the Earth's origin and internal structure and composition; the plate tectonic and continental drift theory, crustal processes (the early history of the Earth and its atmosphere, evolution and extinction of life forms; composition and structure of the Earth, origin of continents, oceans, volcanoes, earthquakes, mountains), crustal deformation and mountain building; resources from earth. Three credits.

172 Understanding the Earth II

An introductory treatment of the processes driving Earth's ocean, atmosphere, hydrosphere and cryosphere. Course includes study of the environment and problems such as soil erosion, ozone layer, waste disposal, Earth's energy resources (solar, geothermal, etc), surface and ground waters, water quality in humanity's future, an introduction to biogeochemical cycles, and a current examination of climate change, future scenarios and issues of impact, migration and adaptation to climate change. Prerequisite: ESCI 171 or permission of the instructor. Three credits.

201 Crystal Chemistry and Mineralogy

Examines the foundations of crystal chemistry and mineralogy. Explores the characterization of and relationship among chemical, physical and optical properties of minerals and other transparent solids. Prerequisite: ESCI 171, 172; or with permission of instructor; CHEM 100 or 120, concurrent with permission of the instructor. Three credits and lab.

202 Introduction to Igneous and Metamorphic Systems

Uses physicochemical and thermodynamic principles to explain the origin and composition of Earth materials, with particular reference to the genesis of igneous and metamorphic rocks. Applies the phase rule and phase equilibria to natural systems using thermo-chemical and experimental data, binary, ternary and quaternary phase diagrams. Prerequisite: ESCI 201. Three credits and lab.

215 Sedimentology and Stratigraphy

A study of the major processes involved in the origin, transport and deposition of marine and non-marine clastic, carbonate and evaporite sediments. Covers the principles of sedimentation, environmental analysis, marine and non-marine depositional systems and facies models. Basic stratigraphic principles are introduced. Prerequisite: ESCI 171, 172. Three credits and lab.

216 Earth History

An overview of the evolution of planet Earth from its origin some 4.6 billion years ago to the present. Students will examine changes in the distribution and character of continents and ocean basins, mountain ranges, continental glaciers and other features of the Earth's surface in light of plate tectonic theory, while studying the evolution of plant and animal life as revealed by fossils. Prerequisite: ESCI 171, 172, concurrent with permission of the instructor. Three credits and lab.

245 Structural Geology

An introduction to rock mechanics, three-dimensional analysis of stress and strain, mechanisms and concepts of deformation; classification and interpretation of folds, faults, fractures; introduction to Earth graphic and stereographic analysis of three-dimensional structures. Prerequisite: ESCI 100 or 170. Three credits and lab.

246 Quantitative Methods in Earth Science

This course is intended to familiarize students with modern analytical techniques to provide them with the theoretical and quantitative background necessary for further study in Earth sciences. Topics include applications of multivariate analysis and spectral analysis techniques. Prerequisites: ESCI 171, 172; MATH 111, 112; or permission of the instructor. Three credits and lab.

271 Environmental Earth Science [AR]

This course will focus on the relationships between Earth surface processes and human activities. Topics include atmospheric processes and contamination; soil formation, degradation and erosion; an introduction to surface water and groundwater resources and pollutant transport in aquatic environments, as well as a critical examination of pollution and waste issues. Prerequisite: ESCI 171, 172. Three credits and lab.

272 Global Change and the Climate System [AR]

This course will examine the global climate system. Processes that contribute to climate change will be examined in the context of both its natural variability and anthropogenic impact. Paleoclimates, greenhouse warming, ice ages and ocean-atmosphere interaction will be discussed. Prerequisite: ESCI 171, 172. Three credits and lab.

273 Health and the Environment

Understanding the relationship between environment and health is a significant challenge for current and future generations. Environmental agents play key roles in the development of many common illnesses and conditions. Most of these environmental agents are the result of human interference in the natural processes and fluxes of elements in the planetary system. This course will explore many aspects of this feedback-loop between human and planetary health. Closed to students majoring in Earth sciences. Three credits.

274 Health Impacts of Global Environmental Change

Many environmental issues with planetary-scale implications are changing the way the earth system works. This course will explore some of these issues, including the causes, effects, and health implications of global environmental change caused by global warming, loss of the ozone layer, aerosols, toxic greenhouse gases, overpopulation, genetics-environment interactions, changes to the hydrological cycle, and the use of chemicals to improve food production. Closed to students majoring in Earth sciences. Three credits.

285 Paleontology: The History of Life

Covers the principles of paleontology including methods of analysis of fossil individuals, populations and species; biostratigraphy; paleoecology; biogeography; evolution and extinction; the origin and major events in the history of life from an evolutionary and ecological perspective. Laboratory study of selected fossil groups, field and laboratory techniques. Prerequisite: ESCI 171, 172 or BIOL 111, 112 or permission of the instructor. Cross-listed as BIOL 285. Three credits and lab.

301 Genesis of Igneous Rocks

An advanced treatment of the rheological properties of magma, fluid dynamics, crystal growth, crystal-melt-fluid equilibria, igneous rock suites and their genesis, petrogenetic modeling. Applications of thermodynamic principles and phase equilibria to the genesis of igneous rocks and application of microscopic techniques. Prerequisites: ESCI 201, 202. Three credits and lab.

302 Genesis of Metamorphic Rocks

Topics include: determination of pressure; temperature and fluid conditions of metamorphism; applications of chemical equilibria and thermodynamic principles; Schreinemaker's methods of phase diagram construction; equilibrium and disequilibrium metamorphic textures; kinetics of crystal growth; determination and rates of metamorphic reactions; variations of metamorphism through geological time; pressure-temperature-time relationships. Prerequisites: ESCI 201, 202. Three credits and lab.

305 Geochemistry of Natural Waters [AR]

Covers geochemistry of natural waters and the interaction of elements in natural materials, aqueous and atmospheric geochemistry, global cycles, weathering processes, and natural redox reactions and stable isotope geochemistry. Application of thermodynamic principles to geochemistry. Prerequisites: CHEM 100 or 120; ESCI 171, 172; or ESCI 171 and AQUA 100. Three credits and lab.

365 Geomorphology and Quaternary Geology

Covers landform processes and development; glaciation and glacial deposits; slopes and mass movements; drainage basin form and process; quaternary stratigraphy, paleoclimatology, and paleoecology. Prerequisite: ESCI 171, 172. Three credits and lab.

366 Hydrology [AR]

A study of natural freshwater cycling in watersheds, this course covers the processes controlling soil water, stream flow, lake circulation, groundwater flow, and the exchange of water between natural reservoirs and the atmosphere; applications of chemical tracers to hydrology; aspects of human interaction with these systems, including flood hazards, water resource usage, and contamination. Prerequisites: ESCI 171 or AQUA 100. Three credits and lab.

375 Geological Field Methods

An introduction to field techniques; geological mapping on small and large scales; stratigraphic and structural interpretations. Topics include: aerial photographs, topographic, and geophysical maps; elementary surveying techniques; systematics of rock and mineral identification. Includes a 10-day introductory field camp, normally at the end of the second year, held in collaboration with Acadia University. Prerequisites: ESCI 202, 215, 216. Three credits.

376 Environmental Earth Science Field Course

A field and lab course which introduces field techniques in environmental

earth sciences, including sampling, collection, analysis, and interpretation of climatological, geo-chemical, biogeo-chemical, hydrological, geo-physical, and surficial geological data. Topics include: spatial variability in natural physical and chemical processes; field sampling techniques and tools; lab and computer-aided analysis of data. A 10-day course held in May. Prerequisites: ESCI 246, 271, 272. Three credits.

386 Oceanography [AR]

This course provides an introduction to physical oceanography and its processes governing the ocean and its interaction with the atmosphere. Prerequisites: ESCI 172; AQUA 100 or permission of the instructor. Three credits and lab.

387 Coastal Oceanography [AR]

Topics include: major features and processes of coastal and near-shore environments, including methods of study; sediments, waves, beaches, tides, mudflats, marshes, estuaries, deltas, barrier islands; erosion, sedimentation; limestone coasts and reefs; environmental aspects of coastal development; sea-level changes, coastal erosion, sedimentation and pollution. Prerequisites: ESCI 171; AQUA 100; or permission of the instructor. Three credits and lab.

406 Advanced Environmental Geochemistry [AR]

An advanced examination of selected topics in environment geochemistry and biogeochemistry including chemical cycling and contamination in atmospheric, soil and aquatic environmental from an Earth systems science perspective. Topics may include stable isotopes, redox processes, sulfur, carbon and nitrogen cycling. Prerequisites: ESCI 271, 305 or permission of the instructor. Three credits and lab.

415 Special Topics in Earth Sciences

This course will cover selected current topics in Earth sciences. Prerequisite: permission of the instructor. Three credits.

426 Ore Petrogenesis

Covers classification, petrology, ore mineralogy, and mode of occurrence of metalliferous mineral deposits. Laboratory stresses familiarity with the large and small-scale characteristics of mineral deposits and interpretation of the controls of ore formation. Prerequisites: ESCI 215, 301, 245; ESCI 302, concurrent if necessary. Three credits and lab.

435 Advanced Structure and Tectonics

Topics include: regional structures; mechanics of deformation; geometric analysis; tectonics and metamorphism; interpretation of single and polyphase deformation; structural interpretations of ore zones; overview of tectonic processes; tectonic principles and dynamics; tectonic elements, zones, and terranes; the origin and development of orogenic belts; Phanerozoic, Proterozoic, and Archean tectonics. Prerequisite: ESCI 245. Three credits and lab.

442 Fluids

From the majesty of the Great Red Spot on Jupiter to the common-place phenomena of ocean waves, of cream mixing in coffee and smoke rings, the motion of fluids is of aesthetic, practical and fundamental interest. Continuum descriptions of ideal and viscous fluid flows, both with and without compressibility, will be presented. Common flow geometrics, wave and surface phenomena, solutions, convective instabilities and turbulent flow will be discussed. Prerequisites: PHYS 242, concurrently with PHYS 344 and MATH 361, or permission of instructor. Cross-listed as PHYS 442. Three credits.

446 Advanced Sedimentology and Basin Analysis

Covers the origin, geo-chemistry, and diagenesis of sedimentary rocks, including siliciclastics, carbonates, and organic matter in sediments. Applies stratigraphic correlation, facies analysis methods, and geophysical techniques to basin mapping; depositional systems and sequence stratigraphy; basin subsidence and fill; regional and global stratigraphic cycles; and basin models in plate tectonics. Prerequisites: ESCI 202, 215, 245. Three credits and a lab. Offered 2009-2010 and in alternate years.

465 Hydrogeology [AR]

Covers the principles and applications of groundwater and groundwater flow, including: Darcy's Law; steady-state and transient flow conditions; flow nets, aquifer testing, and groundwater resource evaluation; the role of groundwater in the hydrologic cycle; and the physical processes controlling groundwater pollution. Prerequisites: ESCI 305; ESCI 366 or permission of the instructor; MATH 111, 112. Three credits and lab.

471 Geographic Information Systems

Students will learn how GIS tools can be used to analyze, represent and model

geographic data derived from censuses, surveys, maps, aerial photographs, and satellite imagery. Topics include: cartography and map projections; spatial and attribute data; data capture techniques; vector and raster structure; GIS analysis; data visualization; GIS modelling. Prerequisite: permission of the instructor. Cross-listed as INFO 374. Three credits and lab.

472 Ocean-Atmosphere Interactions [AR]

This course introduces students to a unified treatment of ocean and atmospheric processes. The mathematical treatment of the phenomena will be central to this course and students will gain an in-depth understanding of the fundamental physical behavior of large-scale ocean-atmosphere interactions. Prerequisites: ESCI 246, 271, 272; PHYS 100 or 120; MATH 111, 112. Three credits and lab.

475 Geophysics

This course introduces the use of physical measurements to determine the internal and external structure and composition of the Earth system. Topics include (but are not limited to) an introduction to earthquake seismology, gravity and magnetic fields, isostasy, seismic reflection, heat flow applications, and elementary concepts in geodynamics. This course summarizes current knowledge of Earth system science as determined by modern geophysical techniques. Some computing techniques are presented in lab. Prerequisites: MATH 111, 112; PHYS 100 or 120 recommended. Three credits and lab.

476 Advanced Geological Field Methods

A seven-day field camp in an important geological area held in late summer in collaboration with Acadia University, followed by structural and petrographic analysis, seminars and report writing during the fall term. Prerequisites: ESCI 245, 275. Three credits and lab.

485 Advanced Paleontology

Covers advanced topics in evolution and extinction, paleoecology, biostratigraphy and/or micropaleontology. Large seminar, field and laboratory component. Prerequisite: ESCI 285. Three credits and lab.

491 Senior Seminar

This course will foster discussion and analysis of current topics in Earth sciences with emphasis on student initiative. Each student will select a major problem to work on during the year. No credit.

493 Senior Dissertation

Restricted to honours students. Three credits.

499 Directed Study

Designed for advanced students interested in fields of study not normally covered in courses or thesis presentations. The research may be field-, laboratory- or library-based. Under the supervision of a faculty member, students will plan and conduct research, present the results of their research at a department seminar, and produce a research paper. Prerequisite: permission of the department chair. Three credits. See section 3.5.

GRADUATE COURSES

501	Special Topics in Petrogenesis of Igneous Rocks
502	Special Topics in Petrogenesis of Metamorphic Rocks
506	Special Topics in Geochemistry
526	Special Topics in Ore Deposits
535	Special Topics in Tectonics
545	Special Topics in Structural Geology
546	Special Topics in Sedimentology and Basin Analysis
565	Special Topics in Hydrogeology
569	Advanced Quantitative Methods in Earth Sciences
571	Special Topics in Earth Systems Science I
572	Special Topics in Earth Systems Science II
575	Special Topics in Geophysics
576	Field Research Methods in the Earth Sciences
585	Special Topics in Paleontology
586	Special Topics in Climatology
591	Research Methods in the Earth Sciences
598	Research
599	Thesis

Additional courses are available depending on the requirements and interests of the student and the availability of faculty.

9.16 ECONOMICS

J. Amoako-Tuffour, Ph.D.
 S. Dodaro, Ph.D.
 S. El-Sheikh, Ph.D.
 M. Gerriets, Ph.D.
 T. W. Leo, Ph.D.
 R. Martinez-Españeira, Ph.D.
 W. Yasmeen, Ph.D.

Department Requirements

Students can earn a BA, a B.Sc. or a BBA with a concentration in economics; an honours degree in economics with a subsidiary subject; or an honours degree in another program with economics as a subsidiary subject. Economics students can complete a minor in business administration.

Programs of study must be approved by the department chair.

BA Minor Program

Degree Requirements

- ECON 101, 102, 201, 202;
- 12 credits ECON

Students who take a minor in economics typically combine the minor with major in English, history, philosophy, political science, or sociology. or with the BBA degree.

BA Major Program

See chapters 4 and 5 for information on the degree patterns, declarations of major, advanced major and honours, advancement and graduation requirements.

Degree Requirements are:

- ECON 101, 102, 201, 202;
- 24 credits ECON with 12 at the 300 or 400 level;
- 3 credits MATH or STAT;

Other subjects and electives should be chosen in consultation with the department chair.

BA Advanced Major Program

Degree requirements are:

- ECON 101, 102, 201, 202, 301, 302, 493;
- 6 credits of MATH or STAT; 3 credits must be calculus;
- 15 credits ECON with 6 at the 300 or 400 level.
- Registration in at least one 300- or 400-level ECON course in the winter term of the final year. A senior paper must be written in this course. At least 25% of the grade calculated for the winter term of the course must derive from this paper.

Other subjects and electives should be chosen in consultation with the department chair. Students interested in graduate work in economics are advised to apply for the honours program or take equivalent courses in the mathematical or quantitative area.

BA Major or Advanced Major in Economics with Minor in Business Administration

Candidates for a major or advanced major in economics may take a minor in business administration by fulfilling the normal requirements for the major or the advanced major degree and completing 24 credits in BSAD. The student will normally complete BSAD 101, 102, 221, 223, 231, 261, and six credits of BSAD electives.

BA Honours Program

Degree requirements are:

- ECON 101, 102, 201, 202, 301, 302, 370, 493, 494; 30 credits ECON electives with at least 18 credits at the 300 or 400 level;
- a thesis supervised by a department member;
- 6 credits of calculus.

Students planning to pursue graduate work in economics are encouraged to take additional MATH courses.

BA Honours with a Subsidiary Subject

An honours degree in economics may be completed with a subsidiary subject. Candidates must follow the degree regulations established by the university and the requirements established by both departments; see *section 4.1 and the relevant department chairs*. Honours degrees with a subsidiary subject are offered in a wide range of disciplines.

The Department of Economics offers the following programs:

BA Honours in Economics and Political Science
 BA Honours in Economics and History
 BA Honours in Economics and Mathematics and Computer Science

When economics is the primary subject, **not** the subsidiary subject, students are required to complete:

- ECON 101, 102, 201, 202, 301, 302, 370, 493, 494;
- 18 credits of ECON electives with at least 12 credits at the 300 or 400 level;
- a thesis supervised by a department member;
- 6 credits of calculus.

When economics **is** the subsidiary subject, students are required to complete:

- ECON 101, 102, 201, 202, 301, 302;
- normally 18 credits ECON electives with at least 6 credits at the 300 or 400 level;
- ECON electives may include ECON 493 with approval of the department chair;
- A course in quantitative methods (ECON 271; STAT 201, 224, 231 or 370) is strongly recommended.

Additional Requirements:

Honours in Economics with a subsidiary in History or in History with a Subsidiary in Economics

Normally the student will enroll in at least 9 credits from ECON 230, 310, 342, 350.

Honours in Economics with a subsidiary in Mathematics and Computer Science

Students must include ECON 401, 402, 471 as ECON electives.

Honours in Mathematics and Computer Science with a subsidiary in Economics

ECON 401, 402, 471 are recommended as ECON electives. Depending on the nature of the individual thesis, joint supervision by an economist and a mathematician may be appropriate.

BBA Joint Honours

In conjunction with the Department of Business Administration, the Department of Economics offers a joint honours program in business and economics. See section 4.1 for degree regulations.

B.Sc. Advanced Major in Economics

See *degree regulations in chapter 5*. Degree requirements are:

- ECON 101, 102, 201, 202, 301, 302, 370, 493;
- 12 credits ECON electives, including 6 at the 300 or 400 level;
- a minimum of 12 credits in MATH including 6 credits of calculus.
- 18 credits of approved electives are normally taken in science subjects (12 credits must be beyond the 100 level);
- PHIL 210 is recommended.

B.Sc. Honours in Economics

See *degree regulations in chapter 5*. Degree requirements are:

- ECON 101, 102, 201, 202, 301, 302, 370, 401, 402, 471, 493, 494 and 21 credits ECON electives with at least 9 credits at the 300 or 400 level;
- a thesis supervised by a department member;
- a minimum of 12 credits in MATH, including six credits of calculus.
- The 18 credits of approved electives are normally taken in science subjects (12 credits must be beyond the 100 level).
- PHIL 210 is recommended.

Note: ECON 101 and 102 are prerequisites for all other courses, except ECON 281 an ECON291 (which require only ECON101). Students lacking other prerequisites may request department approval to enroll in a course

[AR] Indicates Designated Course in Aquatic Resources

101 Introductory Microeconomics

This course provides an introduction to microeconomic concepts and methodology. Students will learn about basic economic concepts such as scarcity and opportunity cost, and economic efficiency. The other central themes of the course include theories of supply and demand; the theory of production and costs, the functioning and the performance of competitive markets versus monopolies and oligopolies; labor markets and the markets for public goods. Three credits.

102 Introductory Macroeconomics

This course, the second half of Introductory Economics, provides an introduction to macroeconomic concepts. The course examines pressing problems and issues in the Canadian economy and the world. Students will learn about alternate economic systems, national income accounting and the components of the national economy; the role of money in the economy; inflation; unemployment; international trade and trade policy; and the role of government in managing the economy. Prerequisite: ECON 101 recommended. Three credits.

201 Intermediate Microeconomic Theory I [AR]

An introduction to the basic concepts of modern microeconomic theory, this course examines the demand-supply model, consumer theory, production theory, and the purely competitive model, using numerical examples and graphs as aids. Three credits.

202 Intermediate Macroeconomics I

This is the first of two half-courses on intermediate macroeconomics. Students will examine the structure of, and behavior underlying, contemporary national economies with emphasis on the policies developed to gear them towards the public interest. This course focuses on the Keynesian and classical models of the closed economy for explaining what determines national income, employment, unemployment, prices, inflation, and the interest rate. Three credits.

211 Local and Community Development Economics

Beginning with theories of local and community economic development and welfare, this course provides an economic analysis of community needs and resources (human resources, capital and natural resources, infrastructure). Students will examine interactions within the community and between the community and the outside world, exploring approaches to local and community economic development and planning. Three credits.

232 History of the Canadian Economy up to 1867

This course begins with the era of first contact between Europeans and Native peoples within the context of the Atlantic economy. The emergence of early staples in response to a complex set of international forces is examined in detail. Attention to the political economy leading to Confederation and the creation of a transcontinental economy is also given special attention. A historical perspective and multi-disciplinary approach will be applied throughout the course. Three credits. Subject to Senate approval.

241 Canadian Economic Policy and Problems [AR]

Covers policy issues and problems in the Canadian economy. Topics include: employment and unemployment; poverty and income distribution; productivity, education and the 'brain drain'; health care and the social welfare safety net; trade and globalization; the environment and sustainable development; the primary sectors, regional disparity; and the new economy. Topics that reflect strong student interest and/or new issues may be added. Three credits.

271 Quantitative Methods in Economics

Introduces students to quantitative methods used in analyzing economic data. Topics include: graphical approaches to solving economic problems; linear and non-linear representations of economic behavior; models in economic analysis; index numbers; hypothesis testing, correlation, and linear regressions. Students will use software (Excel, STATA, SPSS) to analyze economic data. Prerequisite: permission of the instructor. Three credits and lab.

281 Environmental Economics [AR]

As an introduction to the relationship between human economic activity and the environment, this course explores the economic concepts used to analyze the causes, consequences, and possible solutions to local and global environmental issues. Topics include: market failure; property rights; externalities; public goods; environmental valuation; environmental policies dealing with pollution and global issues such as global warming, ozone depletion, biodiversity, and sustainability. Prerequisite: ECON 101. Three credits.

291 Economics of Leisure, Recreation & Sports

This course includes topics related to choices about the time individuals do not spend working. It deals with aspects of the economics of leisure and labor supply; the valuation of time; outdoor recreation; the economics of sports; the economics of dating and marriage; the economics of crime and the consumption of addictive goods; the economics of gambling and other addictive behavior associated with the consumption of leisure, and the economics of the entertainment industry. Prerequisite: ECON 101. Three credits.

301 Intermediate Microeconomic Theory II [AR]

An extension of ECON 201, this course covers price determination in monopoly, monopolistic competition, and oligopoly models. Uncertainty and risk, factor pricing, capital investment over time, externalities, and public goods are discussed. The use of micro-economics as a tool in decision-making is illustrated. Prerequisite: ECON 201. Three credits.

302 Intermediate Macroeconomics II

This sequel to ECON 202 explores the new Keynesian and new classical perspectives on the macro economy. Attention is directed to the determinants of investment, consumption, money demand and supply as well as the role of expectations in macro behavior. Questions of unemployment, inflation, interest rates, the government budget, economic growth and macroeconomic policies are examined in their international setting. Prerequisite: ECON 202. Three credits.

305 Economic Development I

Starting with an overview of the present state of the world, this course explores economic development strategies and prospects for the Third World. Topics include: the meaning of economic development: past and present theories of growth; alternate approaches to economic development (including the grassroots approach and sustainable development); the role of agriculture and industrialization; and issues pertaining to development planning, markets and the role of governments. Cross-listed as DEVS 305. Three credits.

306 Economic Development II

This course covers economic development prospects and experience in the Third World. Topics include: income distribution; population and human resources (including education and health); urbanization, rural-urban migration and the informal economy; labor markets and unemployment; gender and development; savings, taxation and investment; foreign aid and MNCs; the debt problem and structural adjustment; trade and globalization; and the international economic order. Prerequisite: ECON 305. Cross-listed as DEVS 306. Three credits.

312 Industrial Organization

This course deals with the behavior of firms in imperfectly competitive markets and with the role of competition policies. Business practices such as price discrimination, product differentiation, advertising, and investment in research and development will be explained using both traditional models of industrial organization and more recent ones, which emphasize issues of strategic interaction. Real-life illustrations and numerical examples will be used to illustrate the different concepts presented. Prerequisites: ECON 201, 301. Three credits.

330 Money, Banking and Financial Markets

A study of economic principles in determining the effect of money, financial institutions, and markets on an economy. Topics include: the nature of money; importance of payment system; fundamentals of interest rates; role of households as financial managers; the economic role and operation of major financial institutions and markets; demand for and supply of money; goals and process of monetary control. Six credits.

332 History of the Canadian Economy after 1867

This course examines the evolution of Canada within the context of the global economy that first emerged in the mid-1800's and again after the Second World War. Students will gain a deeper understanding of Canada's endowment of natural resources, its vast geography, and various stages of economic development. Special attention is placed on the patterns of economic growth for a resource exporting economy in the age of British and American hegemony. Prerequisites: ECON 201. Three credits. Subject to Senate approval.

341 Regional Economics [AR]

A study of the economic theory used to analyze the distribution of economic activity across regions. The theory is applied to Canada with emphasis on regional disparities in the Atlantic provinces. The course also discusses the role of government policy in altering the distribution of economic activity across provinces. Three credits. Not offered 2009-2010.

342 Maritime Economy [AR]

An overview of the historical and contemporary dimensions of the Maritime economy. The course first traces the development of the Maritime economy with emphasis on the evolution of regional disparities. It then examines the current economy and the economic and political forces that are now generating change. Three credits. Not offered 2009-2010.

351 Schools of Political Economy up to 1870

The course begins with an overview of the economic writings from Ancient Greece to the French Physiocrats in the 1760. The study of British political economy begins with Adam Smith's *Wealth of Nations* in the 1770s. It then examines the doctrines of Classical economists such as Ricardo, Malthus, Stuart Mill, and Marx. Prerequisites: ECON 201, ECON 202. Three credits. Not offered 2009-2010.

352 Schools of Political Economy after 1870

This course offers a survey of the complete range of economic ideas from 'marginal revolution' of the 1870 to the 'new classical' revolution of the 1980s. The topics illustrate the evolution of economic theory and the emergence of competing schools of economic thought. Students will acquire a sense of perspective and appreciation for the rich heritage that contemporary economists can draw from. Prerequisites: ECON 201, 202. Three credits. Not offered 2009-2010.

361 Human Resources and Labor Economics

The course analyzes the essential elements of the labor market: labor demand and labor supply, and their interaction to determine wages, employment and unemployment. Topics include: fertility, education, regional wage disparities, income maintenance schemes, wage discrimination, the unemployment insurance program, unions and collective bargaining, and the distribution of wealth. Prerequisite: ECON 201. Three credits.

364 Health Economics

The course introduces students to the role of economics in health, health care, and health policy. The course focuses on individual's choice pertaining to health, and economic evaluation of various methods of health care delivery. Students will learn how the market for health care differs from other markets, especially with regards to uncertainty and asymmetric information, and understand health insurance markets and their interrelationship with the market for health care services, as well as the role of the government. Prerequisite: ECON 201. Three credits.

365 International Trade

Covers the theory of international trade and its policy implications, including: comparative advantage; gains from trade; terms of trade; trade and growth; trade and economic development; commercial policy (tariff and non-tariff barriers, effective protection, trade liberalization); economic integration (with emphasis on NAFTA and the EC); migration and trade in service; and intellectual property rights. Prerequisite: ECON 201. Three credits.

366 International Payments and Finance

Covers the theory and policy implications of international payments and finance. Topics include: the exchange rate and the foreign exchange market; balance of payments problems and policies; fixed versus flexible exchange rate regimes and common currency areas; the Eurocurrency market; open economy macroeconomics; international finance, financial liberalization and globalization; capital flows and multinational corporations; and the international monetary system. Prerequisites: ECON 201, 202. Three credits.

370 Econometric Methods [AR]

An application of the scientific approach to economic and business phenomena for forecasting and policy design. Students will learn statistical concepts in estimating and testing economic models, including static and dynamic models, and recursive and simultaneous systems. Topics include: multicollinearity, autocorrelation and co-integration, and heteroscedasticity. Prerequisites: MATH 111, 112 or permission of the instructor. Six credits.

381 Natural Resource Economics [AR]

Examines the role of natural resource industries in the Canadian and world economies, including minerals, fossil fuels, forest resources, fisheries and endangered species, and water resources. The course introduces students to the use of economic tools in analyzing problems of renewable and non-renewable resource management. Topics include: welfare and inter-temporal analysis of resource exploitation; ownership and property rights issues in resource use and management; the nature of resource markets; biodiversity conservation; and sustainability. Prerequisites: ECON 201; MATH 111. Three credits.

391 Public Finance I: Expenditures

An analysis of the role of government in the economy, focusing on expenditure and with emphasis on the Canadian situation. Starting with an introduction to the public sector, the course covers: the rationale for government participation in the economy; the growth of the public sector over time; the theory of collective decision-making; cost-benefit analysis; fiscal federalism; specific spending programs. Prerequisite: ECON 201. Three credits.

392 Public Finance II: Taxation

An analysis of the role of government in the economy, focusing on revenue and with emphasis on the Canadian situation. Starting with an introduction to taxation and tax policy, the course covers: individual income taxes; corporation taxes; consumption; value-added and sales taxes; property and other taxes; tax reform; the revenue side of fiscal federalism; and the international dimensions of taxation and taxation policies. Prerequisite: ECON 201. Three credits.

401 Advanced Microeconomics

An advanced treatment of micro-economic concepts and topics, such as consumer choice and demand analysis, production technology and cost, market structure and pricing, factor markets and shares, general equilibrium and economic welfare. Prerequisites: ECON 301; MATH 111, 112; ECON 471. Three credits.

402 Advanced Macroeconomics

An advanced treatment of macroeconomic theory and how macroeconomic policy is conducted. The course offers deeper insights into economic growth processes, business cycles, international macroeconomics stabilization policies, and alternative approaches to building macroeconomic models. Students are introduced to the use of two-period models. Prerequisites: ECON 302; MATH 111, 112; ECON 471. Three credits.

471 Mathematical Economics

An introduction to mathematical reasoning in economics and business, this course covers: the methodology of operations research; profit and cost analysis; resource use and production decisions; input-output and macro-analysis; pricing and inventory decisions; capitalization of cash flows and growth; portfolio selection and investment. Prerequisites: MATH 111, 112. Three credits.

491 Selected Topics I

Course content changes from year to year and may reflect faculty involvement in a specific area of research. Three credits.

492 Selected Topics II

The specific content of the course will change from year to year and may reflect faculty involvement in a specific area of research. Three credits.

493 Seminar

A capstone course intended to provide students with an overview of the discipline of economics. The approach taken may depend on the area of expertise of the instructor, and topics are determined to some extent by the interests of students. The course normally surveys the history of economic thought so that students gain an understanding of the evolution of the discipline, its methodology, and its relationship to economic policy. Other course content that achieves similar goals may be substituted. Three credits.

494 Thesis

Each student works under the supervision of a professor who guides the selection of a thesis topic, the use of resources, the methodological component, and the quality of analysis. Restricted to honours students. Three credits over full year.

499 Directed Study

A directed study course in advanced topics in economics. See section 3.5. Students wishing to take this course must consult the department chair. Three credits.



9.17 SCHOOL OF EDUCATION

I. Bernard, Ph.D.
 O. Chareka, Ph.D.
 A. Curry, M.Ed.
 A. Foran, Ph.D.
 J. Grant, Ed.D.
 L. MacDonald, Ph.D.
 M. Meyer, Ph.D.
 A. Murray Orr, Ph.D.
 B. Mwebi, Ph.D.
 J. Norris, Ph.D.
 M. Olson, Ph.D.
 J. Orr, Ph.D.
 D. Robinson, M.Ed.
 J. Tompkins, Ph.D.
 R. White, Ph.D.
 D. Young, Ph.D.

Part Time

J. Connors, M.Ed.
 L. de Villiers, M.Ed.
 W. Duggan, M.Ed.
 M. Firminger, M.Ed.
 W. Fougere, M.Ed.
 D. Graham, M.Ed.
 M. Hinchey, M.Ed.
 W. Kraglund-Gauthier, M.A.Ed.
 L. Lunney-Borden, M.Ed.
 W. MacAskill, Ph.D.
 B. MacDonald, M.Ed.
 N. MacDougall, M.Ed.
 Sr. M. MacNeil, MAS
 A. Pasqualotto, M.Ed.
 R. Ryan, M.Ed.
 B. Timmons, M.Ed.
 J. Withrow, Ph.D.

See chapter 6 for B.Ed. regulations and chapter 8 for M.Ed. regulations. Candidates are required to complete all of the courses shown below for the elementary or secondary division.

Department of Teacher Education

9.17.1 Bachelor of Education

Elementary Program

Year 1 (E1) EDUC 411, 412, 413, 416, 433, 435, 439, 471, 472;
 Year 2 (E2) EDUC 414, 417, 434, 436, 468, 481, 482;
 9 credits EDUC electives with at least 3 from EDUC 442, 456,
 457, and 458.

Secondary Program

Year 1 (S1) EDUC 432, 433, 435, 471, 472; a first curriculum and
 instruction course taken from EDUC 421 to 429;
 6 credits EDUC electives
 Year 2 (S2) EDUC 434, 436, 438, 440, 481, 482; a second curriculum
 and instruction course taken from EDUC 421 to 429; 6 credits
 EDUC electives.

Mi'kmaq Language Focus

A student in either the elementary or secondary program can achieve a focus on Mi'kmaq language by earning credit for EDUC 454 and 455.

French Language Specializations

A student in either the elementary or secondary program may specialize in teaching French. Students who complete EDUC 459 and 460 may achieve a core French specialization. Students with demonstrated French fluency can, after successfully completing 459 and 460, take EDUC 428 in their second year to qualify to teach in French immersion. Elementary students specializing in French immersion are not required to take Education 415.

Physical Education Specialization

A student in either the elementary or the secondary program may specialize in teaching physical education by earning credits for EDUC 457, 425A and B, and 444. These courses prepare the teacher for a K-12 physical education where the emphasis is on the development of a physically active lifestyle, and includes such topics as movement education, fitness and dance, outdoor education, health education, personal development. Students pursuing this specialization would take EDUC 425A in the fall of year one, EDUC 547 in winter year one; EDUC 444 in the fall of year two, and EDUC 425B in the winter of year two.

Core Courses for Elementary and Secondary Programs

Year One

433 Sociology of Education

This course will examine the social-political context of education in Canada, particularly contemporary structures. Students will explore the relationship between educational opportunity and conditions of inequality. Three credits.

435 Inclusive Practices I

This course discusses educational practices and procedures, past and present, affecting pupils who have been marginalized socially and/or physically. These policies have evolved from an ideology of exclusion to inclusion. Preservice teachers will learn curriculum and instructional approaches to assist in meeting the academic and socio-emotional needs of students with diverse learning needs. Three credits.

471 Internship I

Students are placed in schools for five weeks of supervised practice teaching. Three credits.

472 Internship II

Students are placed in schools for five weeks of supervised practice teaching. Three credits.

Year Two

434 Contemporary Issues in Public Education

This course examines the historical, legal, and philosophical underpinnings of contemporary issues facing public schooling. Goals, purposes, and dilemmas in Canadian education that have affected such facets of education as the structure of Canadian schooling, political and policy making processes, educational law, the work of teachers' organizations, and educational standards are explored. Three credits.

436 Inclusive Practices II (E2 & S2)

This course provides preservice teachers with an understanding of the learning strengths and challenges of students with severe learning needs. Emphasis will be placed upon collaborative team planning, awareness of the professional supports provided by educational specialists, the assessment and education referral process, and the development of individualized educational plans which modify curricula. Three credits.

481 Internship III

Students are placed in schools for five weeks of supervised practice teaching. Three credits.

482 Internship IV

Students are placed in schools for five weeks of supervised practice teaching. Three credits.

Required Elementary Courses

411 Curriculum and Instruction in Language and Literacy I (E1)

This course is designed to prepare prospective elementary teachers to teach the language arts: reading, writing, speaking, listening, and viewing. Also included is comprehensive literacy programming, children's literature, authentic assessment, and organizing the classroom for language instruction across the curriculum. Throughout this course, the practical influence of various language arts theories is emphasized with a particular focus upon early literacy in the lower elementary grades. Three credits.

412 Curriculum and Instruction in Mathematics (E1)

This course includes an examination of the elementary school mathematics program, and of various approaches to teaching mathematics to children, with emphasis on converting these approaches into teaching strategies. Three credits.

413 Curriculum and Instruction in Science (E1)

The focus of this course is an emphasis on the process approach to teaching science, on the inquiry method, and on special techniques in the teaching of scientific concepts. The elementary science curriculum is examined. Three credits.

414 Curriculum and Instruction in Language and Literacy II (E2)

This course is a continuation of Language Arts I with emphasis on the upper elementary years. Three credits.

416 Curriculum and Instruction in Social Studies (E1)

A review of the social studies programs used in elementary school, with emphasis on the development of skills, methods and approaches involved in teaching these programs. Three credits.

417 Curriculum and Instruction for Diversity (E2)

This course provides preservice teachers with an overview of curricular approaches and content for representing the cultural diversity of Canadian society in the elementary curriculum. Multicultural, anti-racist, feminist, and Aboriginal approaches to curriculum content, teaching, assessment, classroom management, and learning are emphasized. Three credits.

439 Principles and Practices of Elementary Education (E1)

This course emphasizes the foundations of becoming an elementary school teacher. Topics include the professional and ethical role of the teacher, educational planning, the professional development process, reflective practice, teaching strategies, learning processes, classroom environment and management. Six credits.

468 Teaching Mathematics in Middle Schools

Students will learn the process, content, and assessment of middle school mathematics. They will make connections, communicate, reason mathematically, and complete problems. Students will explore strategies for the development of conceptual understanding through multiple representations. Three credits.

Required Secondary Courses**420 to 429 Curriculum and Instruction in Secondary Education (S1 and S2)**

Curricular and instructional concepts will be described, demonstrated, evaluated, and applied in relation to the following subject fields of the school curriculum:

- 420 A & B Gaelic
- 421 A & B English
- 422 A & B Social Studies
- 423 A & B Mathematics
- 424 A & B Diverse Cultures (First Nations and African-Canadian Studies)
- 425 A & B Physical Education
- 426 A & B Music
- 427 A & B Science
- 428 A & B French
- 429 A & B Fine Arts

Students normally register for one of these eight courses in year one, and a second in year two. The choice is determined by each student's two subject fields of study. For students pursuing a French or physical education specialization, please consult that section of the Calendar for more details of course sequence. Three credits.

432A & B Principles and Practices of Secondary Education (S1)

This course emphasizes the foundations of becoming a secondary school teacher. Topics include the professional and ethical role of the teacher, educational planning, the professional development process, reflective practice, teaching strategies, learning processes, classroom environment and management. Three credits each.

438 Assessment of Learning (S2)

This course explores issues surrounding the assessment of learning from a variety of perspectives. Basic principles of learning theory will be emphasized in the context of curricular examples from different teachable subject areas. Students will gain the skills necessary to critically evaluate and develop effective assessment approaches. Three credits.

440 Literacy in the Content Areas

This course explores and models teaching strategies that are consistent with the philosophy and background theory of content literacy. Students use the associated theories of literacy and the five recognized tools (reading, writing, speaking, listening, viewing) to develop their knowledge of, and skill in applying, these concepts. Three credits.

Electives**200 A & B French/Education (Thematic Oral Communication)**

Available exclusively to education students, this course enhances French communication skills, leading to the necessary proficiency to teach core French at the elementary level. The course is designed for students who have studied French as a second language at the secondary level, or who have had some exposure to French at the university level. Three credits each.

419 Curriculum and Instruction in Middle School Science

This course examines curriculum and instructional strategies appropriate in middle years' science classrooms, including an emphasis on the process approach to teaching science, the inquiry method, and special techniques in the teaching of scientific concepts. The grade six to grade nine science curriculum is examined. Three credits.

437 Guidance (S2)

This course focuses on the development and knowledge of interpersonal relationships and interpersonal skills required by the classroom teacher in providing guidance for his/her students. It addresses specific strategies and frameworks for meeting the needs of at-risk students and those with other special needs in a variety of contexts. The basic principles and practices of guidance will be emphasized. Three credits.

442 Learning Through Drama

This course provides pre-service, K-12 teachers with concepts and ideas for drama lesson plans; approaches to drama; basic drama and drama education theory; a working knowledge of theatre production; an introduction to the Nova Scotia curricular guidelines; and play selection guidelines for elementary and secondary student productions. Three credits.

444 Outdoor Experiential Education

Students will explore strategies to encourage their pupils to achieve, appreciate, and maintain a physically active lifestyle in the outdoors. They will learn to develop physical education programs that foster a life-long commitment to recreational activity that is enjoyable, challenging, and that allows for self-expression and positive social interaction. Three credits.

446 Instruction in Resource-Based Learning

Examines instructional methods for engaging students in the process of locating, managing, analyzing, organizing, adapting, evaluating, and sharing information using a variety of resources and technologies. Pre-service teachers will learn to promote student independence; and to empower students according to their multiple intelligences, preferred learning styles, and other ways of knowing. Three credits. Not offered 2009-2010.

453 English as a Second Language Methods

Provides student teachers with a thorough understanding of the theoretical and methodological aspects of learning and teaching a second language, focusing on the learning/teaching of English (ESL). Students will become familiar with relevant research and will examine the prevalent theories in different ESL areas. Three credits.

454 Mi'kmaq Language Arts I

This course will focus on language acquisition theories and the methodologies that support these theories. Students will examine current approaches to bilingual language learning, especially reclaiming and revitalizing aboriginal languages. Topics include: early literacy strategies linked to oral tradition; immersion strategies; promoting oral and written language; different writing systems used by Mi'kmaq over time, including the Smith-Francis orthography. Three credits. Not offered 2009-2010.

455 Mi'kmaq Language Arts II

This course combines theories of language acquisition with their practical application in first- and second-language classrooms. Topics include: materials and lesson development; using community resources; bringing elders into the

classroom; making links with parents and other community members for language revitalization; connecting language communities using technology. Students will continue to perfect their ability to use the Smith-Francis orthography. Three credits. Not offered 2009-2010.

456 Curriculum and Instruction in Music

This course provides an examination of music methods, materials, and curricula, using the Kodaly and other systems currently in use in the elementary school system. Three credits. Not offered 2009-2010.

457 Curriculum and Instruction in Elementary Physical Education

This course is designed to introduce the seven content strands of elementary physical education, and to investigate how these content areas may be integrated with other subjects in the elementary school curriculum. Three credits.

458 Curriculum and Instruction in Visual Arts

The aim of this course is to introduce the student to the visual and creative arts, and to discover ways to integrate these with the other subjects of the elementary school curriculum. Three credits.

459 French Education I

This course surveys several theories of language learning and the methodologies that reflect these theories. Students will learn how the National Core French Study (NCFS) brought about a change in French curriculum throughout Canada, and how the four syllabi of the NCFS are incorporated into all aspects of French second-language teaching and learning. Three credits.

460 French Education II

This course combines theories of language acquisition with their practical application in the second-language classroom. Topics will include: unit planning and implementation; materials and lesson plan development in the four skill areas; co-operative grouping strategies; graphic organizers as learning strategies; learning centres and authentic evaluation techniques. Three credits.

462 Teaching Religious Education in a Catholic School

Students will learn about the Canadian Catholic catechism and its setting within the doctrinal foundations of the Catholic faith. Related topics of religious philosophy and spirituality and their roles in people's lives will be explored. Three credits. Offered 2009-2010 and in alternate years.

463 Elementary Assessment

This course identifies the limitations of traditional assessment approaches, and explores the premises underlying alternative assessments. Students will develop their skills in authentic assessment approaches. Three credits. Not offered 2009-2010.

464 Environmental Education

Beginning with the assumption that solutions to environmental problems require well-designed environmental education programs, students will develop a conceptual framework and practical strategies for creating an environmental education curriculum for grades K-12. Three credits.

467 Computers in Education

This course covers applications of computers in education. Students will use e-mail and browsers to access the internet and the world wide web; join listserves in education and their fields of interest; and learn how to use computers to complement their teaching. Prerequisite: normally, students will have completed a course in computer literacy or be able to demonstrate knowledge of computers. Three credits.

469 Selected Topics in Education

This course provides an opportunity for students to explore in detail current topics and issues in education. Content will vary from year to year. Three credits.

493 Directed Study

In consultation with the department and with permission of the chair, students may undertake a directed study in an approved area of interest not available through other course offerings. See section 3.5. Three credits.

Department of Curriculum and Leadership

9.17.2 Master of Education

Graduate courses in education are offered in the fall, winter, and spring terms in locations around the province and in summer school in July in Antigonish.

Because the majority of M.Ed. candidates study part time, the fall, winter, and spring courses are offered in evenings and on weekends.

Candidates for the M.Ed. are normally required to take EDUC 505 and EDUC 534 as their first two courses in Antigonish during the summer session after acceptance into the program. EDUC 505 is a prerequisite for EDUC 506, 507, 508. Normally EDUC 506, 507, 508 are taken after the core courses are completed. EDUC 506 or 507 is required in the thesis route.

Educational Administration and Policy Stream		Credits
505	Introduction to Educational Research	3
506	Quantitative Research Methods in Education	3
	or	
507	Qualitative Research Methods in Education	3
	or	
508	Critical Research Literacy in Education	3
533	Dynamics of Change	3
534	Introduction to the Foundations of Education	3
561	Leadership and Administrative Theories	3
573	Professional Development and Supervision	3
599	Thesis	12
Electives:	in the thesis option	6
	in the course-based option	18

Electives are to be selected from the graduate courses offered in education and should reflect the focus of study chosen by the student.

Curriculum and Instruction Stream		Credits
505	Introduction to Educational Research	3
506	Quantitative Research Methods in Education	3
	or	
507	Qualitative Research Methods in Education	3
	or	
508	Critical Research Literacy in Education	3
527	Principles of Learning	3
532	Curriculum Theory	3
534	Introduction to the Foundations of Education	3
536	Program Development	3
599	Thesis	12
Electives:	in the thesis option	6
	in the course-based option	18

Electives are to be selected from the graduate courses offered in education and should reflect the focus of study chosen by the student. No substitution or transfer of credit will normally be allowed in the core courses.

501 Program Evaluation and School Data Management

This course will explore the purposes, procedures, and strategies inherent in the design and implementation of effective program evaluations. Three credits.

505 Introduction to Educational Research

This introductory course covers reading and understanding educational research. Students will explore research issues and critically interpret the main types of research, including descriptive research, qualitative research, case studies, and empirical studies. Three credits.

506 Quantitative Research Methods in Education

An introduction to fundamental statistical concepts and methods, together with practical advice on their effective application to real-world problems. Students will explore the basic components of a research proposal. Prerequisite: EDUC 505. Three credits.

507 Qualitative Research Methods in Education

This course explores current qualitative methodologies used in educational contexts. Students will explore the components of a research proposal, and develop an understanding of methodologies such as phenomenology, ethnography, critical theory, narrative, and action research. Prerequisite: EDUC 505. Three credits.

508 Critical Research Literacy in Education

This course examines educational research issues and trends from the perspective of professional practice. Students will explore a variety of educational research publications in relation to their own educational context. Prerequisite: EDUC 505. Three credits.

513 Problems and Issues in Special Education

Covers current theories of, and practices in, the education of children with special needs from pre-school through adolescence. Research relevant to assessment, instruction, counselling, and vocational programming practices will be examined. Proposals to modify program models will be included. Three credits.

514 Teaching Children with Learning Difficulties I

This course presents an overview of the historical and philosophical approaches to teaching children with learning difficulties. Students will examine the learning difficulties children can bring to the classroom. Three credits.

517 Teaching Children with Learning Difficulties II

This course focuses on the development of individualized instruction for children with learning difficulties who are in the regular classroom. Students will analyze the effectiveness of various approaches. Three credits.

520 Current Research in Curriculum

A critical exploration of recent theories and research related to current issues in curriculum with a concentration in one of:

- 520A English Language Arts
- 520B French
- 520C Mathematics
- 520D Diverse Cultures
- 520E Science
- 520F Social Studies
- 520G Physical Education
- 520H Arts
- 520I Health
- 520J Outdoor/Experiential

Three credits each.

521 Current Research in Instruction

A critical exploration of recent theories and research related to current issues in instruction with a concentration in one of:

- 521A English Language Arts
- 521B French
- 521C Mathematics
- 521D Diverse Cultures
- 521E Science
- 521F Social Studies
- 521G Physical Education
- 521H Arts
- 521I Health
- 521J Outdoor/Experiential

Three credits each.

527 Principles of Learning

This course examines theories of learning and development and their implications for instruction. In addition to the general cognitive and behaviorist theories, the course will focus on the aspects of cognitive learning that are relevant to understanding the diversity of learners. Three credits.

529 School and Teaching Effectiveness

An examination of research on school and teaching effectiveness and the implications of this research for school improvement. Three credits.

532 Curriculum Theory

In this course the ideas of major curriculum theorists will be examined and the implications of each position for program development for schooling will be explored. Three credits.

533 Dynamics of Change

This course examines major concepts in the successful implementation of change. Students will learn to recognize and understand the ways in which change can have an impact on education. Three credits.

534 Introduction to the Foundations of Education

Students are asked to critically examine their own practice and its context. Issues of power and privilege as they operate in the field of education are central unifying themes of the course. The investigative approach includes ethical reasoning, autobiographical reflection, arts and esthetics, deconstruction and sociological analysis. Three credits.

536 Program Development

Program development is investigated from the practitioner's perspective using narrative inquiry to explore relationships among the four curriculum commonplaces of students, teacher, curriculum, and milieu. Three credits.

537 Philosophical Foundation of Curriculum

This course examines the philosophical foundations, criteria, and principles underlying the choice of subjects and curricula in educational institutions. Three credits.

538 Nature of the Reading Process

This course will examine theoretical models related to our understanding of the reading process, and will explore the contribution of the science of linguistics to the development of reading theory. Three credits.

540 Educational Finance

While providing students with the opportunity to explore public and private funding of education, this course will also examine the moral, political, and economic bases for decisions in educational finance in the context of current educational and societal trends. Three credits.

541 Administration of First Nations Education

An introduction to the historical, legal, and philosophical bases of First Nations education. The course will explore issues related to the roles, responsibilities, and duties of administrators in band-controlled schools. Three credits.

543 Internship

Under faculty supervision, student interns will develop their practical and theoretical knowledge and competence in a particular area of education. Three credits.

544 Cross-Cultural Issues in Education

Students will examine various issues and theories related to cultural and race relations policies and practices in the education system. Three credits.

545 English as a Second Language

The course will cover theoretical and methodological aspects of learning and teaching a second language, focusing on the learning and teaching of English. Students will become familiar with the relevant research and examine the prevalent theories in different ESL areas. Three credits.

553 Assessment for Teaching Students with Learning Challenges I

This course will review trends and practices in assessment. Students will appraise various types of assessment, both standardized and informal, paying attention to characteristics, areas of usefulness, and limitations. Three credits.

554 Assessment for Teaching Students with Learning Challenges II

Students will develop the ability to choose formal and informal measures for assessing individual student achievement. They will learn how to administer, interpret, and communicate the results of these assessments. Relating the results of the assessment to the provincial outcomes suitable for the students will be a critical component of the course. Prerequisite: EDUC 553. Three credits.

561 Leadership and Administrative Theories

This course is an introduction to theory, research and practice in educational administration. Emphasis is placed on the evolutionary nature of administrative theory and its role in the operation of public education systems. Three credits.

562 Contemporary Issues in Educational Administration Theory

This course further explores contemporary issues in the theory, research, and practice of educational administration. Building upon EDUC 561, students will discuss topics such as post-modernism, feminist theory, chaos theory, and critical theory. Prerequisite: EDUC 561. Three credits.

564 Administration of Inclusive Schools

Many Canadian educational systems have inclusive schooling as a priority. This course will provide an overview of the movement towards inclusive schools and will explore proven practices in the administration of these schools. Three credits.

567 School Law

An examination of legal principles and procedures pertaining to school boards, administrators, and teachers. Consideration will be given to legislation and court decisions relative to the organization, policy, and administration of school districts in Nova Scotia. Three credits.

569 Selected Topics in Education

Students will explore in detail the theoretical underpinnings and practical implications of various topics and issues in education. Course content will vary from year to year. Three credits.

571 Specific Issues in School Administration

This course examines recurring and emerging issues in educational administration from the perspective of their theoretical roots. Students will address problems identified in the literature and in their own practice, develop an understanding of the issues involved, examine the theoretical assumptions influencing these problems, and create alternative solution strategies. Three credits.

573 Professional Development and Supervision

This course addresses the role of supervision in an instructional program, focusing on human resources and the professional development process for instructional and support staff. Three credits.

576 Specific Issues in Curriculum Development

This course will examine selected contemporary educational controversies and explore their implications for curriculum decision-making. Students will examine current issues and problems. Three credits.

577 Computers in Humanities Education

This online course provides an overview of the role of computers in elementary and secondary education. By reading articles and books on selected topics, students will have a starting point for online discussions about the issues associated with computer technology in the classroom. Students also study a variety of software packages and Internet websites and create web lessons. Some prior knowledge of computers and basic keyboarding skills is required. This course will be of interest to K-12 teachers who are interested in using computers in language arts, social studies and the arts. Three credits.

578 Computers in Science Education

This online course provides an overview of the role of computers in elementary and secondary education. By reading articles and books on selected topics, students will have a starting point for online discussions about the issues associated with computer technology in the classroom. Students also study a variety of software packages and Internet websites and create web lessons. Some prior knowledge of computers and basic keyboarding skills is required. This course will be of interest to K-12 teachers who are interested in using computers in the sciences. Three credits.

581 The Role of the Principal

An examination of perspectives on educational leadership, delegation of functionally categorized responsibilities, administration of instructional programs, effective enhancement of staff, and the development of productive and satisfying learning environments for students. Three credits.

583 Education Planning and Policy

An examination of political theory as a basis for constructing policy and planning for the implementation of policy. Three credits.

590 Research Project

This course involves individual research, under the supervision of a faculty member, which develops both practical and theoretical understanding and competence in a particular area of education. Six credits.

593 Directed Study

In consultation with the department chair, students may undertake a directed study program in an approved area of interest that is not available through other course offerings. See section 3.5. Three credits.

595 Seminar

Students work under the supervision of a professor who will guide them in the selection of thesis topics and the preparation of thesis proposals. Students will have the opportunity to discuss their work with others as the research proposal is prepared. No credit.

599 Thesis

Twelve credits.

9.18 ENGINEERING

F. Comeau, Ph.D., P.Eng.
E.C. Oguejiofor, Ph.D., P.Eng.
W.R. Quinn, Ph.D., P.Eng.

Part Time

P. Doiron, P.Eng.
A. Miadonye, Ph.D.
N. van Rossum, P.Eng.

Program requirements are found in chapter 7. Students must follow the program outlined below:

Year 1	33 credits of CHEM 120; ENGR 121, 122, 133, 136, 144; PHYS 120; 6 credits of a writing course, normally taken from ART (history), CELT (literature or culture), ENGL, HIST, PHIL, PSCI, RELS, or SOCI/ANTH
Year 2	36 credits consisting of 12 credits of ENGR 221, 224, 237, 242; in addition to 24 credits of the program specific courses listed below. Humanities electives are normally taken from ART (history), CATH, CLAS, CELT (literature or culture), ENGL, HIST, PHIL, RELS, or language courses beyond the language acquisition level

Program-specific courses are as follows:

Biosystems	ENGR 231, 234, 235, 244; BIOL 111, 112; CHEM 225; 3 credits humanities elective
Chemical	ENGR 222, 223, 227, 228, 233, 234; CHEM 225; 3 credits humanities elective
Civil	ENGR 222, 223, 231, 233, 234, 235, 244; 3 credits humanities elective
Electrical & Computer	ENGR 222, 223, 233, 238, 244 (252, for computer option), 245, 246, 248;
Environmental	ENGR 234, 244; BIOL 111, 112; CHEM 225; ESCI 171, 172, 3 credits humanities elective
Industrial	ENGR 222, 223, any two of (ENGR 231, 234, 233 and 238), 235, 236, 244; 3 credits humanities elective
Mechanical	ENGR 222, 231, 233, 234, 235, 236; 6 credits humanities electives
Materials	ENGR 222, 223, 231 or 236, 233, 234, 235, 244; 3 credits humanities elective
Mineral Resource	ENGR 222, 223, 231, 233, 234, 235, 244; 3 credits humanities elective

Please visit the following website: www.stfx.ca/academic/engineering

121 Calculus I for Engineers

This course examines the main idea of calculus of a single variable. It covers functions; limits; continuity; differentiation and integration of polynomial, exponential, logarithmic and trigonometric functions; product, quotient and chain rules; applications of differentiation to graphing; maximum-minimum problems and related rate problems; definite and indefinite integrals and the fundamental theorem of calculus. Cross-listed as MATH 121. Three credits and two-hour lab.

122 Calculus II for Engineers

A continuation of ENGR 121, this course covers applications of integration including areas, volumes, moments, pressure and work; techniques of integration; numerical integration; length of curves; surfaces of revolution; parametric equations; polar co-ordinates; sequences and series and Taylor series. Cross-listed as MATH 122. Three credits and two-hour lab.

133 Engineering Design and Graphics I

Designed to introduce graphics as a fundamental tool in the engineering design process, to orient and motivate students by introducing them to real engineering situations, and to develop skills in engineering drawing. Three credits and three-hour lab.

136 Statics

Covers statics of particles and rigid bodies. Designed to teach the principles and application of mechanics, and to develop an analytical approach to solving problems. Vector analysis is used extensively. Three credits and three-hour lab.

144 Computer Programming for Engineers

Using C/C++ language, this course introduces the fundamental principles of computer programming for solving engineering problems. Topics include: flow control, modularity, structured programming, algorithms for searching and sorting, and the conversion of these algorithms to C/C++ programs, with the necessary testing and debugging. Cross-listed as CSCI 125. Three credits and two-hour lab.

221 Differential Equations for Engineers

Covers first order linear and non-linear ordinary differential equations; ordinary differential equations of higher order with constant coefficients; applications to engineering problems; power series solutions; Laplace transforms; periodic functions; applications of Laplace transforms to linear systems; Fourier series. Cross-listed as MATH 221. Prerequisites: ENGR 121, 122 or MATH 121, 122. Three credits and two-hour lab.

222 Calculus III for Engineers

Extends the ideas introduced in MATH 121 to the calculus of several variables, and covers space curves, arclength, curvature; partial derivatives; implicit functions; constrained and unconstrained extrema; multiple integrals; line, surface, and volume integrals; change of variables in multiple integrals; scalar and vectors fields; gradient, divergence, and curl; Stokes theorem. Cross-listed as MATH 222. Prerequisites: ENGR 121, 122 or MATH 121, 122. Three credits and two-hour lab.

223 Linear Algebra for Engineers

Covers geometric vectors in three dimensions; dot product; cross product; lines and planes; complex numbers; systems of linear equations; matrix algebra; matrix inverse; determinants; Cramer's rule; introduction to vector spaces; linear independence and bases; rank; linear transformations; orthogonality and applications; Gram-Schmidt algorithm; eigenvalues and eigenvectors. Cross-listed as MATH 223. Prerequisites: ENGR 121, 122 or MATH 121, 122. Three credits and two-hour lab.

224 Probability and Statistics for Engineers

This course covers: probability laws and the interpretation of numerical data; probability distributions and probability densities; functions of random variables; joint distributions; characteristic functions; inferences concerning mean and variance; tests of hypotheses; linear regression; and time series analysis. Engineering applications are emphasized and statistical computer packages are used extensively. Cross-listed as STAT 224. Three credits and two-hour lab.

227 Fundamentals of Chemical Engineering

Covers mass and energy balances for reacting and non-reacting chemical processes. Topics include: the system of units; processes and process variables; mass balances for single-phase and multi-phase systems; Gibbs phase rule; Raoult's law; Henry's law; colligative properties; energy balances; combined mass and energy balances on reactive and non-reactive processes and on transient processes. Prerequisite: CHEM 120. Three credits and two-hour lab.

228 Industrial Chemistry

This course introduces selected chemical process industries, with particular emphasis on the Canadian scene. Examination of basic chemical industries and the relationship between chemistry of the process, kinetics, thermodynamics, unit operations and process design is made. Visits to chemical process industries within Nova Scotia is an integral part of the course. Cross-listed as CHEM 381. Prerequisite: CHEM 120. Three credits and three-hour lab.

231 Dynamics

This second course in the study of engineering mechanics covers dynamics of particles and rigid bodies. Topics include: kinematics; kinetics of particles and rigid bodies in plane motion using Newton's second law; the principle of work and energy; and the principle of impulse and momentum. Vector analysis is used extensively and there will be computer applications. Prerequisite: ENGR 136. Three credits and three-hour lab.

233 Thermodynamics

Introduces the first and second laws of thermodynamics and shows how these laws are applied to the solution of engineering problems. Topics include: the basic concepts of thermodynamics; the properties of pure substances; the first and second laws of thermodynamics and their application to non-flow and steady and unsteady flow processes; entropy; irreversibility; availability; vapor and combined cycles. Three credits and three-hour lab.

234 Fluid Mechanics

Study of the statics and dynamics of incompressible fluids. Describes fundamental fluid properties; fluid statics; kinematics and kinetics of ideal and real fluids; continuity, momentum and energy equations; a study of similitude and dimensional analysis; boundary layer concept; flow in pipes. Prerequisite: ENGR 136. Three credits and three-hour lab.

235 Strength of Materials

An introduction to basic principles of stress, strain, and stability. Topics include: plane stress and strain; relationships between stress and strain; mechanical properties of materials; shear force; bending moment; axial force; torsion; stresses and deformations due to foregoing force effects; elastic and inelastic buckling. Prerequisite: ENGR 136. Three credits and three-hour lab.

236 Engineering Design and Graphics II

In this project-based course, students will learn to carry out an engineering design. Topics include: the graphical presentation of data and graphical analytic techniques. Elementary project management concepts are introduced and used in developing a schedule for the design projects that are carried out to completion. Prerequisites: ENGR 133, 136, 144, 231, 235, 237. Three credits and two-hour lab/design session.

237 Basic Electric Circuits Theory

Topics include: introductory concepts; resistive networks; response to linear circuits with energy storage; exponential excitation functions; steady-state AC circuits; analysis; network analysis; systems. Cross-listed as PHYS 221. Prerequisite: ENGR 121, 122, and concurrently with ENGR 221; PHYS 120. Three credits and three-hour lab.

238 Digital Logic

This hands-on, practical course introduces digital electronics with applications to computer hardware and micro-computer peripherals. Topics include: the families of digital electronic technology; combinational and sequential logic; digital device characteristics; micro-computer interfacing; data acquisition; instrument control; data transmission. Labs provide an opportunity to design and test practical digital devices. Cross-listed as PHYS 223. Prerequisite: PHYS 120. Three credits and three-hour lab.

242 Engineering Economics

This course provides an introduction to the economic aspects of decision-making in engineering. Topics include: fundamental concepts; cash flow diagrams; interest factors; discounted cash flow techniques; rate of return; inflation; accounting; tax; project financing; sensitivity and risk analysis; replacement analysis; public sector analysis. Three credits and one-hour lab.

244 Technical Communications

This course covers methods of producing engineering documents and presentations. Students will learn skills related to finding, using, and documenting engineering information sources. Three credits and one-hour tutorial and presentation session.

245 Data Structures and Numerical Methods

Introduces the student to system analysis and software techniques. Topics include: objects, stacks, queues; multiple linked lists; searching and sorting algorithms and their implementation in the C++ programming language. Linear algebra and numerical methods are applied to engineering examples to facilitate the implementation of properly structured solutions. Prerequisites: ENGR 121, 122, and 144. Three credits and two-hour lab.

246 Circuit Analysis

Covers advanced circuit analysis techniques, starting with sinusoidal excitation. Topics include: grounding and harmonics; symmetrical components and dealing with unbalanced networks; real and reactive power flow; balanced three-phase circuits for power distribution; phasors and complex impedance. Mutual inductance and magnetically coupled coils are used to introduce transformer behavior and performance. Prerequisites: ENGR 144, 237. Three credits and three-hour lab.

248 Electrical Engineering Design I

This course, which is project-based, introduces design methodology in electrical engineering. Topics include: design overview; problem decomposition; solving and planning; decision support techniques; uncertainty and time management analysis and synthesis for implementation; technical design; design evaluation; prototype construction; troubleshooting; project communication. Prerequisites: ENGR 133, 136, 144, 237, 238. Three credits and two-hour lab/design session.

252 System Analysis

This course examines the process of software system analysis. It covers system modelling, including object-oriented techniques, and includes a project consisting of analysis of a relatively complex system for which a corresponding software code must be designed and written. Cross-listed as CSCI 485. Prerequisite: ENGR 245. Three credits and two-hour lab.

9.19 ENGLISH

M. D'Arcy, Ph.D.
J. Khoury, Ph.D.
J. Lynes, Ph.D.
P.A. Marquis, Ph.D.
M.B. McGillivray, Ph.D.
M.A. Moynagh, Ph.D.
R.A. Nemesvari, Ph.D.
M. Nilges, Ph.D.
J. Potts, Ph.D.
C. Rushton, Ph.D.
D. Rymhs, Ph.D.
D. Smith, Ph.D.
E. Wilputte, Ph.D.

Part Time

P. Milner, Ph.D.
A. Simpson, MA
J. Strickler, MA
J. Taylor, Ph.D.
D. Wood, MA, B.Litt., Senior Research Professor

English courses are organized into nine categories.

Medieval Literature

206 World Masterpieces I: Classical Antiquity
207 World Masterpieces II: Medieval and Renaissance
388 Heroic Literature of the Middle Ages
389 The Ricardian Age: Chaucer's Contemporaries
390 Chaucer

Renaissance Literature

304 The Early Tudor and Elizabethan Renaissance
305 The Later Elizabethan Renaissance
312 17th-Century Literature
339 Representations of Islam in the Renaissance
340 Shakespeare

18th-Century Literature

253 Coffeehouse Culture of 18th-Century England
254 Topics in 18th-Century Literature
355 Restoration and 18th-Century Drama and Prose
356 18th-Century Novel and Poetry

19th-Century Literature

242 American Literature: Origins to the Civil War
243 American Literature: Civil War to the Great Depression
270 The Romantic Gothic: 19th-Century Poetry and Short Fiction
271 Gothic Fiction: The 18th- and 19th-Century Gothic Novel
325 The American Novel, 1850-1940
343 19th-Century American Poetry
370 English Romantic Literature
371 Victorian Literature, 1832-1867
372 Victorian Literature, 1867-1901
377 19th-Century Fiction

20th- and 21st-Century Literature

201 Science Fiction and Fantasy
209 Narrative in Fiction and Film
229 Women in English Literature
233 Children's Literature: 1865 to the Present
250 Survey of 20th-Century Literature in English
320 Modern Poetry
329 Studies in Women Writers: Feminisms and Their Literatures
330 Studies in Women Writers: Genres, Cultures, and Contexts
350 Modern British Fiction

376 Modern American Fiction
378 Themes in Contemporary American Prose
379 Movements in Contemporary American Prose

Canadian Literature

263 Canadian Literature I: 18th and 19th Centuries
264 Canadian Literature II: The 20th Century and After
347 African-Canadian Literature
348 First Nations Literature in Canada
365 Canadian Prose Genres
366 Selected Topics in Canadian Literature I
367 The Canadian Novel
368 Canadian Poetry

Post-Colonial Literature

240 Literature of the Middle East
247 Post-Colonial Literature

Creative Writing

222 Creative Non-fiction/Memoir
231 Introduction to Creative Writing
322 Intermediate Creative Writing
422 Advanced Creative Writing

Literary Criticism and Cultural Theory

317 Cultural Theory through Popular Culture
349 The History of Literary Theory and Criticism
445 Seminar: Contemporary Critical Theory

Department Requirements

ENGL 100, 110 or equivalent is required for entrance to all other ENGL courses. A student should have ENGL 100 or 110 plus at least six credits at the 200 level before taking a course at the 300 level. Some exceptions apply; see course descriptions. A student must have at least 18 credits of ENGL for admission to a 400-level course.

All students seeking admission to Honours and Advanced Major programs must consult the department chair by March 31 of the second year to obtain approval for proposed course patterns, and again in March of the junior year for advice on thesis and senior seminar requirements. All such consultations will normally be completed by March 31.

Major Program

Students majoring in English must take the following courses: ENGL 100 or 110; six credits medieval or Renaissance; six credits 18th or 19th century; six credits 20th- and 21st-century or Canadian or post-colonial; and 12 credits ENGL electives. Major students will normally complete at least 12 credits of 200-level courses before enrolling in a 300- or 400-level course. All prospective majors should attend an advising session normally held in March.

Advanced Major Program

Advanced majors in English will take the following courses: ENGL 100 or 110; 310 or 340; six credits of senior seminars; and 18 credits ENGL electives to include courses from three of the following categories: medieval, Renaissance, Restoration and 18th century, 19th century, and 20th- and 21st-century or Canadian or post-colonial. They must also write an advanced major thesis. See section 4.1 for degree regulations.

Honours Program

Students take ENGL 100 or 110, and 24 credits of English electives from four of the five following historical periods of literature: medieval; Renaissance; Restoration and 18th century; 19th century literature; 20- and 21st-century literature. Students also take 18 credits of English electives from three of the following four categories: post-colonial literature; literary criticism and cultural theory; Canadian literature; and creative writing. An honours thesis is also required (6 credits), as well as 6 credits of senior seminars. See section 4.1 for degree regulations.

Honours with a Subsidiary Subject

The Department of English offers an honours degree with a subsidiary subject with Celtic studies, history, modern languages, philosophy, religious studies, or women's studies. A subsidiary subject in English requires 36 credits in the same pattern as the major program.

Senior Seminar

Each year certain advanced courses will be designated senior seminars. All honours and advanced major students must be enrolled in two of these during

their senior year. Only senior advanced major and honours students may enroll in senior seminars.

Note: Not all 400-level seminars are senior seminars.

100 Introductory Survey of Literature in English

This course will introduce students to literature from a range of historical and cultural contexts. Students will study texts from the earliest writings in English to 20th-century works. Possible authors to be studied include the *Beowulf* poet, Geoffrey Chaucer, William Shakespeare, John Donne, John Milton, Eliza Haywood, Emily Dickinson, Charlotte Brontë, W.B. Yeats, and Margaret Atwood. Six credits. Students who have received credit for ENGL 110 may not receive credit for ENGL 100.

110 Literature in English: Genres, Media and Forms

This course will introduce students to an analysis of cultural and literary texts through the examination of a variety of genres (e.g. the novel, short story, epic) and forms (e.g. the gothic novel, confessional poetry). The course may also include the study of media such as the graphic novel, film, and television. Six credits.

Note: ENGL 100, 110 or equivalent is required for entrance to all other ENGL courses.

201 Science Fiction and Fantasy - Tolkien and the Rings

This course will provide a critical and cultural analysis of J. R. R. Tolkien's fantasy novel *The Lord of the Rings*. As an introduction to this text the class will read Tolkien's essay "On Fairy-Stories," and the course will also include some discussion of Peter Jackson's three-part film adaptation of the novel as produced by New Line Cinema, 2001-2003. Three credits.

206 World Masterpieces I: Classical Antiquity

An introduction to masterpieces in Western literature, in translation, focused on ancient Greece and Rome, especially the epics of Homer and Virgil, Greek tragedy, and selections from Catullus, Horace and Ovid. Three credits.

207 World Masterpieces II: Medieval and Renaissance

An introduction to masterpieces in Western literature, in translation, focused on medieval and Renaissance/early modern Europe. It will begin with the New Testament Bible and then explore authors and great works of Christian Europe, including *The Song of Roland*, *The Romance of the Rose*, Dante Alighieri, Ludovico Ariosto, and Miguel de Cervantes. Three credits.

209 Introduction to Film

An introduction to the study of film, this course will focus on formal distinctions and concepts that have evolved in the history of cinema, as well as major cinematic movements and genres. Students will be introduced to the vocabulary of film studies, techniques of analysis, and ways of writing about film. Lectures and discussions will proceed on the basis of critical readings and screenings of cinematic works. Six credits.

229 Women in English Literature

A survey of women writers in their historical contexts. The course will involve study and discussion of poems, stories, novels, plays, and other literary forms by or about women. Cross-listed as WMNS 229. Six credits. Not offered 2009-2010.

233 Children's Literature: 1865 to the Present

Using the landmark publication of Lewis Carroll's *Alice's Adventures in Wonderland* as a starting point, this course provides a critical survey of children's literature in Britain, America, and Canada. Authors to be studied include Carroll, L.M. Montgomery, E.B. White, Roald Dahl, Maurice Sendak, Judy Blume, Kevin Major, Dennis Lee, and Sheree Fitch. Three credits. Students who have received credit for ENGL 234 may not enroll in ENGL 233. Not offered 2009-2010.

Creative Writing Courses

Students wishing to enroll in any creative writing course are required to submit a portfolio to the English Department. The portfolio must be submitted electronically to mgillis@stfx.ca as an attachment by June 30. For ENGL 231, 322 and 422, the portfolio should consist of 10-15 pages of prose fiction, poetry, drama, or any combination thereof. If in any calendar year a course is restricted to a particular genre, the portfolio should consist solely of work in that genre. A portfolio is not required for ENGL 222. Students must indicate the creative writing course for which they wish to be considered and provide a complete list of English courses previously taken.

222 Creative Non-Fiction/Memoir

This course will help students acquire the techniques and tools necessary to write creative non-fiction. This involves techniques of dialogue, character development, narration, and style similar to those employed by writers of fiction, though the result is non-fiction. Three credits.

231 Introduction to Creative Writing

This course teaches students how to write creatively in two genres -- poetry and fiction -- in a workshop setting. Students will explore those elements of composition (imagery, dialogue, point of view, characterization, etc.) that make for interesting and challenging writing. Six credits.

322 Intermediate Creative Writing

Students will be expected to choose one genre through which they will continue to explore and develop the basic elements of composition learned in English 231. Students who have received credit for ENGL 331 may not receive credit for ENGL 322. Three credits.

422 Advanced Creative Writing

Explores the techniques of writing prose narrative, poetry, and drama to help students develop their powers of creative expression. Techniques include regular exercises, set assignments, free submissions, parodies, and imitations. Occasional guest writers. Students who have received credit for ENGL 431 may not receive credit for ENGL 422. Three credits.

240 Literature of the Middle East

This course will introduce students to the rich literary heritage of various countries in the Middle East. Students will read traditional poetry and folk tales, with the main focus on the novel and the short story of the 20th century. Writers to be studied may include Najib Mahfuz, Elias Khoury, Hanan al-Shaykh, Ghassan Kanafani, Tayeb Salih, Muhammad Shukri. Three credits.

242 American Literature: Origins to the Civil War

What is American literature? What does it mean to be American? In this course topics we will consider: the Puritan legacy; the American dream; the status of indigenous peoples; captivity narratives; the role of sympathy; the representation of wounds; nature; individualism; disobedience; solitude; sin; silence; slants of light; sex; slavery; and houses divided. Authors studied will include Rowlandson, Rowson, Douglass, Emerson, Hawthorne, Melville, Dickinson and Whitman. Students who have received credit for ENGL 344 may not enroll in ENGL 242. Three credits. Not offered 2009-2010.

243 American Literature: From the Civil War to the Great Depression

A prominent literary critic claimed recently that America is defined by its commitments to cultural democracy, political rights, community responsibility, social justice, an equality of opportunity, and individual freedom. In this survey, we are going to examine how the literature of America written during this period of national reconciliation grapples with turning these ideals into reality. Students who have received credit for ENGL 344 may not enroll in ENGL 243. Three credits. Not offered 2009-2010.

247 Post-Colonial Literature

An introduction to post-colonial literature. The course may include literature from Africa, the Americas, Australia, the Caribbean, India, and the Pacific. Six credits.

250 Survey of 20th-Century Literature in English

A study of the poetry and fiction of major American, Canadian, British, and European writers. Six credits.

253 Coffeehouse Culture of 18th-Century England

A course exploring a variety of works through the lens of the 18th-century coffeehouse. Focusing primarily on the periodical literature of the time—*The Tatler*, *The Spectator*, *The Plain Dealer* and *The Female Spectator*—and novels and poetry, the course will consider themes like conversation, urban space, taste and culture, consumerism, gender fashioning, and the private subject made public. Three credits. Not offered 2009-2010.

254 Topics in 18th-Century Literature

The focus of this course will vary from year to year with changing emphasis on particular themes, genres, or authors of the long eighteenth century. The topic for 2009-2010 is Epistolary Literature including works by Alexander Pope, Eliza Haywood, Samuel Richardson, and Lady Mary Wortley Montagu. Three credits.

263 Canadian Literature I: 18th and 19th Centuries

This course will survey Canadian poetry and prose in the historical contexts of exploration, settlement, and Confederation. Students will examine early Canadian authors' engagements with the Romantics and Victorians, and will consider the emergence of a national literature. Selected authors may include Frances Brooke, Samuel Hearne, John Richardson, Thomas Chandler Haliburton, Susanna Moodie, James de Mille, Isabella Valancy Crawford, and Sir Charles G. D. Roberts. Students who have received credit for ENGL 265 may not enroll in this course. Three credits.

264 Canadian Literature II: The 20th Century and After

This course examines the major genres of Canadian writing during the 20th and 21st centuries, including fiction, poetry, and non-fiction. The course will emphasize key aesthetic developments within the contexts of modernism, feminism, postcolonialism, regionalism, postmodernism, environmentalism, culture and race. Students who have received credit for ENGL 265 may not enroll in this course. Three credits.

270 The Romantic Gothic: 19th-Century Poetry and Short Fiction

A study of gothic literature in its historical and philosophical context, this course will explore 19th-century short stories and narrative poems, as well as influential 18th-century literary sources. Authors may include: William Wordsworth, Samuel Taylor Coleridge, John Keats, Lord Byron, and Joanna Baillie. Three credits.

271 Gothic Fiction: The 18th- and 19th-Century Gothic Novel

An examination of the gothic novel and the cultural forces that produced it. The course will explore supernatural tales from the classical and medieval periods which acted as forerunners to the genre. Authors may include: Horace Walpole, Ann Radcliffe, Matthew "Monk" Lewis, and Jane Austen; students may also read *Frankenstein* and *Dracula*. Three credits.

304 The Early Tudor and Elizabethan Renaissance

A study of plays by Thomas Kyd and Christopher Marlowe and the major non-dramatic forms in the context of early modern ideologies and ideas. The class will concentrate on William Shakespeare (excluding drama), Edmund Spenser, the lyric, the Ovidian epyllion, and literary theory. Three credits.

305 The Later Elizabethan Renaissance

A study of plays by Ben Jonson and Cyril Tourneur and of major non-dramatic forms in the late Elizabethan and early Jacobean period in the context of early modern ideologies and literary theory. The class will concentrate on William Shakespeare, Sir Philip Sidney, Edmund Spenser, and Francis Bacon. Recommended prerequisite: ENGL 304. Three credits.

312 17th-Century Literature

A study of the Metaphysical poets, the Cavalier poets, John Milton's *Paradise Lost*, and the prose of Francis Bacon, John Donne, Robert Burton, Sir Thomas Browne, and Samuel Pepys. Several Jacobean plays will also be read. Prerequisite: 12 credits ENGL. Six credits.

317 Cultural Theory Through Popular Culture

An introduction to the study of culture as a system of constructing values and identities, primarily through textual production. The course will combine case studies of genre fiction, film, and television with analyses by practicing cultural scholars. Prerequisite: 12 credits ENGL. Six credits.

320 Modern Poetry

A survey of the major modern poets, including W.B. Yeats, T.S. Eliot, Gertrude Stein, Ezra Pound, Robert Frost, Wallace Stevens, Marianne Moore. Prerequisite: 12 credits ENGL. Six credits. Not offered 2009-2010.

325 The American Novel 1850-1940

After considering current debates on the genre, this course will track the development of the American novel from the American Renaissance to the end of the Great Depression. Students will read primary texts in combination with recent criticism that reconsiders the novel's production of the individual; the construction of character; the formation of the social; the illogic of race; and the importance of place. Three credits.

329 Studies in Women Writers: Feminisms and Their Literatures

An introduction to feminist theories within historical, cultural, and philosophical contexts, this course explores the relationship between feminist theories

and literary texts that exemplify or extend them. Cross-listed as WMNS 329. Prerequisite: 12 credits ENGL. Three credits.

330 Studies in Women Writers: Genres, Cultures, and Contexts

An exploration of women's writing in its cultural context. Three credits.

339 Representations of Islam in the Renaissance

This course will explore a representative selection of the literature that has helped to shape contemporary perceptions and misconceptions about the Islamic world. Readings will vary from year to year and may include such canonical authors as Thomas More, Edmund Spenser, Christopher Marlowe, and Shakespeare, along with lesser known Church reformers, pamphleteers, travellers, and translators. Prerequisite: 12 credits ENGL. Three credits. Not offered 2009-2010.

340 Shakespeare

An introduction to the work of William Shakespeare: poems, comedies, histories, problem plays, tragedies, Roman plays, and late romances in their social, historical, and literary contexts. Students who have received credit for ENGL 341 may not enroll in this course. Six credits.

343 19th-Century American Poetry

This course will examine the poetry of Anne Bradstreet, Edgar Allan Poe, Walt Whitman, and Emily Dickinson. Prerequisite: 12 credits ENGL. Three credits.

347 African-Canadian Literature

A study of African-Canadian prose, poetry, and drama in the context of contemporary literary-critical debates about canons, national literatures, voice, and cross-cultural influences. Attention will be given to African-Nova Scotian contributions. Prerequisite: 12 credits ENGL. Three credits.

348 First Nations Literature in Canada

A study of writing by Aboriginal authors in Canada, this course will highlight this literature's origins in oral traditions, the political contexts framing the writing, and the textual innovations carried out by selected authors. Writers may include Tomson Highway, Armand Garnet Ruffo, Marilyn Dumont, Thomas King, Eden Robinson, Lee Maracle, Beth Brant, Louise Halfe, Annharte, Rita Joe, and Kateri Akiwenzie-Damm. Prerequisite: 12 credits ENGL. Three credits.

349 History of Literary Theory and Criticism

A study of central theoretical statements about literature and its analysis from the classical period to the 20th century. The first two-thirds of the course includes the theory and criticism of Plato, Aristotle, Longinus, Sir Philip Sidney, Samuel Johnson, Samuel Taylor Coleridge, William Wordsworth, John Keats, Friedrich Nietzsche, Matthew Arnold, T.S. Eliot, and Karl Marx, while the final third of the course focuses on movements in the twentieth century such as new criticism, formalism, feminism, myth criticism, structuralism and post-structuralism. Students who have taken ENGL 345 or 346 may not enroll in this course. Six credits.

350 Modern British Fiction

Examines major British novelists of the modern and post-modern periods with emphasis on Joseph Conrad, E.M. Forster, Virginia Woolf, and Samuel Beckett. Prerequisite: 12 credits ENGL. Six credits. Not offered 2009-2010.

355 Restoration and 18th-Century Drama and Prose

A study of several major plays and selected prose works from 1660 to the mid-18th century. Prerequisite: 12 credits ENGL. Three credits.

356 18th-Century Novel and Poetry

A study of selected novels and poetry from the major writers of the 'long' 18th century. Prerequisite: 12 credits ENGL. Three credits. Not offered 2009-2010.

365 Canadian Prose Genres

Highlighting a specific prose genre like the novel, the short story, autobiography, or metafiction, this course will examine the development of this literary form in a Canadian context. Studied works may include fiction and non-fiction, and the selected genre will vary from year to year. Attention will be concentrated on writings by Canadian authors within the last fifty years. Prerequisite: 12 credits ENGL. Students who have received credit for ENGL 367 may not enroll in this course. Three credits.

366 Special Topics in Canadian Literature I

The focus of this course will vary from year to year. Sample topics may include: the study of a single author, a particular genre, a specific theme, a critical and/or cultural issue, literature from a particular locale. The course topic will be announced in advance. Prerequisite: 12 credits ENGL. Three credits.

367 The Canadian Novel

Students will read novels and short stories in English to develop a sense of the thematic patterns, style, and changing narrative strategies in Canadian fiction, especially in works since 1930. Prerequisite: 12 credits ENGL. Students who have received credit for ENGL 365 may not enroll in this course. Six credits. Not offered 2009-2010.

368 Canadian Poetry

A study of Canadian verse in English with selected examples of French verse in translation, since colonial days, with emphasis on the period since 1920. Prerequisite: 12 credits ENGL. Six credits. Not offered 2009-2010.

370 English Romantic Literature

A detailed survey of the literature of the major Romantic poets, this course emphasizes close readings of poetry and prose and the historical and philosophical contexts of the Romantic Movement. Prerequisite: 12 credits ENGL. Six credits.

371 Victorian Literature, 1832-1867

A study of early to mid-Victorian literature encompassing the poetry of Emily Brontë, Alfred Lord Tennyson, Elizabeth Barrett Browning, Robert Browning, and Matthew Arnold; the prose of Thomas Carlyle; and a novel by Charles Dickens or Charlotte Brontë. Prerequisite: 12 credits ENGL. Students who have received credit for ENGL 375 may not enroll in this course. Three credits. Not offered 2009-2010.

372 Victorian Literature, 1867-1901

A study of middle- to late-Victorian literature encompassing the prose of John Ruskin and Walter Pater; the poetry of Christina Rossetti, Dante Gabriel Rossetti, Algernon Swinburne, and Oscar Wilde; and a novel by George Eliot or Thomas Hardy. Prerequisite: 12 credits ENGL. Students who have received credit for ENGL 375 may not enroll in this course. Three credits.

376 Modern American Fiction

Examines prose writings in the American tradition since 1900 and the major literary and cultural movements in which selected texts participate. Emphasis will be placed on historical development and the shifting definition of the American canon. Prerequisite: 12 credits ENGL. Six credits.

377 19th-Century Fiction

A study of 19th-century novels beginning with Jane Austen and working through the Victorian Age by exploring the fiction of such writers as Charlotte Brontë, Emily Brontë, Charles Dickens, and George Eliot, and concluding with authors such as Thomas Hardy and Bram Stoker. Prerequisite: 12 credits ENGL. Six credits.

378 Themes in Contemporary American Prose

The course will examine American prose from the 20th and 21st centuries, focused around a particular theme or the presentation of a particular aspect of American culture. The focus will vary from year to year, but may include gender, race, the American Dream, war, or the immigrant experience. Prerequisite: 12 credits ENGL. Three credits.

379 Movements in Contemporary American Prose

This course will examine 20th- and 21st-century American prose, focused around a particular literary school or movement. The focus will vary from year to year. The course may be organized around a school of representation such as modernism or metafiction, around literature produced by a particular region such as southern American literature or western American literature, or may be focused on an ethnic tradition such as Hispanic, Asian, African American or Native literatures. Prerequisite: 12 credits ENGL. Three credits.

388 Heroic Literature of the Middle Ages

A study of medieval texts which reflect the heroic, aristocratic, and military literature of the Middle Ages, which may include Beowulf (in translation), Thomas Malory's *Morte Darthur*, various romances, including Arthurian texts like *Sir Gawain* and the *Green Knight*, and selections from medieval historical chronicles (medieval texts will be studied in the original). Students who have received credit for ENGL 392 or CELT 392 may not enroll in this course. Prerequisite: 12 credits ENGL. Three credits. Not offered 2009-2010.

389 Chaucer's Contemporaries

This course examines the authors and works associated with the court of Richard II and with the 14th century, a moment of literary and artistic achievement in which writers sought to understand many of the great events of their times (the Black Death and the Peasant's Revolt of 1381), and saw ancient class divisions start to break down. Texts may include Chaucer, the Pearl-poet, Langland, Gower,

and Usk. Students who have received credit for ENGL 392 or CELT 392 may not enroll in this course. Three credits.

390 Chaucer

This course explores the major poetry and prose of this seminal figure in English literature. Six credits.

397 Selected Topics in Literature I

Prerequisite: 12 credits ENGL. Three credits.

398 Selected Topics in Literature II

Prerequisite: 12 credits ENGL. Three credits.

Notes: A student must have at least 18 credits of ENGL for admission to a 400-level course. The senior seminars are offered exclusively to senior advanced major and honours students on a rotating basis over a period of years.

400 Honours Thesis

Honours students write a thesis under the supervision of a faculty thesis director. Students must meet the thesis director in March of the junior year to prepare a topic. Honours students must register for the thesis as a six-credit course in their senior year. The thesis must be submitted no later than March 31 of the senior year. See chapter 4. Six credits.

445 Senior Contemporary Critical Theory

A survey of the background to contemporary theory, focusing in part on earlier critics, and examining the origins of the canon. An exploration of current theories, including semiotics, structuralism, deconstruction, new historicism, modern narratology, feminist theory, and Marxist theory. Six credits.

Senior Seminars**491 Selected Topics I**

The topic for 2009-2010 is *The Campus Novel*. This course will investigate campus novels from Britain, the United States, and Canada. Areas of focus include these novels' textual strategies, their affiliations with satire, comedy, tragedy, and popular forms (e.g. the detective plot, 'chick lit'), and their potency with respect to constructions of power, class, gender, and race. We will consider how scholars have conceptualized the campus novel, and how 'the academy' as a site of signification resonates more broadly with other cultural discourses. Three credits.

492 Selected Topics II

The topic for 2009-2010 is *Confessional Poetry and Its Modes*. An examination of some of the major American poets of the second half of the 20th century writing in the confessional mode, including Theodore Roethke, Allen Ginsberg, Robert Lowell, W.D. Snodgrass, John Berryman, Sylvia Plath, Adrienne Rich, Anne Sexton, Sharon Olds, etc. Three credits.

493 Selected Topics III

The topic for 2009-2010 is *Narrating Slavery and Slave Revolt in the Americas*. What does it mean to analyze literary texts as the products of transnational migrations and transnational political and economic ties? We will read a selection of nineteenth- and twentieth-century texts about slavery from Canada, the US and the Caribbean with a view to addressing this question. We will also examine the different kinds of cultural and political work that slavery and slave revolt do in the different national contexts and different historical periods we examine. Three credits.

494 Selected Topics IV

The topic for 2009-2010 is *18th-Century Literature: The Passions*. This course will study selected works by Eliza Haywood, Aaron Hill and Alexander Pope, among others, examining and theorizing upon the nature and course of the emotions. Passion gestures both inward and outward, toward the self and the other; it is produced and contained in a subject, and subject to the penetrations of the outside world. The 18th century explored the passions as physical manifestations on the body; as expressions of personal identity; as dangerous to one's reason; as in need of expression and/or regulation. Literary works will be contextualized with historical and contemporary passion theory. Three credits.

497 Advanced Major Thesis

Advanced major students write a thesis as part of the senior seminar. See chapter 4. No credit.

499 Directed Study

In consultation with the department and with approval of the chair, students may

undertake a directed study program in an approved area of interest, which is not available through other course offerings. See section 3.5. Three or six credits.

9.20 ENVIRONMENTAL SCIENCES

TBA

Co-ordinator

Advising Faculty

J. Cormier, Ph.D.
G. Ferguson, Ph.D.
J. Williams, Ph.D.

Department

Chemistry
Earth Sciences
Biology

Environmental sciences is a four-year advanced major or honours program leading to a B.Sc. in one of four different concentrations. Each concentration offers an integrated approach to understanding the interaction of biological, chemical and physical systems and processes in the environment and their sensitivities to human activities.

The B.Sc. in Environmental Sciences is designed to prepare students to become researchers or practitioners in environmental sciences. Students following this degree stream will be well prepared to continue to graduate programs in a variety of fields, and for careers in the government and private sector. The program requires a strong interdisciplinary, science-based education as this approach to solving current environmental problems is increasingly required in academia, government and the private sector.

Year one in the ENSC program is common for all students. Students apply for specific program in year two. Typical course patterns are listed below. Other course options may be available. Further information can be obtained from the department chairs of biology, chemistry, earth sciences, mathematics and physics.

B.Sc. Advanced Major in Environmental Sciences Biology

Year 1 BIOL 111, 112; CHEM 100; ESCI 171, 172; MATH 111, 112;
6 credits arts electives
Year 2 BIOL 201, 203, 222; CHEM 225, 255; ESCI 271;
MATH 287; STAT 231, 6 credits arts electives
Year 3 BIOL 202, 315, 345; CHEM 265; ESCI 272, 305;
PHYS 100; 6 credits arts electives
Year 4 21 credits from BIOL 311, 312, 321, 384, 407, 470, 472, 474,
475 or CHEM 361; ENSC 491(non credit), 493; ESCI 366, 3
credits open electives.

B.Sc. Honours in Environmental Sciences Biology

Year 1 BIOL 111, 112; CHEM 100; ESCI 171, 172; MATH 111, 112;
6 credits arts electives
Year 2 BIOL 201, 203, 222; CHEM 225, 255; ESCI 271;
MATH 287; STAT 231, 6 credits arts electives
Year 3 BIOL 202, 315, 345; CHEM 265; ESCI 272, 305;
PHYS 100; 6 credits arts electives
Year 4 21 credits from BIOL 311, 312, 321, 384, 407, 470, 472, 474,
or CHEM 361; ENSC 491 (non credit), 493; ESCI 366; 3
credits open electives

B.Sc. Advanced Major in Environmental Sciences Chemistry

Year 1 BIOL 111, 112; CHEM 100 or 120; ESCI 171, 172;
MATH 111, 112; 6 credits arts electives
Year 2 BIOL 203; CHEM 265, 245, 220; PHYS 120; STAT 231;
6 credits arts electives
Year 3 CHEM 231, 232, 325, 361, 362, 391(non credit); ESCI 272,
305, 366; 6 credits of MATH 253, 254, 267, 367
Year 4 BIOL 202 and 6 credits from BIOL 201, 373, 470; 472; CHEM
255, 341, 342; ENSC 491 (non credit); 3 credits from ESCI
406, 471, 465, 472; 6 credits arts electives

B.Sc. Honours in Environmental Sciences Chemistry

Year 1 BIOL 111, 112; CHEM 100 or 120; ESCI 171, 172;
MATH 111, 112; 6 credits arts electives
Year 2 BIOL 203; CHEM 220, 265, 245; ESCI 272; PHYS 120;
6 credits arts electives
Year 3 BIOL 202; CHEM 231, 232, 325, 361, 362, 391 (non credit);
ESCI 305, 366; 3 credits of MATH 253, 254, 267, 367; STAT
231
Year 4 CHEM 255, 331, 332, 341, 342, 420; ENSC 491 (non credit),
493; 6 credits arts electives

B.Sc. Advanced Major in Environmental Sciences Biogeochemistry

Year 1 CHEM 100 or 120; ESCI 171, 172; MATH 111, 112;
PHYS 100 or 120; 6 credits arts electives
Year 2 BIOL 111, 112; CHEM 225 or 245, 265; ESCI 246, 271, 272, 3
approved ESCI credits; STAT 231; 3 credits open electives
Year 3 BIOL 203, 384; CHEM 361, 362; ESCI 305, 366, 386,
3 approved ESCI credits; 6 credits arts elective;
Year 4 BIOL 472 or 474; ENSC 491 (non credit); ESCI 406, 465, 472,
3 approved ESCI credits; 6 credits arts electives;
9 credits open electives

B.Sc. Honours in Environmental Sciences Biogeochemistry

Year 1 CHEM 100 or 120; ESCI 171, 172; MATH 111, 112;
PHYS 100 or 120; 6 credits arts electives
Year 2 BIOL 111, 112; CHEM 225 or 245, 265; ESCI 246, 271, 272, 3
additional ESCI credits; STAT 231; 3 credits open electives
Year 3 BIOL 203, 384; CHEM 361, 362; ESCI 305, 366, 386, 3
additional ESCI credits; 6 credits arts electives
Year 4 BIOL 472 or 474; ENSC 491 (non credit), 493; ESCI 406, 465,
472, 499, 3 additional ESCI credits; 6 credits arts electives; 3
credits open electives

B.Sc. Advanced Major in Environmental Sciences Climate and Water

Year 1 CHEM 100 or 120; ESCI 171, 172; MATH 111, 112;
PHYS 120; 6 credits arts electives
Year 2 BIOL 111, 112; ESCI 246, 271, 272; MATH 267;
STAT 231; 3 credits approved science electives;
6 credits arts electives
Year 3 CHEM 265; ESCI 305, 366, 386, 475; MATH 253; 6 credits
approved science electives; 6 credits arts electives
Year 4 BIOL 203; ENSC 491 (non credit); ESCI 406, 465, 472; 9
credits approved science electives; 9 credits open electives

B.Sc. Honours in Environmental Sciences Climate and Water

Year 1 CHEM 100 or 120; ESCI 171, 172; MATH 111, 112;
PHYS 120; 6 credits arts electives
Year 2 BIOL 111, 112; ESCI 246, 271, 272; MATH 267;
STAT 231; 3 credits approved science electives; 6 credits arts
electives
Year 3 CHEM 265; ESCI 305, 366, 386, 475; MATH 253; 6 credits
approved science electives; 6 credits arts electives
Year 4 BIOL 203; ENSC 491 (non credit), 493; ESCI 406, 465, 472,
499; 9 credits approved science electives; 3 credits open
electives

491 Senior Seminar in Environmental Sciences

Seminars on topics of interest in the Environmental Sciences are presented during the year by visiting scientists and faculty. Required for all environmental sciences students in their final year of study. No credit.

493 Honours Thesis

Required for honours students. Three credits.

► **FRENCH** see 9.27 Modern Languages

► **GERMAN** see 9.27 Modern Languages

9.21 HISTORY

J. Cameron, Ph.D.
 N. Forestell, Ph.D.
 C. Frazer, Ph.D.
 S. Kalman, Ph.D.
 G. Lalonde, Ph.D.
 P. McInnis, Ph.D.
 P. Phillips, Ph.D., Senior Research Professor
 R. Semple, Ph.D.
 L. Stanley-Blackwell, Ph.D.
 D. Trembinski, Ph.D.
 M. Walls, Ph.D.
 R. Zecker, Ph.D.

Part Time

C. Slumkoski, MA

The Discipline of History

Curiosity inspires every generation to study the lives and societies of people who lived before them. The discipline of history has been developed to help us do this in a systematic, rigorous and critical way. The history program offers a wide-range of fascinating courses, from global history and the history of western civilization to more focused courses about nations, social groups and special topics. As well, its program equips students to develop the critical tools necessary to investigate the past effectively and to express their findings with clarity, vigour and intelligence. Students can take history courses as electives or pairs, or to complete a minor, major, joint major, advanced major, joint advanced major, honours or honours with subsidiary program

Department Requirements

Students must follow the degree regulations found in chapter 4 and must consult with the department chair to plan their specific program and have it approved. The fundamental requirements of each program are outlined below. Departures from these regulations require the permission of the department chair and/or the Dean of Arts. Students following the major degree programs strive to balance specialization with breadth in their selection of courses. They must have some degree of specialization in one of the three designated areas of concentration: (1) Canadian, (2) European, or, (3) American/Latin American/Asian history.

Transfer credit limitations: Of the 36 credits required for a history major or advanced major, normally at least 24 must be obtained from StFX; of the 60 credits required for a history honours, normally at least 42 must be obtained from StFX; of the 48 credits required for a history honours with subsidiary, normally at least 36 must be obtained from StFX. The senior seminar and thesis requirements must be completed through StFX.

Note: HIST 100 or HIST 110 is required as a foundation course for all first- and second-year students taking further history courses but this requirement is normally waived for third- and fourth-year students seeking a first course in history.

Minor or Subsidiary in History

- a) HIST 100 or 110 (6 credits)
- b) 18 additional credits
- c) total: 24 history credits with at least 6 credits at the 300/400 level

Major Program

- a) HIST 100 or 110 (6 credits)
- b) HIST 200 (counts in the chosen concentration or outside of it)
- c) Total of 18 credits in a chosen concentration
- d) Total of 12 credits from areas outside the chosen concentration
- e) Total: 36 history credits with at least 15 credits at the 300/400 level

Advanced Major Program

- a) HIST 100 or 110 (6 credits)
- b) HIST 200 (counts in the chosen concentration or outside of it)
- c) HIST 445 (counts outside the chosen concentration)
- d) A senior seminar (counts in the chosen concentration)
- e) Total of 18 credits in a chosen concentration
- f) Total of 12 credits from areas outside the chosen concentration
- g) Total: 36 history credits with at least 15 credits at the 300/400 level.

Honours Program

- a) HIST 100 or 110 (6 credits)
- b) HIST 200 (counts in the chosen concentration or outside it)
- c) HIST 445 (counts outside the chosen concentration)
- d) A senior seminar (counts in the chosen concentration)
- e) Total of 27 credits in a chosen concentration
- f) Total of 21 credits from areas outside the chosen concentration
- g) HIST 490 (Thesis, 6 credits) with a faculty member
- h) Total: 60 history credits with at least 24 crs at the 300/400 level.

Honours with a Subsidiary Subject

- a) HIST 100 or 110 (6 credits)
- b) HIST 200 (counts in the chosen concentration or outside it)
- c) HIST 445 (counts outside the chosen concentration)
- d) A senior seminar (counts in the chosen concentration)
- e) Total of 21 credits in a chosen concentration
- f) Total of 15 credits from areas outside the concentration
- g) HIST 490 (Thesis, 6 credits) with a faculty member
- h) Total: 48 history credits with at least 18 crs. at the 300/400 level.

Recognized Courses

Subject to the restrictions stated below, students may count the following courses for credit in the Department of History: Celtic Studies—CELT 131/132, CELT 333 and CELT 355; Religious Studies—RELS 383 (RELS 100, 110 or 120 prerequisite); Art—ART 251, 252, 371, 372 and 373 (HIST 100 or 110 prerequisite) and ART 435 (ART 371, 372 and 373 or permission of instructor prerequisite) and Economics—ECON 230 and 310 (ECON 101/102 prerequisite). Students completing a minor, major, advanced major, joint advanced major or honours in history are permitted to count no more than twelve credits of the aforementioned courses as history courses; similarly, no more than six credits of these courses may be taken from any one department. For a history pair, students are permitted no more than six credits of these recognized courses.

100 Western Civilization

Traces the development of Western ideas and institutions. Covers classical Greek civilization; Roman political behavior; the medieval centuries and the nation-state; early modern Europe and its Renaissance, Reformation, and Enlightenment; the French, Industrial, and liberal revolutions; the growth of nationalism, communism, and fascism, and the world wars. Normally restricted to 1st and 2nd year students; it is not normally required for 3rd and 4th year students seeking a first history course. Students are advised not to take both HIST 100 and 110 since only one will count towards a major or minor and the other will qualify as an elective. Six credits.

110 Global History Since 1300

Explores selected topics in global history from 1300 to now, including Mongol expansion, the Black Death, the age of exploration, the rise of capitalism and class society, struggles between Europeans and colonized peoples, slavery, political revolutions, and nationalisms. Political, social, intellectual, and cultural history are combined to provide an broad examination of the key non-Western and Western civilizations and their interactions. Normally restricted to 1st and 2nd year students; it is not required for 3rd and 4th year students seeking a first history course. Students are advised not to take both HIST 100 and 110 since only one will count towards a major or minor and the other will qualify as an elective. Six credits.

200 A History of Canada

This survey explores the main political, economic, and social themes in pre- and post-Confederation Canadian history. Required for history majors, advanced majors, and honours; optional for minors and students seeking to pair history. Six credits.

202 Western Canada: The Prairies

This survey examines the history of the Canadian prairies from pre-European contact to the present, including native peoples and European-native contact, the fur trade, exploration, colonization, Riel and the Metis, immigration, urbanization, social reform, war, the Great Depression, wheat and oil, and intellectual, social, and religious developments. Three credits. Not offered 2009-2010.

204 Western Canada: British Columbia

This survey examines historical developments in British Columbia from pre-European contact to the present, including native peoples and European-native contact, exploration, colonization, immigration, ethnic diversification, anti-Asian

sentiment, the development of resource industries, the organization of labour, social reform, and war, as well as intellectual, social, and religious developments. Three credits. Not offered 2009-2010.

207 History of Quebec

This course traces the political, economic, social, and cultural development of Quebec from the 16th century to the 1980s, focusing on the debates that have shaped historians' interpretations of Quebec's past. Students who have credit for HIST 307 cannot receive credit for this course. Six credits.

209 The Maritime Provinces, 1500-1950

This survey examines the major political, social, cultural and economic developments in Maritime Canada. It will explore such topics as relations between Europeans and First Nations; the clash of empires; the Acadian expulsion; the impact of immigrant cultures; the Age of Sail; federation with Canada; industrialization; labor unrest; the historical experiences of African-Nova Scotians, Mi'kmaq, and Maritime women; out-migration; and political marginalization. Six credits.

216 Modern France, 1789 to the Present

This course explores the history of France from the end of the old regime to the present day. Topics include the 1789 revolution and its aftermath, Napoleon, the July Monarchy, the Second Empire, class and gender in 19th Century France, the foundations and development of the Third Republic, the Dreyfus Affair, the "Hollow Years" of the interwar era, the defeat of 1940 and the authoritarian Vichy Regime, decolonization and the rise of De Gaulle, and the role of feminism/memory/multiculturalism in postwar France with concentration on social, intellectual, cultural trends, and politics. Prerequisite: HIST 100 or 110 or permission of instructor. Three credits.

221 Medieval Russia

Topics include geography and history; the origins of the Slavs; their adoption of Christianity; the establishment and development of the Kievan state; the coming of the Mongols and the Mongol "yoke"; the slow emergence of Muscovy. Three credits. Not offered 2009-2010.

222 Tsarist Russia

Topics include Ivan the Terrible; the Time of Troubles and the Romanovs; serfdom, schism, and territorial expansion; Peter the Great, Catherine II, and Westernization; the nineteenth century: autocracy, culture, the abolition of serfdom, industrialization, the revolutionary movement, foreign policy, World War I and the collapse of tsarism; the revolution of 1917. Three credits.

230 The Growth of Western Society

The Middle Ages forged many institutions, attitudes and accomplishments that we take for granted today. The course explores medieval 'heroic' kings; the solidification of the English, French, and German landscapes; contributions of faith and literacy; the medieval mentality; the birth of nation-states, parliaments, and civil rights; Italian city-states; health and medical progress; marginals and their treatment; the commercial revolution; later religious ferment. Six credits. Not offered 2009-2010.

235 Introduction to South Asian History

This course offers an introduction to the history of the people and states of the Indian sub-continent, beginning with the arrival of the Mughals in the sixteenth century and ending with decolonization and partition in 1947. South Asia's political, social, economic and cultural development has been described as syncretic; in this course we will examine ways in which multiple cultures have both shaped and been shaped by encounters with the subcontinent in the early modern and modern eras. Three credits.

242 The United States Before 1865

A survey of the US from colonial times to the Civil War. Topics include Aboriginal beginnings; Atlantic migrations; colonization; religious thought and institutions; the colonies' role in the British Empire; the War of Independence; territorial expansion and frontier experience; the birth and extension of the party system; slavery; sectionalism; the Civil War. Three credits.

244 The United States After 1865

A survey of the US from the Reconstruction to the present. Topics include the Civil War and its aftermath; industrialization and urbanization; immigration and ethnicity; the two world wars and the US rise to world power; the Great Depression and the New Deal; 20th-century cultural and political antagonisms; the struggle for Black civil rights; the Cold War and the Vietnam War; the Watergate scandal. Three credits.

250 A Survey of German History from 1648 to the Present

This survey of German history emphasizes the 19th and 20th centuries. It includes topics such as the rise of Brandenburg-Prussia; German nationalism; Bismarck and the unification of Germany; the industrial revolution and organized labor; the coming of the war in 1914; the revolution of 1918; the trials of democracy in the Weimar Republic; Hitler and Nazism; and Germany in a divided world. Six credits. Not offered 2009-2010.

255 History of Colonial Latin America

This is a survey of Spanish and Portuguese America from the 15th century to the 19th century. Topics and themes include the indigenous, African and Iberian heritages of Latin America; the clash of civilizations and conquest in the Americas; the interaction of diverse cultures and the creation of new societies; the social, economic and cultural evolution of colonial Latin America; the age of piracy and challenges to the Spanish and Portuguese empires; the rise of hierarchies and inequalities based on gender, sexuality, ethnicity and class; and the struggle for independence. Three credits.

256 History of Modern Latin America

This is an introduction to the political, social, economic and cultural history of Latin America from independence to the present. Topics and themes include the struggles for independence; the creation of new nations and cultures in the 19th century; the abolition of slavery; the struggles of indigenous peoples to preserve their culture; modernization in the late 19th century; the evolution of social classes and ideas about ethnicity, gender, and sexuality; economic dependency and neocolonialism; nationalism and revolution; foreign intervention in Latin America; and the contemporary impact of democratization and globalization. Three credits. Not offered 2009-2010.

261 Europe in the 19th Century

A survey of European history from the French Revolution to the end of the 19th century, covering the political, economic, social, intellectual, and cultural affairs of major European states. Three credits.

262 Europe in the 20th Century

A survey of European history from the early 20th century, covering the political, social, intellectual, and cultural affairs of major European states. Three credits. Not offered 2009-2010.

275 Modern Japan

Explores the motivations, policies, obstacles, and achievements of Japan's economic, social, political, and cultural modernization in the 19th and 20th centuries. Topics include the impact of the West; the fall of the Shogunate; the restoration of the Meiji emperor; imperialism; the 1930s economic depression; fascism and the road to World War II; World War II in the Pacific; the post-war economic miracle; Japan's role in international politics after 1945. Six credits. Not offered 2009-2010.

282 British History Since 1707

The aim of this survey is to introduce students to the political, social and economic history of Great Britain from the Acts of Union until the present post-Blair era. Three credits. Not offered 2009-2010.

283 The British Empire

Britain was the world's first modern superpower. It dominated the world politically, economically, militarily and culturally. This course will examine both the measurables of imperial economic and political domination, but also the intangibles; Britons themselves came to believe that they exemplified national characteristics that denoted imperial rulers. What all led to that mindset, and how was that viewed by subject populations? Regional studies will enable us to understand the relationship between metropole and settlers and administrators and colonial populations. Three credits. Offered 2009-2010 and alternate years.

300 A Cultural and Intellectual History of Canada

This course is an historical analysis of Canadian literature, art, and architecture, and the intellectual forces that have shaped Canadian society. Cross-listed as ART 300. Six credits.

308 Canadian Women's and Gender History

Examines the history of women and gender in Canada from the 16th century to the present. Attention will be paid to how femininity and masculinity have been constructed and intersect with class, race, ethnicity and sexuality in shaping individual experiences, social processes, and institutional structures. Topics

include: changes and continuities in gender status; gender ideologies; gender processes involved in European colonization; changing family roles of women and men; differing access to education and religious participation; feminist involvement in social reform and other political activities. Cross-listed as WMNS 308. Six credits.

309 The Working Class in Canadian Society

Explores the development of the Canadian working class in the 19th and 20th centuries. This course will increase students' awareness and appreciation of the social conditions that united working men and women in a quest for political and economic justice. Topics will include an examination of the historical accomplishments, as well as the shortcomings, of both organized and unorganized labor and the role of the state in the development of Canadian society. Six credits.

310 Canadian Immigration and Ethnic History

Through an examination of immigration, ethnic group experience, and multicultural issues, this course explores the making of the Canadian multicultural mosaic in the 19th and 20th centuries. Topics include: the contribution of immigrants to the formation of Canada; debates about immigration and refugee policy; minority rights, equality of opportunity, racism; citizenship and official multiculturalism. Six credits. Not offered 2009-2010.

314 Canada and the Cold War Era

Examines Canada's response to the atomic/nuclear age and divisions between the two superpowers from 1945-1991. Students will learn how the Cold War affected Canada and the West through a study of selected themes: political and cultural dimensions of the Red Scare; Canadian diplomacy during the Cold War; Canada's role in the Vietnam War, and participation in NATO and NORAD; the influence of the Cold War on gender, business, labour, and popular culture. Three credits. Not offered 2009-2010.

320 The USSR, 1917-1991

Examines the fall of the tsarist regime; the ideological roots of the Bolshevik Revolution; the economic, social, cultural, and political developments of the Soviet Union, from Lenin to Gorbachev; the failure of Soviet communism. Six credits. Not offered 2009-2010.

325 Eastern Europe, 1848-1989

Covers the Ottoman, Austro-Hungarian, Russian, and German empires; modernization and nationalism; World War I and the emergence of new states; World War II; the people's democracies and the coming to power of the communists; the imposition of a Stalinist model of economic, cultural, political, and social development; the resistance to sovietization in Yugoslavia, Hungary, Czechoslovakia, and Poland; the revolutions of 1989. Six credits.

326 History of Cuba from Independence to the Revolution

This course examines Cuban history from the early 19th century to the present. This includes the late stage of Spanish colonialism and the slave economy based on sugar, coffee and tobacco; the struggle for abolition and national independence; the Spanish-American War of 1898 and U.S. domination in the 20th century; the 1933 revolution and armed struggle against the Batista dictatorship; Fidel Castro, Che Guevara and the socialist experiment; the Cold War and Cuba's role in Latin America; and Cuban society in a post-Soviet world. The course will also address Afro-Cuban culture, gender and sexuality, and human rights. Prerequisite: HIST 255 or HIST 256 or the permission of the instructor. Three credits.

330 Medieval Society and the Individual

This course examines the realities of personal existence in the Middle Ages, decisions made in the face of those realities and the progress and tensions that ensued. We will explore the traits, contributions, and treatment of: the nobility; family; children; women in theory, law, and reality; the intellectual; the medieval villager; medieval merchants; the artist; the saint; the city and the city-dweller; the writer; the student. Six credits.

332 The Medieval Body

This class explores late medieval conceptions of the physical body, which were always essential to identity in the Middle Ages. Medieval discussions of the practice of reading, clothing and fashion and even spiritual union with God, often involved debates and metaphors based upon the physical body. Through an exploration of primary and secondary texts along with seminar discussions, the class will explore the interconnectedness of late medieval ideas of corporeality, identity, spirituality and sexuality. Crosslisted as WMNS 333. Three credits. Not offered 2009-2010.

335 Thought and Art in the Middle Ages: Monks, Scholastics, Scientists and Artists

This course will examine the Greco-Roman educational curriculum; Greek philosophical problems that influenced the Middle Ages; efforts to reconcile ancient thought and Christianity; the early transmission of western culture; monastic life and learning; the cathedral schools and John of Salisbury; 12th-century revivals of humanism and logic; new growth in law and theology; the universities; progress in science; achievements in art and architecture. Six credits. Not offered 2009-2010.

337 History of Modern Mexico

This course examines the history of modern Mexico from independence to the present. This includes the independence war of 1810-1821; civil war, rebellion, and banditry in the 19th century; indigenous peoples' struggles to preserve their culture in the 19th and 20th centuries; foreign intervention and Mexican relations with North America and Europe. Special attention is paid to the Mexican Revolution of 1910. The course follows developments in the post-revolutionary era to explore popular culture, gender and sexuality, modernization, democracy and social justice. Prerequisite: HIST 255 or HIST 256 or the permission of the instructor. Three credits. Not offered 2009-2010.

341 A History of Canadian-American Relations

A study of Canadian-American relations from the American Revolution to the modern era. Topics include the founding of separate American and provincial societies; the tensions of continental and nationalist identities; the evolution of a North American economy and culture; policy making and bilateral relations in NATO and the UN; post-9/11 security arrangements; complementary and conflicting national interests in political, military, economic, social, and cultural issues. Three credits. Not offered 2009-2010.

343 The Place of Race in the United States

Explores the enduring importance of race in America, including identity formation; 'identity politics'; white-black and white-native interaction; slavery; abolition; Manifest Destiny; the Indian Wars; Reconstruction; Jim Crow segregation; xenophobia toward Asian immigrants; the migration of blacks to cities; the ghetto and de facto segregation; the Civil Rights Movement, Chicano rights movement, and American Indian Movement; the anti-affirmative action backlash. Prerequisite: HIST 242 and HIST 244 recommended. Three credits. Not offered in 2009-2010.

346 American Social Movements, 1865-1945

Examines the triumphs and failures of social movements from the post-Civil War era to the New Deal, including grassroots organizations that nudged the US in a crucial new direction. Students will explore the nature of protest; disobedience and its effectiveness in the late 19th and 20th centuries; populism; women's suffrage; radical pacifism; crafts-based and industrial unionism; and the unemployed peoples' councils of the Great Depression. Prerequisite: HIST 242 and HIST 244 recommended. Three credits. Not offered in 2009-2010.

347 American Social Movements, 1945-Present

Examines the triumphs and failures of social movements from the New Deal era to the present, including grassroots organizations that nudged the US in a crucial new direction. Students will explore the nature of protest; disobedience and its effectiveness in the mid to late 20th century; counter-movements against progressive actors; unionism; McCarthyism; civil rights; Black power; anti-nuclear activism; the anti-globalization movement. Prerequisite: HIST 242 and HIST 244 recommended. Three credits. Not offered in 2009-2010.

351 US Immigration and Ethnicity

Explores the history of immigration to the US and the role of ethnicity in American political, social, and cultural life. Topics will include immigrant conceptions of status and success; the effects of diasporic communities, migration, and return migration on the Old World; American acculturation, binationalism, and the persistence of ethnic identities; and agendas; stay-at-home mothers versus working women; the construction of immigrants' 'whiteness.' Prerequisite: HIST 242 and HIST 244 recommended. Three credits.

353 Explorers and Exploration

Though tradition credits Christopher Columbus with beginning an age of exploration, Columbus himself knew that he drew from a long tradition of explorers who came before him including peoples as diverse as Islamic scholars, Venetian merchants, Basque fishermen and Viking sailors. He knew about the multicultural cities of Jerusalem and Karakorum where individuals from all over Eurasia traded knowledge and goods. This course will examine the science, technology, literature

and history of exploration that so inspired Columbus and the extent to which the different cultures of the premodern world were interconnected by trade, pilgrimage and exploration. Three credits.

355 The Sixties: A Social History

Examines the tumultuous 1960s and situates the Canadian experience within the international context - primarily the USA and Western Europe. Connections will be made between civil rights movements, anti-colonialism, environmentalism; "second-wave" feminism, Québécois nationalism, the New Left, student activism, and the importance of the counter-culture. The course will retain a historical perspective but draw upon interdisciplinary scholarship. The decade's lasting significance and its current invocation as a cultural and political artefact will be debated. Three credits.

360 European Women's History

This course examines major issues in the history of women in Europe from the pre-industrial era to the present. Themes to be covered include gender as a tool for historical analysis; the changing participation of women in the work force and in revolutionary and in reform movements; transformations in the domestic sphere; widening educational opportunities; and women in imperialism and global movements. Gender roles are dynamic and are the outcome of particular historical processes; students in this course will learn how historians untangle implications about a myriad and gendered identities based on the evidence of historical records. Crosslisted as WMNS 370. Three credits. Not offered 2009-2010.

362 European Fascism

This course will explore the history of fascism from its late 19th century origins to the present day. Topics include the political and doctrinal origins of fascism and its crystallization during the Great War; the fascistization of politics, economy and society in Mussolini's Italy and Hitler's Germany; anti-Semitism; the appeal of fascism in interwar Europe; and its subsequent apogee during World War II and the Holocaust. Prerequisite: HIST 100 or HIST 110 or permission of the instructor. Three credits.

363 Reformation Europe

Topics include the Catholic Church on the eve of the Reformation, Renaissance humanism, Martin Luther and Lutheranism, John Calvin and Calvinism, Henry VIII and Anglicanism, radical reformers, the Reformation in Eastern Europe, women, witchcraft and the Reformation, social unrest and popular revolt. The Counter-Reformation includes the Jesuits and the Council of Trent, the wars of religion within the Holy Roman German Empire and in France, Philip II and his Grand Project, the rivalry between Spain and England, the Thirty Years' War (1618-48), and the historiography of the Reformation. Three credits.

364 The Holocaust

Explores the history and legacy of the destruction of the Jews in Europe during World War II. Topics include historical anti-Semitism; the rise of the Nazis; euthanasia; the ghettos; the death camps; the actions of collaborationist regimes; Jewish and non-Jewish resistance; the role of ordinary Germans; the establishment of Israel; and post-war trials and controversies. Three credits. Not offered in 2009-2010.

369 European Social History Since 1750

This course explores the transformation of Western Europe from traditional hierarchical order to modern, urban, industrial society. Topics include the social impact of the Industrial Revolution, class tensions and social conflicts in the 19th century, and societal change as a result of World War I and World War II. Six credits. Not offered in 2009-2010.

370 Modern China

Topics include Confucianism; the dynastic cycles; the fall of the Ming dynasty; the Manchus; the intrusion of the West: the missionaries, the Canton System, the opium wars and the unequal treaties; the Taiping Rebellion; the failed attempts at modernization; the Boxer uprising; the revolution of 1911; warlordism; World War I and the May Fourth Movement; Sun Yatsen, Chiang Kaishek and the Guomindang; Mao Zedong and the Chinese Communist Party; World War II (1937-45); the civil war (1945-49); the profound economic, social, cultural and political transformations of Communist China under Mao Zedong and Deng Xiaoping. Six credits. Not offered in 2009-2010.

383 Victorian Britain

During the 19th century Britain simultaneously became the first fully industrialized, urbanized nation and experienced the transition to democracy. This course deals with the adjustments to these momentous changes during Britain's greatest period of power. Three credits. Not offered in 2009-2010.

384 Britain in the 20th Century

Britain began the 20th century as a leading world power. By the end of the century this was much less the case, but the country had become one of the foremost welfare states. During this transformation, Britain faced important challenges in the two world wars, the ending of empire, and the Irish Question. This course deals with these and other challenges and the responses to them. Three credits. Not offered in 2009-2010.

386 Tudor England

Beginning with the foundation of Tudor rule in 1485, the course will explore the Reformation under Henry VIII and the statecraft of Elizabeth I. Students will explore the social, economic, political, religious, and diplomatic developments during this period. Three credits. Not offered in 2009-2010.

387 Stuart Britain

Beginning with the reign of James I in 1603 and ending with the death of Queen Anne in 1714, this course will examine one of the most turbulent periods in British history. Students will explore the causes and consequences of the English Civil War and the revolutions of the 17th century. Three credits. Not offered in 2009-2010.

390 World War I

This course is an in-depth study of the major aspects--social, cultural, economic, political, and military--of the Great War. Six credits. Not offered in 2009-2010.

398 Sexuality, Gender, and the Body in Historical Perspective

A comparative study of the history and theories of sexuality, focusing on post-1800 Canada, the US, and Britain. Topics will include sexuality in relation to the body, gender, race, class, ethnicity, and nationhood; aboriginal sexual cultures; sexuality and colonization; inter-racial relationships; the 'invention' of heterosexuality; social reform efforts; moral panics; changes in state regulations aimed at female prostitution; homosexual subcultures. Cross-listed as WMNS 398. Three credits. Not offered in 2009-2010.

445 Historiography

This is a seminar in theories and methods in the discipline of history, with corresponding readings in the related historiography. Combining a survey of historiography across time with writing and research projects, the seminar will introduce students to key concepts, methods, and interpretations of history. The subject matter will emphasize 20th century historiography, including the impact that diverse approaches have had on the discipline today. This course is mandatory for all advanced major and honours students. Majors may take this course with the permission of the instructor. Three credits.

Senior Seminar Notes:

- Seminars are open to advanced major and honours students. Majors may take a seminar with the permission of the instructor.
- Seminars will be offered on a rotating basis depending on faculty resources and student demand, normally three per year; the department will make every effort to ensure that honours students will have the opportunity to study their chosen field of history at an advanced level.

401 Senior Seminar in Canadian History

This course examines important themes and interpretations in Canadian history. The specific focus of the seminar will reflect the interests of the professor and the students. Three credits.

455 Senior Seminar in Medieval European History

This course examines important themes and interpretations in Medieval European history. The specific focus of the seminar will reflect the interests of the professor and the students. Three credits.

457 Senior Seminar in American History

This course examines important themes and interpretations in American history. The specific focus of the seminar will reflect the interests of the professor and the students. Three credits. Not offered 2009-2010.

461 Senior Seminar in Modern European History

Explores major developments in 19th- and 20th-century European history. The specific focus of the seminar will reflect the interests of the professor and the students. Three credits.

462 Senior Seminar in Latin American History

This course examines important themes and interpretations in Latin American history. The specific focus of the seminar will reflect the interests of the professor and the students. Three credits. Not offered 2009-2010.

490 Thesis

Each student works under the supervision of a chosen professor who guides the selection of a thesis topic, use of resources, methodological component, quality of analysis and execution, and literary calibre of the final version. Required for all honours students. Six credits.

499 Directed Study

Under the direction of a faculty member, students may pursue an individual program of study in an area of history not available in the course offerings. For eligibility, see section 3.5. Three or six credits.

9.22 HUMAN KINETICS

L. Bilek, Pae.D.
J. Boucher, Ph.D.
D. Burke, Ph.D.
A. Casey, Ph.D.
M. Gallant, M.Sc.
S. MacKenzie, Ph.D.
R. Rasmussen, Ph.D.
A. Thompson, Ph.D.
D. Vossen, Ph.D.
C. Weaving, Ph.D.

The Department of Human Kinetics offers a four-year arts or science degree program in the study of human movement from a humanities, social sciences or scientific perspective. Both the BA and the B.Sc. in Human Kinetics offer the student further specialization with the option to major in either a kinesiology program or a pre-education program, both of which are nationally accredited.

Selection of the major comes at the end of the second year of study and is dependent upon the student's interests and desired educational outcome. Each of the two majors consists of required and elective HKIN courses, arts/science electives, an approved and open elective, and selected activity courses.

Depending on course selection, the major in kinesiology prepares students for a variety of professional and educational options, including: professional programs such as medicine, dentistry, physiotherapy, athletic therapy, occupational therapy; and massage therapy; direct employment in the health and fitness sector; or graduate programs in sport psychology, sociology, philosophy, history, exercise physiology, biomechanics, child growth and development, health promotion and adapted physical activity/adapted physical education. Students interested in teaching in the school system should select the pre-education major, as it prepares them for admission to B.Ed. programs. The students in pre-education major must select at least one activity from areas: formalized games and sports; basic movement (e.g. track and field, gymnastics); dance; recreation and leisure pursuits; exercise and health related fitness. Students who plan careers in other teaching-related professions should also choose the major in pre-education. Students may consult the department chair or designated faculty advisor to ensure proper course selection for acceptance to B.Ed. programs. See chapter 6 for admission requirements to the StFX B.Ed. program.

Candidates must follow the degree regulations in chapters 6 and 7.

For entrance requirements, see chapter 1.

The normal sequence for the six human kinetics degrees and majors are as follows: Subject A and Science A are minors in the respective programs below.

BA in Human Kinetics with Major in Kinesiology

Year 1 HKIN 105, 115; 6 credits each of arts subjects A and B; 12 credits arts/science electives
Year 2 HKIN 105 or 205, 215, 236; 3 credits HKIN elective; BIOL 251, 252; 6 credits each of arts subjects A and B
Year 3 HKIN 301, 365, 376, 396 or 397; 6 credits HKIN electives; 12 credits arts subject A
Year 4 6 credits from HKIN 331, 332, 352, 353, 354; 12 credits HKIN electives; 6 credits each approved electives and open electives

BA in Human Kinetics with Major in Pre-Education

Year 1 HKIN 105, 115; 6 credits each of arts subjects A and B; 12 credits arts/science electives
Year 2 HKIN 105 or 205, 215, 236; 3 credits HKIN elective; BIOL 251, 252; 6 credits each of arts subjects A and B
Year 3 HKIN 365, 376, 385, and 3 activities; 6 credits HKIN electives; 12 credits arts subject A

Year 4 HKIN 425, 426, and 3 activities; 6 credits from HKIN 331, 332, 352, 353, 354; 3 credits HKIN elective; 6 credits each approved elective and open elective

Candidates must follow the degree regulations in section 4.1.

B.Sc. in Human Kinetics with Major in Kinesiology

Year 1 HKIN 105, 115; 6 credits each of science subjects A and B; 6 credits each of arts subject X and Y
Year 2 HKIN 105 or 205, 215, 236; 3 credits HKIN elective; BIOL 251, 252; 6 credits science A; 6 credits Arts X
Year 3 HKIN 301, 365, 376, 396 or 397; 6 credits HKIN electives; 12 credits science A
Year 4 6 credits from HKIN 331, 332, 352, 353, 354; 12 credits HKIN electives; 6 credits each approved electives and open electives

If science A is biology then 6 credits of biology must be BIOL 201 and 204 and science B is normally chemistry.

B.Sc. in Human Kinetics with Major in Pre-Education

Year 1 HKIN 105, 115; 6 credits each of science subjects A and B; 6 credits each of arts subject X and Y
Year 2 HKIN 105 or 205, 215, 236; 3 credits HKIN elective; BIOL 251, 252; 6 credits science A; 6 credits Arts X
Year 3 HKIN 365, 376, 385, and 3 activities; 6 credits HKIN electives; 12 credits science A
Year 4 HKIN 425, 426, and 3 activities; 6 credits from HKIN 331, 332, 352, 353, 354; 3 credits HKIN elective; 6 credits each approved elective and open elective

If science A is biology then 24 credits of biology must be BIOL 111, 112, 201, 202, 203, 204, 251, and 252. If science A is biology then science B is normally chemistry.

B.Sc. in Human Kinetics with Major in Kinesiology and Minor in Health Sciences

Year 1 HKIN 105, 115; CHEM 100; BIOL 111, 112; ENGL 100; 6 credits of Arts X or Arts Y; PSYC 100 or SOCI 100
Year 2 HKIN 105 or 205, 215, 236; 3 credits HKIN elective; BIOL 251, 252; CHEM 220; 6 credits Arts X
Year 3 HKIN 301, 365, 376, 396 or 397; 9 credits HKIN electives; CHEM 255; PHYS 100
Year 4 6 credits from HKIN 331, 332, 352, 353, 354; 9 credits HKIN electives; one of BIOL 201, 204 or 315; 6 credits each approved elective and open elective

B.Sc. in Human Kinetics with Major in Kinesiology and Minor in Nutrition

Year 1 HKIN 105, 115; BIOL 111, 112; CHEM 100; 6 credits each of Arts subject X and Y
Year 2 HKIN 105 or 205, 215, 236; 3 credits HKIN elective; BIOL 251, 252; 6 credits Arts X; 6 credits approved elective
Year 3 HKIN 301, 365, 376, 396 or 397; 3 credits HKIN elective; CHEM 225, 255; HNU 145, 261, 262
Year 4 6 credits from HKIN 331, 332, 352, 353, 354; BIOL 315; HNU 363; 12 credits from HNU 365, 366, 405, 425, 467 and 475; 6 credits open elective

BA and B.Sc. in Human Kinetics with Advanced Major or Honours

See chapters 4 and 5 for requirements. Additionally, students in the kinesiology program must complete HKIN 491, and a major paper. Students in the pre-education major program must complete the major requirements, HKIN 301, 396 or 397, and 491 and a major paper. Students in the honours program must complete the same requirements as for the advanced major; however the major paper is replaced with the honours research and thesis.

A student who fails to satisfy one or more requirements for the honours major degree may be eligible for the advanced major degree.

B.Sc. Joint Advanced Major in Human Kinetics and Biology

See chapter 5 for requirements.

A student who fails to satisfy one or more requirements for the advanced major degree may be eligible for the B.Sc. in Human Kinetics.

Note: HKIN 105, 115, and 205 are restricted to human kinetics students. Other HKIN courses are open to non-human kinetics students with permission of the professor and the department chair.

105 and 205 Activities I and II

Each activity is one credit. Students must take six activities over two years, normally three per year, one in each of the three blocks (Fall, Winter, Spring) in which the activity is offered. Level I activities are prerequisites for Level II activities. An activity may be taken only once. Three activities have time blocks to be announced (TBA).

Students enrolled in the pre-education major must choose six additional activities, three activities in each of the third and fourth years:

Fall	Adapted physical activities, basketball I, contemporary dance, fitness, football I, golf, low organized games, rugby I, rugby II, soccer, squash, track and field, and weight training
Winter	Badminton I, basketball I, basketball II, fitness, folk dance, hockey I, gymnastics, handball, indoor soccer, low organized games, movement education, racquetball, soccer II, social dance, squash, volleyball I, and volleyball II
Spring	Badminton I, fitness, folk dance, football II, golf, gymnastics I, hockey II, indoor soccer, racquetball, squash, volleyball, and weight training
TBA	Fall and winter outdoor education camp, gymnastics II

115 Principles of Human Movement

This course provides an introduction to the field of human kinetics. The functional and psychosocial aspects of human movement form the core components of this course. Topics include: physical activity, physical fitness, healthy eating, stress, heart health, cancer, and weight management. Three credits and lab.

215 Introduction to Motor Learning and Control

An introductory analysis of motor behavior and motor control, with emphasis on theories underlying the acquisition and performance of motor skills. Three credits and lab.

222 Care and Prevention of Athletic Injuries

A study of the injuries that occur in popular physical activities, including the nature, course, prevention, and non-medical management of these injuries. Prerequisite: BIOL 251. Three credits and lab.

226 Focus on Personal Health

This multidisciplinary course addresses personal health and lifestyle choices of university students. Topics include psychological health, nutrition, physical activity, the environment, dieting, obesity, drugs, sexuality, and death. Three credits.

236 Foundations of Sport and Exercise Psychology

This course provides an understanding of the basic concepts and principles of sport and exercise psychology, and how they apply to counseling, teaching, coaching, and fitness instruction. Three credits and lab.

262 Performance Enhancing Supplements

Elite athletes strive to accomplish short- and long-term goals, surpass their competitors, and win events. This drive to succeed has fueled the development of several performance-enhancing resources, including 'ergogenic aids,' which involve nutritional, pharmacological, physiological, biomechanical, and psychological factors. This course covers the nutritional supplements used in sport, their efficacy, and their hazards. Prerequisite: HKIN 115. Three credits.

301 Elementary Statistics

Cross-listed as STAT 201; see STAT 201. Three credits.

321 Advanced Care and Prevention of Athletic Injuries

An in-depth study of the assessment and management of athletic injuries. Students will learn proper assessment protocol, advanced assessment techniques, and specialized taping techniques. Prerequisites: BIOL 251; HKIN 222. Three credits.

331 The Sociology of Sport

This course provides students with a social interpretation of sport in Canadian society. Emphasis will be given to the culture of sport and its relationship to other societal institutions such as the mass media and education. Attention will be given to the connection between sports and socialization and to the role

of sports in cultural values such as fitness, entertainment, and consumerism. Three credits.

332 Gender in Sport and Physical Activity

Explores the role of women and men in sport/physical activity/recreation from a historical, philosophical and social perspective. This course covers sexuality, homophobia, racism, politics of difference and identity predominately from a Canadian philosophical approach. Cross-listed as WMNS 332. Three credits.

334 Coach Leadership and Planning

This is a planning course designed for entry-level coaches. Completion of this course gives an accreditation in the National Certification Coaching Program. Competition A and B. Lab experience will be offered in the varsity program. Three credits and lab.

352 Historical Foundations of Sport and Physical Activity in Canada

An overview of the history of sport in Canada. Using the forces of class, ethnicity, race and gender as an interpretative foundation, the class will examine the context and social conditions under which Canadians have created, refined, participated in and interpreted sports. Three credits.

353 Metaphysical Foundations of Sport and Physical Activity

Explores the nature, meaning and significance of sport and physical activity. Students will be introduced to logic and to various metaphysical arguments arising within and surrounding sport. Topics include: the relationship between sport, game, play and physical activity, the dumb jock stereotype, the dehumanization of athletes, sport and spirituality, seeking the zone, and the joy of sport. Three credits.

354 Ethics and Sport

An introductory philosophical inquiry into proper conduct in sport. Students will discuss and evaluate arguments focused on important ethical issues arising within and surrounding sport. Topics include: fair play, cheating, good/bad sportspersonship, performance-enhancing substance use, and violence in sport. Prerequisite: HKIN 353 is recommended. Three credits.

365 Exercise Physiology

This course involves an in-depth study of the energy delivery systems utilized during exercise, as well as, both the acute responses and chronic adaptations to exercise by the muscular, cardiovascular and respiratory systems. Basic neurological considerations are also included. Prerequisites: BIOL 251, 252. Three credits and lab.

376 Biomechanics

Students will be exposed to the concepts of kinetic analysis of motion through the application of Newton's Laws. The course will provide the mechanical information necessary to enable the student to objectively criticize any human movement which the student may one day have to teach, coach or ergonomically evaluate. Three credits and lab. Students may not obtain credit for both HKIN 376 and BIOL 303.

385 Adapted Physical Education

An introduction to the design and implementation of physical activity programs for individuals with disabilities. Topics include: terminology, strategies for inclusive programming, assessment, good utilization, instructional strategies, and attitudes toward disability. An overview of specific disabilities is included. Three credits and practicum. Credit may not be earned for both HKIN 385 and 395.

392 Exercise Metabolism

Examines the response and regulation of the human cardiovascular, respiratory, and acid-based systems to acute and chronic exercise. Topics include: the prescription and physiological effects of training, especially aerobic and anaerobic energy systems, and strength training. Students will learn techniques of tissue collection and analysis using UV-V spec, fluorometry, HPLC, and GC-MS. Prerequisites: HKIN 365; BIOL 111, 112; CHEM 100 is recommended. Three credits and lab.

395 Physical Activity and Sport for Individuals with Disabilities

An examination of physical activity, exercise, and sport for individuals with various disabilities. Students will gain the knowledge and practical skills required to understand and promote inclusive physical activity for individuals with disabilities. This course addresses the professional needs of students interested in pursuing the allied health profession. Three credits and practical experience. Credit may

not be earned for both HKIN 385 and 395.

396 Quantitative Research Methods

An overview of the scientific method of problem solving. The course covers problem identification, hypothesis testing, data collection, and analysis of research findings. A detailed examination of experimental design assists the student in conducting research, writing the proposal and the report, and critically analyzing published literature. Restricted to third- and fourth-year students; recommended for year three of the honours program. Three credits.

397 Qualitative Research Methods

An overview of qualitative research methodologies, including the major theories, methods, and approaches. Problem identification, data collection, data analysis, and data presentation are the major focus of this course. Practical experience will be included. Restricted to third- and fourth-year students; recommended for third-year advanced major and honours students. Three credits.

416 Advanced Motor Learning

An in-depth study of motor control in skill movement and research problems in areas of motor control and learning strategies leading to peak performance. Prerequisite: HKIN 215. Three credits.

425 Child Growth and Development

This course covers the physical changes that occur during growth, maturation, and development in children and adolescents. The implications of changes in structure and function as they relate to physical education, physical activity, and physical fitness will be discussed. Prerequisites: BIOL 251, 252; HKIN 365. Three credits and lab. Service learning option.

426 Health Education

This course introduces the basic concepts and topics associated with the physical, intellectual, social, emotional, spiritual, and environmental aspects of health. Emphasis will be placed upon the application of these concepts in the instruction of health in the school system. Three credits. Service learning option.

432 Psychology of Coaching

Explores current issues pertinent to psychological practice in sport, with a special emphasis on the coach-participant relationship. Prerequisite: HKIN 236 or PSYC 100. Three credits.

435 Psychology of Motivation and Performance in Sports

An analysis of motivational factors and psychological principles with reference to sport and motor performance, and a study of motivational techniques. Three credits.

441 Organization and Administration of Physical Activity and Sport

An analysis of research relating to the theory and practice of administration in physical activities and sports with emphasis on planning, organizing, staffing, directing, co-ordinating, and controlling. Three credits.

443 Modern Olympic Games

This seminar course is designed to provide opportunities for students to critically examine the Olympic Games and Olympic Movement. Students will examine the modern Olympic Games from a sociocultural interdisciplinary approach. Restricted to third and fourth year HKIN students. Prerequisites: HKIN 332, 352, 353 and 354 are recommended. Three credits.

445 Instructional Strategies in Human Kinetics

An analysis of the teaching-learning process, emphasizing the instructional strategies specific to the development of skilled performance in movement activities; concentration on the acquisition of knowledge and competence relating to human relations. Three credits.

446 Essentials of Personal Training

An introduction to exercise program prescription and leadership. Students will learn techniques for prescribing, following, and leading exercise programs; participate in and analyze exercise activities and programs; design and lead group, individual, and periodic exercise programs. Students will be prepared to meet national criteria for recognition as a certified personal trainer. Prerequisites: BIOL 251, 252; HKIN 365. Three credits and lab.

456 Exercise and Fitness Evaluation

This course combines theoretical knowledge with practical experience in using laboratory techniques to assess fitness. Topics include: exercise prescription, and paradigms for aerobic, anaerobic, strength, and flexibility training. Students

will gain the knowledge and skills to pursue certified fitness consultant (CFC) certification through the Canadian Society for Exercise Physiology. Prerequisite: HKIN 365. Three credits and lab.

466 Clinical Exercise Physiology

This course examines several chronic diseases prevalent in our society, which are positively influenced by regular exercise or physical activity, and include: obesity, osteoporosis, cardiovascular disease, diabetes, arthritis, certain cancers and depression. The nature of the disease, methods of assessment, the role of exercise in the possible prevention, treatment and/or rehabilitation of these diseases are considered. Prerequisites: BIOL 251, 252; HKIN 365. Three credits and lab.

471 Selected Topics in Human Kinetics

This course will cover a selection of current human kinetics topics such as psycho-social issues and scientific aspects of human movement. Restricted to third- and fourth-year students. Three credits.

473 Selected Topics Rehabilitation Techniques

The topic for 2009-2010 will be Rehabilitation Techniques. This course will provide senior human kinetic students with an interest in further pursuing therapy as a career. A comprehensive guide to designing, implementing and supervising rehabilitation programs for sports related injuries will be offered. Prerequisite HKIN 222. Three credits.

474 Advanced Biomechanics

This course will further the student's understanding of the qualitative approach to biomechanics, and provide the necessary skills for conducting a quantitative biomechanical analysis of human motion. Students will be introduced to several techniques used in biomechanics research. Emphasis will be placed on the collection and analysis of biomechanical data. Concepts will be illustrated with examples taken from areas of ergonomics, sport, and exercise. Prerequisites: HKIN 376; MATH 111 and PHYS 100 recommended. Three credits.

491 Senior Seminar

In addition to classroom sessions and round table discussions, the senior seminar may include lectures by visitors, faculty, and staff on aspects of human movement. Required for all honours students. The theses of honours students form the basis of their presentations. No formal credit is given for the senior seminar; however, satisfactory attendance and seminar presentation is a requirement for the BA or B.Sc. in Human Kinetics with Honours. No credit.

493 Honours Thesis

Honours students must submit a thesis under the direction of a faculty member. The thesis will document the student's research work. Students must meet all department deadlines and requirements, and submit an acceptable thesis to earn a BA or a B.Sc. in Human Kinetics with Honours. Prerequisites: HKIN 301, 396 or 397. Three credits.

499 Directed Study

Designed for students with high academic standing who wish to pursue a directed, in-depth study in a selected topic. See section 3.5. Three credits.

9.23 HUMAN NUTRITION

K.R. Cavan, Ph.D., P.Dt.
D. Fagan, M.Sc., P.Dt.
D. Gillis, M.Sc., M.Ad.Ed., P.Dt.
F. Haley, M.H.S.A., P.Dt., C.H.E.
C. Johnson, M.Sc., P.Dt.
P. Mazier, Ph.D.
M. Naczki, Ph.D.
L.A. Wadsworth, Ph.D., P.Dt., FDC

The B.Sc. in Human Nutrition is a professional program which integrates core requirements in foods, nutrition and related areas with studies in biology, chemistry, statistics, humanities and social sciences. The program combines a strong science background with a process orientation, focusing on the effective delivery of nutritional information in various institutional settings, as well as in the general community. Collectively, the course requirements provide the expertise needed by nutrition professionals today, and graduates are both knowledgeable about nutritional science and oriented toward community service.

Human nutrition courses prepare students for advanced studies in nutrition, health promotion, medicine, food science and business; and for careers in dietetics, food service management, research and development, and education.

The fourth year of the program focuses on specialized knowledge in the areas of food, nutrition, food service management, and related subjects. In second year students may choose either the advanced major program, which has a seminar requirement; or the honours program, which has a seminar requirement as well as six required credits in advanced nutrition and advanced clinical nutrition, and a three-credit thesis course. Seminar topics will reflect the research areas of faculty members.

With the proper selection of courses (including HNU 455 as a HNU elective) students may meet the requirements for admission to a Dietitians of Canada approved graduate dietetic internship program.

The Integrated Dietetic Internship (IDI) Program is offered as an alternative to the graduate internship. The IDI program will enable eligible students to attain Dietitians of Canada competencies for entry-level dietetic practice. The program consists of three 14-week practicum courses, the first after the third year and the last two after graduation. Each practicum includes one or more placements in different dietetic practice settings. Students must have completed the third-year course sequence with at least an overall average of 65 and an average of 70 in HNU courses and have satisfied the criteria for acceptance into the IDI program. Students must declare their intent to apply for the IDI program by the end of their second year, at the time of application for the advanced major or honours program. Formal application must be made by January 31 of the application year.

The Co-operative Education Program is offered as another training alternative for HNU students. It offers real work experience for students not interested in participating in the IDI program. It is aimed at students who are interested in other career options than dietetics that compliment the human nutrition degree. The co-op graduate with HNU degree will be prepared to work within the food industry (product development and evaluation, food safety etc.) The program consists of three consecutive four-months work-terms, the first in the winter term of the fourth year of study, the second work term in the summer after the fourth year of study and the third term in fall term of the fifth year of study. A minimum 70% overall average is required for acceptance into co-op program. Students who successfully complete three work terms will be awarded three academic credits. Students enrolled in the co-op program are only eligible to apply for a graduate internship program.

With an appropriate selection of courses, students may also meet the requirements for admission to a B.Ed. program.

As an exception to other regulations, human nutrition students may take up to 12 credits of HKIN 215, 222, 352, 365 and 376 as open electives. The human nutrition program combines courses in the life and social sciences, the humanities, and nutrition with practical experience in delivering nutrition and health information to individuals and communities, locally, nationally, and internationally.

Majors and advanced majors follow the same course sequence; however, advanced majors must complete HNU 491 and must attain a higher average; see chapter 5. The course pattern for the honours program is listed in chapter 5.

Depending upon the choice of emphasis, the human nutrition program prepares graduates for careers in areas such as dietetics, education, extension, food service management, research, and product development, or for careers as life skill workers and product specialists. Graduates may qualify for entrance to a Dietitians of Canada approved dietetic internship program (comprehensive practicum), or for graduate study in human nutrition, law, business administration, or medicine. Students may not earn credit for both HNU 200 and HNU 261/262 or 263.

All third- and fourth-year students in the program are required to attend the presentations in HNU 491: Advanced Major and Honours Seminar. The attendance of first- and second-year students is recommended.

See chapter 7 for information on the degree patterns, declarations of major, advanced major and honours, advancement and graduation requirements.

Major

The normal sequence for the major program is shown below.

Year 1	BIOL 111; CHEM 100; HNU 145, 185; STAT 201 or 231; 6 credits humanities electives; 6 credits social sciences electives
Year 2	BIOL 251, 252; CHEM 225, 255; HNU 146, 261, 262, 335; 6 credits arts subject for a pair
Year 3	BIOL 315; BSAD 261; 3 credits from BSAD 231, 221, 363; HNU 361, 362, 365, 385; 3 credits HNU elective; 6 credits arts subject for a second pair
Year 4	HNU 405, 475; 12 credits HNU electives; 12 credits open electives

Advanced Major

The normal sequence for the advanced major program is shown below.

Year 1	BIOL 111; CHEM 100; HNU 145, 185; STAT 201 or 231; 6 credits humanities electives; 6 credits social science electives
Year 2	BIOL 251, 252; CHEM 225, 255; HNU 146, 261, 262, 335; 6 credits arts subject for a pair
Year 3	BIOL 315; BSAD 261; 3 credits from BSAD 231, 221, 363; HNU 361, 362, 365, 385; 3 credits HNU elective; 6 credits arts subject for a second pair
Year 4	HNU 405, 475, 491; 12 credits HNU electives; 12 credits open electives

Honours

The normal sequence for the honours program is shown below.

Year 1	BIOL 111; CHEM 100; HNU 145, 185; STAT 201 or 231; 6 credits humanities electives; 6 credits social science electives
Year 2	BIOL 251, 252; CHEM 225, 255; HNU 146, 261, 262, 335; 6 credits arts subject for a pair
Year 3	BIOL 315; BSAD 261; 3 credits from BSAD 231, 221, 363; HNU 361, 362, 365, 385; 3 credits HNU elective; 6 credits open electives
Year 4	HNU 405, 467, 475, 491, 493; 12 credits HNU electives including either HNU 461 or 486; 6 credits open electives

B.Sc. in Human Nutrition degree in 5th year for B.Sc. Human Kinetics students with minor in Human Nutrition

B.Sc. Human Kinetics students majoring in Kinesiology and minoring in Human Nutrition who wish to pursue a degree in Human Nutrition in their 5th year should follow the following course pattern. In their second year, it is recommended that the student take six credits of a 200 level Arts subject X course (as a pair to their first year 100 level Art course subject X). In their third year, it is recommended that the student take HKIN 396 or HKIN 397 and that six credits of HKIN open electives come from BSAD 261 or 231 and HNU 146. In their fourth year, the student must take HNU 185, 335, 365, and 475

Recommended Course Pattern

Years 1-4	HNU 145, 146, 185, 261, 262, 335, 363, 365, 396 or 397, 475; BSAD 231 or 261
Year 5	HNU 361, 362, 405, 12 credits HNU electives; BSAD 231 or 261; 6 credits arts pair

145 Introduction to Foods

This course will introduce the physical and chemical properties of the major food groups, the extent to which these properties are altered by cooking and processing, as well as issues of food quality and safety and their implications for human health. Three credits and lab.

146 Introduction to Food Science

An introduction to scientific concepts as a basis for understanding foods as a complex chemical system. A study of the properties of food components as they are affected by chemical and physical changes in foods; the foundations of various food preservation methods; and the principles of food evaluation by sensory and objective methods. Three credits and lab.

185 A Foundation for the Nutrition Professional

Students will become familiar with human nutrition philosophy, issues and problems important to human nutrition professionals, recent approaches and solutions in the field, and career possibilities for human nutrition graduates. Restricted to HNU students. Three credits.

200 Nutrition for a Healthy Lifestyle

Designed for arts majors, this course introduces nutritional science and the role that nutrition, exercise, and other lifestyle behaviors play in the promotion of health. First-term topics include the function of food and its role in maintaining and promoting health, while winter-term topics include: vegetarianism, food safety, body weight, and healthy eating. Not acceptable for credit for HNU students. Students may not earn credit for both HNU 200 and 261/262 or 263. Six credits. Open to non-HNU students.

261 Introduction to Nutrition

Students will learn the fundamentals of the science of nutrition with emphasis on energy nutrients, minerals and vitamins, their functions, their dietary sources, and how the body handles them from ingestion through excretion. Topics include the

recommended nutrient intakes and guidelines for healthy eating. Prerequisites: CHEM 100 or 150; BIOL 111 or 105. Three credits.

262 Principles of Nutrition in Human Metabolism

Building on HNU 261, the course will examine the role of nutrition in promoting health and preventing disease. Topics will include: energy balance, weight control, current consumer issues, and nutritional concerns throughout the life cycle, including pregnancy and lactation, the development years, and adulthood. Prerequisites: HNU 261; BIOL 111, 251, 252, completed or concurrent; CHEM 100, 225, 255, completed or concurrent. Three credits.

263 Applied Introductory Nutrition

Expanding on the fundamentals of nutrition learned in HNU 261, this course will increase awareness of the role of nutrition in promoting health and preventing illness. Topics include: the health benefits of optimal nutrition; the role of nutrition in growth and development; nutrition-related health problems and disease; assessment of nutritional status; nutrition care after surgery. Prerequisites: HNU 261; CHEM 100 or 150; BIOL 111, 105, 251, 252, completed or concurrent. Three credits.

335 Communications

An introduction to the principles of human communication and the development of interpersonal, group, and public communication skills applicable to classroom, laboratory, community, and media situations. An overview of the job application process, resume assessment, and interviewing is presented. Prerequisites: HNU 145, 146, 185, 261, 262; completed or concurrent. Three credits and lab.

361 Clinical Nutrition I

This course provides a solid foundation for assessing nutritional status, determining nutritional care plans for clients and patients, and implementing and evaluating nutritional care, including conventional feeding, enteral and parenteral nutrition therapy. The role of nutrition in preventing and treating disease will be discussed, including diabetes mellitus, obesity, and eating disorders. Prerequisites: HNU 261, 262; CHEM 100, 221, 255; BIOL 111, 251, 252. Restricted to HNU students. Three credits and lab.

362 Clinical Nutrition II

Covers the provision of nutritional care for such conditions as gastrointestinal and respiratory disorders, liver, kidney, cardiovascular disease, cancer and metabolic stress. Topics include: the role of nutrition in the etiology, pathophysiology, therapy, and prevention of disease; dietary and drug therapies and their interactions. Students will analyze case studies, and observe practicing physicians in a hospital setting. Prerequisites: HNU 261, 262, 361; CHEM 100, 221, 255; BIOL 111, 251, 252. Restricted to HNU students. Three credits and lab.

363 Sport Nutrition

This course involves identification of the specific nutrient needs of individuals engaged in vigorous physical activity. It includes detailed descriptions of dietary macro- and micro-nutrient metabolism and the influence of either excess or deficiency of these nutrients on exercise performance. Prerequisites: HNU 261, 262. Three credits.

365 Community Nutrition

An introduction to the field of community nutrition and its role in health and health care, which assumes students' familiarity with the theories and principles of normal nutrition. Students will explore the role of the community nutritionist in determining the needs of specific population groups; factors that influence eating behavior; processes available for planning, delivering, and evaluating community nutrition services; and necessary tools, skills and techniques for developing effective change strategies. Prerequisites: HNU 261, 262. Three credits and lab.

366 Maternal and Child Nutrition

A study of nutrition in the context of normal human development from pre-conception to adolescence. Emphasis is on nutritional concerns and recommended dietary practices during pregnancy, lactation and early childhood. The dietary management of common childhood concerns and adolescent eating disorders is also discussed. Prerequisites: BIOL 251, 252; HNU 261, 262 or 263. Three credits.

385 Research Methods

An introduction to the research process for human nutrition. Students will complete a research project of their choice, encompassing the major components of research activity, including literature review, hypothesis generation, data collection and analysis, and discussion. Students will use the SPSS-X computer program. Prerequisite: credit for all courses in the first two years of the human nutrition program sequence. Three credits and computer lab.

405 Food Availability

An examination of the vital issues that surround our national and global food supply from production to consumption. The course will explore interdependency of the many factors underlying the science of food and feeding of people, including the relation of nutrition to health and social policy decisions, the food supply, and access to food, food security, food technology, and domestic and global food distribution. Open to arts and science majors. Three credits.

415 Special Topics in Nutrition

Explores current issues and processes pertinent to nutrition practice in Canada. Three credits.

416 Special Topics in Foods

Introduces current topics and problems in the study of foods. The area of study will change on a yearly basis and in accordance with faculty resources. Three credits.

425 Nutrition in Aging

An examination of the special nutritional needs of the elderly with emphasis on the different needs of the various subgroups that comprise the elderly today. Prerequisites: HNU 261, 262 or 263; BIOL 251, 252. Three credits.

445 Advanced Food Study

An experimental approach to the study of the physical and chemical properties of foods, and the chemistry of changes occurring during food processing, storage and handling. Emphasis is placed on research methods and procedures, and objective and subjective methods of food evaluation in controlled laboratory experiments. Prerequisites: HNU 145, 146; CHEM 225, 255. Three credits and lab.

448 Advanced Experimental Foods

An independent project involving the development of a research proposal, implementation of the project following laboratory research methods and procedure, and a written report of the project. Prerequisite: HNU 445. Three credits and lab.

455 Food Service: Management and Quantity Production

A comprehensive study of food management with emphasis on quantity production and service, physical facilities, and administration. Nutrition and management will be studied, as will menu planning, food safety and sanitation, purchasing and cost accounting. Practical insights will be gained through guest speakers, observation of local food service facilities, service-learning opportunities, and problem-based learning exercises. Prerequisites: HNU 261, 262; BSAD 261. Three credits and lab.

461 Advanced Clinical Nutrition

A study of the mechanisms by which human cells and organs control nutrient metabolism. Topics include: the regulation of energy metabolism; the effect of organ failure on intermediate metabolism; abnormal metabolism; the use, transport, and metabolism of selected nutrients; the etiology and treatment of metabolic diseases through nutrition, clinical chemistry, pharmacology, and biochemistry. Prerequisites: HNU 361, 362; CHEM 100, 221, 255; BIOL 111, 251, 252. Restricted to HNU students. Three credits.

467 Advanced Nutrition

An in-depth study of energy metabolism in human beings, with emphasis on integration and regulation. The application of current research and the rationale for current dietary guidelines will be emphasized. Prerequisites: HNU 261, 262; BIOL 111, 251, 252; CHEM 255. Three credits.

471 Entrepreneurial Practices for Nutrition Professionals

This course examines the relationship of a variety of factors for entrepreneurial behaviors both in the workplace and in new venture development. Creativity and self-awareness are emphasized while basic business skills and planning processes are developed as the necessary tools for bringing goals and ideas to reality. Guest speakers from nutrition-related enterprises and business support agencies will augment the learning and creative experience in the classroom. Prerequisite: BSAD 261. Three credits.

475 Effecting Change

A study of change theory and its application to healthy lifestyle behaviors. Through projects, students will examine change from the perspectives of an individual, a change agent, and a professional evaluating the effectiveness of a change process. Topics include: identifying an appropriate locus for change; empowering individuals; and collaborating with others to effect change. Prerequisite: credit

for all courses in the first two years of the human nutrition program sequence. Three credits.

481 Internship Practicum I

A 14-week practicum course which prepares students to meet the entrance requirements for Dietitians of Canada. Students work with mentors in institutional and community settings to develop their assessment and communication skills; learn to plan, learn the basis of nutritional care; and choose a practice-based research project. Prerequisites: completion of the third-year course sequence including HNU 455 with an overall average of at least 65 and an average of 70 in HNU courses; acceptance into the IDI program. Six credits.

482 Internship Practicum II

A second 14-week (minimum) practicum course which provides opportunities to integrate theory and practice in a mentored environment, and to acquire the competencies required by Dietitians of Canada for entry-level practice. Interns will improve their skills in communicating, assessing, and implementing nutritional care, and complete a practice-based research project. Prerequisites: completion of the fourth-year course sequence with an overall average of at least 65 and an average of 70 in HNU courses; HNU 445, 481. Six credits.

483 Internship Practicum III

The final 14-week (minimum) practice course of the IDI program provides an opportunity to integrate theory with practice in the mentored setting of the IDI program. Students will develop their communication, assessment, implementation, and evaluation skills through participation in nutrition care activities. Completion of HNU 483 is equivalent to completion of entry-level requirements for the Dietitians of Canada examination for certification for practice. Prerequisite: HNU 482. Six credits.

486 Qualitative Research Methods

An introduction to qualitative research methodologies, highlighting the major approaches, theories and methods. Emphasis is on preparation of research questions, sampling procedures, data collection techniques, and data analysis. Limited enrollment. Prerequisite: completion of the third-year HNU course sequence. Three credits.

491 Advanced Major and Honours Seminar

A critical study of current research in areas related to human nutrition.

493 Senior Thesis (Honours)

A full-year program of research in nutrition. An acceptable thesis based on original research must be submitted by the deadline to satisfy department requirements for a B.Sc. in Human Nutrition with Honours. Three credits.

499 Directed Study

Designed for students with high academic standing who wish to explore, in depth, some aspect of human nutrition not available in other course offerings. See section 3.5. Three credits.

9.24 INFORMATION SYSTEMS

H. Abolghasem, Ph.D.
T. Boyle, Ph.D.
N. Foshay, Ph.D.
H. Marzi, Ph.D., P.Eng.
R. Palanisamy, Ph.D.

The Bachelor of Information Systems (BIS) degree prepares students to play an integral role on teams that imagine, specify, design, justify, build, implement, manage, and use computer information systems. Through innovative classes, students gain an understanding of the technical, management, and human issues involved in the efficient and effective development, management, and use of computer information systems in an organizational context.

Careers in the information systems area are growing rapidly due to the impact of information technology on every aspect of human activity. BIS graduates are sought after to: design useable information systems for a myriad of applications in business, health and social welfare, manufacturing, and government organizations; advise business and government organizations how to improve their efficiency and effectiveness through the application of information systems; apply their knowledge of project management and their general professional competencies in a wide variety of contexts with the aim of creating business value; and attend leading graduate schools to become the next generation of researchers and technology policy makers.

Information systems students receive hands-on exposure to the latest technologies used to manage organizations and improve business performance. Example systems include state-of-the-art database management systems such as Oracle and SQL Server; SAP, a leading multi-million dollar cross-enterprise system for large organizations; and SYSPRO, a leading cross-enterprise system for small and medium enterprises. Both SAP and SYSPRO are strategic partners in delivering our world-class information systems degree program.

The BIS program has been accredited by the Canadian Information Processing Society (CIPS) Information Systems and Technology Accreditation Council (ISTAC). The ISTAC works with academic institutions to ensure that an educational program effectively prepares students for the demands of the computing profession. Completion of an ISTAC accredited program assists graduates in pursuing the CIPS Information Systems Professional of Canada (I.S.P.) professional designation. More information about CIPS and the I.S.P. program is available from www.cips.ca or info@cips.ca

The Department of Information Systems offers a variety of degrees and courses to meet the needs of students interested in the study of information systems. All degrees closely follow the curriculum recommendations of *IS'2002 Model Curriculum and Guidelines for Undergraduate Degree Programs in Information Systems*, developed by the Association of Computer Machinery, the Association for Information Systems, and the Association for Information Technology Professionals. The following degree programs are offered by the Department of Information Systems:

Bachelor of Information Systems General
Bachelor of Information Systems
with Major or Honours in Enterprise Systems
Bachelor of Information Systems
with Major or Honours in IT Management

An enterprise resource planning (ERP) system is a single, integrated enterprise computing system designed to carry out the most common business activities, including logistics, accounting, finance, and human resource management, at the operational, tactical, and strategic levels of the organization. The Department of Information Systems, by partnering with SAP and SYSPRO Canada, has established itself as a leader in ERP education in Canada. The department offers students the opportunity to obtain specialized knowledge in the design, implementation, and management of ERP systems through a major or honours degree in enterprise resource planning.

Business is increasingly conducted through electronic means, often through the Internet. This presents many challenges, including technology, marketing, strategy, operations and systems issues. The Department of Information Systems offers students the opportunity to obtain specialized knowledge in the design, implementation, and management of e-business systems through a major or honours degree in e-business.

The BIS Major or Honours in IT Management is designed to provide students with both depth and breadth regarding the management issues facing information systems in organizations.

See chapter 5 for information on the degree patterns, declarations of major, advanced major and honours, advancement and graduation requirements.

Department Regulations

Certain courses are considered equivalent. See the chart at the beginning of chapter 9 for restricted courses.

Bachelor of Information Systems General Degree

The normal sequence for the general degree is shown below.

Year 1	BSAD 101, 102; ECON 101, 102; INFO 101, 102; 12 credits art/science electives
Year 2	BSAD 221, 223, 261; INFO 225, 245, 255, 256, 275; MATH 205; STAT 201;
Year 3	BSAD 231, 381; INFO 355; 6 credits INFO elective; 12 credits arts/science electives; 3 credits open electives
Year 4	INFO 415, 416, 425, 465, 482; 6 credits INFO electives at the 300/400 level; 6 credits arts/science electives; 3 credits open electives

The sequence above is the normal course pattern, and not mandatory. Years three and four offer flexibility in course selection. However, students should keep in mind that many courses have prerequisites and that most courses are not offered in both semesters. For more information, consult the department chair.

BIS with Major

The BIS program offers majors in enterprise systems, and IT management.

Students who do not meet the grade and average requirements for the BIS major program after their third or fourth year qualify for a BIS General degree by completing the BIS General degree pattern outlined above.

BIS with Major Course Pattern

The course patterns for the three majors are the same as for the BIS General degree, except that students make replacements for each major as follows:

Major in Enterprise Systems

Replace 12 credits INFO or open electives with INFO 346, 348, 448, 496.

Major in IT Management

Replace 3 credits INFO elective with INFO 496.

BIS with Honours

The BIS with Honours degree is designed to equip students for graduate studies and research in information systems and business administration. Students work closely with IS faculty to explore classic IS work and recent IS research, as well as research statistics and methods commonly used to report them. Students will apply their research skills and explore a topic of interest in depth through the preparation and defense of a thesis.

Students who do not meet the grade and average requirements for the BIS with Honours program after their third or fourth year may qualify for a BIS with major or the general degree by completing one of the BIS course patterns outlined above.

BIS with Honours Course Pattern

The course patterns for the three honours degrees are the same as for the BIS with major degree, except that students make replacements for each as follows:

Honours in Enterprise Systems

Replace 3 credits INFO or open electives and INFO 496 with INFO 397 and 498.

Honours in IT Management

Replace 3 credits INFO or open electives with INFO 397 and 498.

BIS for University Graduates

Students who have completed a StFX degree can usually complete a BIS degree in one or two additional years of study. Before being admitted to the BIS program, students must normally complete INFO 101, 102, 255 and 256. Transfer students must complete a minimum of 60 credits taken at StFX to earn a StFX degree. Students are encouraged to contact the information systems department chair for additional information regarding this program.

B.Sc. with Advanced Major in a Science with Information Systems (Restricted to Biology and Earth Sciences)

Students with an interest in Earth sciences or biology, who desire some exposure to systems analysis and design, data base management, GIS, data communication and networks, web design and programming, IS hardware/software, and IS management, will find the B.Sc. with Advanced Major in a Science and Information Systems ideal. In this program, students build their technical/scientific and IS knowledge while improving their skills in systems analysis, systems design, GIS, web design, and database management.

Year 1	ECON 101, 102; 6 credits science A; 6 credits science B; 12 credits arts X
Year 2	INFO 225, 255, 256, 275; CSCI 235; STAT 231; 6 credits science A; 6 credits science B
Year 3	INFO 374, 355; 12 credits science A; 6 credits science C; 6 credits arts Y
Year 4	INFO 415, 416, 425, 465; 12 credits science A; 6 credits approved electives

The Gerald Schwartz School Co-op Program

The Schwartz School offers a co-op, work-study option, The Expanded Classroom. BBA and BIS students may earn their degrees by completing a 12-month co-op placement following their third year or by completing three four-month co-op placements during their third and fourth years. To prepare for the co-op placement, students must complete several personal skill development workshops. Credits may only be used to satisfy elective requirements. For further details consult the StFX website or contact the appropriate department chair.

[Tech] Indicates Technology Elective

101 Introduction to Information Systems I

This course covers the organizational use of information systems technology. Topics include: IS hardware, software, data; telecommunication networks; the Internet; and information technology infrastructure. Technical segment includes word processing; spreadsheets; presentation software; database management systems software; Internet search tools; and web page publishing. Applications of these tools and knowledge will be oriented towards business problems. Restricted to BIS and BBA students; open to others with permission of the instructor. Three credits.

102 Introduction to Information Systems II

This course introduces the conceptual foundations of information systems, focusing on organizational use with emphasis on information management. Topics include: the impact of IS upon organizations and society; decision-making in a digital age; business process integration; enterprise systems; supply chain management; e-commerce; types of information systems; information resource management; knowledge-based IS; analysis and design of information systems. Prerequisite: INFO 101. Three credits.

225 Information Systems Hardware and Software

This course covers the fundamentals of computer hardware, software, and data at the system (operating system and lower) level. The material is designed for students who will be IS professionals and must understand the components of computing in order to make knowledgeable decisions about systems. Prerequisite: INFO 156. Three credits.

245 Introduction to Enterprise Resource Planning [Tech]

This course introduces enterprise resource planning (ERP) and its role in achieving effective business process integration (BPI). The course will discuss ERP theory and systems, the limitations of conventional information systems, and the challenges and business value of effective integration across departments and along the supply chain. The SYSPRO enterprise system will be used to illustrate concepts. Prerequisite: INFO 102, BSAD 102. Three credits.

255 (155) Introduction to Object-Oriented Programming

This course introduces the principles of software engineering and procedural programming including data types, input/output, control structures, functions, arrays, pointers, strings, and stream input and output. The course elaborates on object-oriented concepts and studies data abstraction with classes, objects and operator overloading. Three credits and lab.

256 (156) Data Structures with Object-Oriented Design

This course examines object-oriented concepts including inheritance, polymorphism, and exception handling. File processing and dynamic data structures such as linked lists, queues, stacks and binary trees, and sorting and searching techniques will also be reviewed. C++ will be used to illustrate course concepts. Prerequisite: INFO 155. Three credits and lab.

275 Database Management Systems [Tech]

Introduces relational database management systems including the database environment, the relational model, relational languages (QBE and SQL), techniques and methodologies of database analysis and design. Current micro-computer DBMS software is reviewed and compared. Students will complete a DBMS project. Prerequisite: INFO 102. Three credits.

346 ABAP Programming Language

This course will introduce the fundamentals of the ABAP programming language including the ABAP programming workbench. The basics of the ABAP programming language will be covered and students will use ABAP to apply concepts. Elementary report and dialogue programming will be examined. Students will code their own programs in tutorials. Prerequisite: INFO 256. Three credits.

348 Advanced Enterprise Resource Planning Using SAP [Tech]

This is an advanced ERP course designed to provide students with a detailed knowledge of SAP and expand on the topics covered in INFO 245. Topics addressed in this course include SAP navigation, SAP's modeling ontology, ERP administration, and business warehouse and customer relationship management systems. The mySAP ERP system will be used to illustrate course concepts. Prerequisite: INFO 245. Three credits.

355 Advanced Object-Oriented Programming Using JAVA

Java as an object-oriented programming language will be described and used for application development. Concepts of exception handling, graphical user interface (GUI), Java applets, and multithreading will be studied. Concepts of remote communication, remote method invocation for creating a remote distributed system and implementing remote interface will be emphasized for enterprise systems, internetworking, client/server, and peer-to-peer application development. Prerequisite: INFO 256. Three credits and lab.

374 Geographic Information Systems

Cross-listed as ESCI 471; see ESCI 471. Three credits.

375 Advanced Database Management Systems

This is an advanced database management systems course designed to extend the topics covered in INFO 275 while exploring evolving issues in database systems. Topics include: physical database design; database implementation considerations; advanced SQL (including embedded SQL) and emerging database trends (XML, data warehousing). Prerequisite: INFO 275 or CSCI 275. Three credits.

397 Information Systems Research Methods

This course covers the basic concepts in conducting research: forming questions; defining conceptual and observable variables; selecting and implementing the research design; collecting and analyzing data; and reporting research. Quantitative and qualitative research methods will be discussed. Prerequisites: INFO 102; STAT 201; restricted to students in BIS honours; open to others with permission of the department chair. Three credits.

415 Systems Analysis

Covers systems analysis as an IT discipline and describes the role of the systems analyst in the development of computer-based information systems. The course introduces system development methodologies and key systems analysis tools and techniques, including requirements discovery methods, data and process modelling, Computer-Aided Software Engineering (CASE) tools, and feasibility analysis. Prerequisite: INFO 275. Three credits.

416 Project Management and Practice [Tech]

This course covers the factors necessary for successful management of system development or enhancement projects. Technical and behavioral aspects of project management are discussed. Prerequisite: BSAD 261. Cross-listed as BSAD 416. Three credits.

418 Selected Topics in Information Systems I [Tech]

This course will explore in detail a current topic or issue in information systems. Content will vary from year to year. Restricted to BIS and BBA/IS major students. Prerequisite: INFO 102. Cross-listed as BSAD 418. Three credits.

419 Client/Server and Intranets

The course will provide students with an understanding of client/server and intranet technology. It will cover client/server concepts, systems and technologies; communication networks; web-based technologies; and emerging distributed object-based systems and technologies. It will also examine state-of-the-art software tools for developing intranets. Prerequisites: INFO 256, 275. Three credits.

420 Selected Topics in Information Systems II

This course will explore a current topic or issue in information systems. Content will vary from year to year. Prerequisite: INFO 102. Three credits.

425 Systems Design

Building upon INFO 415, this course provides students with the background necessary to create functional and successful information systems. The course emphasizes design tools and objectives; hardware/software evaluation and selection; productivity and quality in development, implementation, maintenance and post-implementation review. Students will use a computer-aided systems engineering (CASE) tool and examine case studies. Prerequisite: INFO 415. Three credits.

445 Web-Based Programming

This course covers the methods and techniques of programming for the World Wide Web. Attention is given to the protocols used to make browsers and servers communicate and to the web's statelessness and its implications for programming. Emphasis is placed on dynamic page generation, database interfacing, and programming tools and environments. Prerequisites: INFO 256 or CSCI 160; INFO 275 or CSCI 275 or 475; or permission of the instructor. Three credits.

446 Electronic Business [Tech]

Business is increasingly conducted through electronic means, often on the Internet. This presents many challenges, including technological, marketing, strategic, operations, and systems issues. This course explores the current state of electronic commerce, relevant issues, and their relative importance to the success of a business venture. Students will read case studies and analyze existing business ventures on the Internet. Cross-listed as BSAD 415. Three credits.

448 Implementation, Configuration, and Use of an Enterprise Resource Planning System (ERP) [Tech]

Provides a practical understanding of ERP configuration with reference to SAP. The course familiarizes students with SAP implementation methodologies and tools. Students will learn to configure the financial and materials management functionality enabling a company to do basic procurement, inventory management, and financial accounting activities. The implementation will be expanded to enable the capturing of costs (controlling) and manufacturing (production) functionality. Prerequisite: INFO 348. Three credits.

465 Business Data Communication Systems and Networks

Topics include communication systems; environments and components; common carrier services; network control, design, and management; distributed and local networks. Prerequisite: INFO 225 or CSCI 365. Three credits.

481 Senior Seminar on Business Issues

The senior seminar affords an opportunity to discuss contemporary business topics with visiting executives. Each topic will be the focus of three seminars. Session one will cover current literature on contemporary management challenges. In session two, a senior executive will attend the seminar, offer insights on the topic, and interact with students. Session three will examine the lessons learned. Restricted to students with senior BIS or BBA standing. Cross-listed as BSAD 481. Three credits.

482 Managing Information Technology [Tech]

This course provides an overview of how to effectively manage information technology (IT) resources within organizational settings. This course takes a Chief Information Officer (CIO) (top down) perspective on managing information technology. IT is a strategic resource given that most of an organization's important activities rely so heavily on technology that they cannot operate without them. Technology enables firms to offer new products, create new customer channels and dramatically improve the efficiency of their supply chains. As such, an organization's IT resources require thoughtful planning and management. Prerequisites: INFO 102; BSAD 261. Three credits.

496 Research Project for Majors

Provides students with exposure to applied research in information systems through completion of a consulting assignment or an extended, approved research project. Restricted to majors in information systems. Prerequisite: INFO 415. Three credits.

498 Honours Thesis

Honours students are required to prepare and submit a thesis under the direction of a faculty member. Students will develop and present draft proposals as part of INFO 397, then complete the proposal, conduct the fieldwork, present, and defend their theses as part of this course. Classroom meetings are held periodically to discuss the thesis process and make presentations. Prerequisite: INFO 397. Three credits over the full academic year.

499 Directed Study

This course permits students of exceptional ability and motivation to pursue, on a tutorial basis, an individualized program of study on some aspect of information systems not available in other course offerings. Restricted to senior BIS students. Three credits.

9.25 INTERDISCIPLINARY STUDIES

The courses listed below combine two or more academic disciplines. IDS 100, 110, and 400 may be counted as electives only.

100 French and European Civilizations

Introduces the student to the constituent elements of French and European civilization, agriculture, and business. Appropriate for students in business, economics, political science, and languages, the program combines language instruction; lectures on trade, European business, and the EC; and visits to educational, historic, and religious sites. This is a four-week, six-credit course offered in Lille, France.

110 Mexican Art and Culture

This is a six-week, six-credit course offered by Universidad Iberoamericana in Mexico City during summer session, which provides opportunities for study in Mexico in the following areas: art, archeology, anthropology, folklore, economics, civilization, culture, and literature.

Service Learning Program

TBA, Co-ordinator

M. Gaudet, M.Ad.Ed., Manager

Service learning is an innovative way to integrate experiential learning, academic study, and community service. It is an opportunity for students to apply what they learn in the classroom in a community setting. The goal is to blend service and learning so that the service reinforces, improves, and strengthens learning. Service learning is possible in many disciplines and in a broad range of courses and service experiences. Third and fourth year students can also enroll in the independent course, IDS 306.

Course-Based Service Learning

Course-based service learning is a form of experiential education where students work with community members on community problems and where academically rigorous assignments are designed to explicitly link those experiences to specific learning outcomes. Students complete a service experience in the local community, the nature and length of which will be determined by the professor. Students prepare a final report for the professor which determines the grade on this assignment. For information on courses offering a service learning component, see www.stfx.ca/academic/servicelearning and click on information for students.

Immersion Service Learning

Students become involved in intense service experiences in communities, including inner-city settings and international locations. Guided by faculty, students will explore community issues and dynamics in a development context. Students can participate in Immersion as a personal (non-credit) experience or may integrate an immersion experience into their chosen course of study through research for course credit with the approval of the professor or through IDS 305. Students must apply for admission. The deadline is mid-October; for more information, contact servicelearning@stfx.ca

305 Immersion Service Learning

Designed for third- and fourth-year students who have applied and been accepted to participate in the immersion service learning program during the winter term (see above). Under faculty supervision, students will develop their information retrieval, research, writing, and presentation skills through completion of a research project connected with the immersion service learning experience. Students must apply to the service learning office for admission to the immersion program as well as registering on-line for this course. Oral presentation component. Three credits.

306 Service Learning: Theory and Practice

Intended for third- and fourth-year students, this seminar examines the theory and practice of service learning, and teaches the skills required for applying academic concepts outside the classroom. Students will provide 30 hours of service with a local community organization. Oral presentation component. Three credits.

405 Advanced Public Policy Seminar

Cross-listed as PSCI 442; see PSCI 442. Three credits.

9.26 MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE

S. Aalto, Ph.D., Professor Emeritus

J. Apaloo, Ph.D.

S. Finbow, Ph.D.

I. Gondra, Ph.D.

M. Lin, Ph.D.

W. MacCaull, Ph.D.

T. Taylor, Ph.D.

M. van Bommel, Ph.D.

R. van den Hoogen, Ph.D.

P. Wang, Ph.D.

L.T. Yang, Ph.D.

P. Zhou, Ph.D.

The scope of mathematics ranges from computer science to philosophy, from physics to finance, from biology to the fine arts. Mathematics emphasizes precision and logic, but also creativity, elegance and problem-solving. While mathematics is a subject with a rich history (some techniques, results and open problems go back thousands of years), it is also a subject that is very much alive, with new theories and applications continually arising. While mathematical and statistical models and methods form the basis of scientific and engineering fields, they are also used in such diverse areas as modern communication, cryptography, animation, banking and finance, policy development and consultation, public health care, and architecture. With an undergraduate degree in mathematics and statistics, students often go on to pursue an education degree to become a teacher or a graduate degree to become a researcher. However, the career options are much broader. Students with a strong background in mathematics and statistics develop problem-solving skills, logical thinking, and creativity, which serve them well for any career path.

The Department of Mathematics, Statistics, and Computer Science offers degrees in both the Faculty of Science and the Faculty of Arts. Because of the diversity of programs offered, students are encouraged to consider their academic goals at an early stage in their studies, and to consult the chair and other members of the department regarding course selection.

Degrees Offered

BA with Major, Advanced Major, and Honours

BA Honours with subsidiary subject programs are available with the departments of economics and English

B.Sc. with Major, Advanced Major, and Honours

B.Sc. with Advanced Major in Mathematics with Business Administration

Joint B.Sc. programs are available with the departments of biology, chemistry, earth sciences and physics

Students interested in these programs should consult with the relevant department chairs. General requirements for these degrees are in chapters 4 and 7.

Department Regulations

The following pairs or groups are considered so similar that a student may not receive credit for both: MATH 111 and 121; MATH 112 and 122; STAT 201, 231 and 224; MATH 221 and 367; MATH 222 and 267; MATH 223 and 253; CSCI 125, 161, ENGR 144 and INFO 155(255); CSCI 162, and INFO 156(256); CSCI 275 and INFO 275; CSCI 465 and INFO 465; CSCI 483 and INFO 355.

MATH 100, 205 and CSCI 100, 235 may not be used to satisfy department requirements for advanced major and honours degrees.

The senior seminar, MATH 491, is required for all major, advanced major and honours candidates. In addition, MATH 493 is required for all honours students.

COMPUTER SCIENCE

Requirements for the BA and B.Sc. in computer science are listed in section 9.12.

STATISTICS

Requirements for the BA and B.Sc. in statistics are listed in section 9.36.

MATHEMATICS

All students who want to pursue a major, advanced major, or honours degree in mathematics must take the following core courses: MATH 111, 112, 253, 267, 277, 491; STAT 231 (201 if the degree is in the Faculty of Arts); and CSCI 161 (CSCI 162 is also recommended).

Major in Mathematics

Additional courses in MATH, STAT, and CSCI to meet the requirements of the Faculty.

Advanced Major and Honours Programs

Advanced major and honours students in mathematics may count CSCI 161 and 162 only as approved or open electives in their program. Students in mathematics may specialize in mathematics or statistics. Descriptions for each specialization may be obtained from the department chair, but the following rules apply.

Advanced Major in Mathematics

In addition to core courses, MATH 254; 354 or 366; and STAT 333 are required. Additional courses must include six credits of MATH or STAT courses at the 300 or 400 level, and an additional three credits (nine for B.Sc. students), which may be chosen from MATH, STAT or CSCI.

Typical Advanced Major Pattern:

Year 1	MATH 111, 112; CSCI 161, 162
Year 2	MATH 253, 254, 267, 277; STAT 231 or 201
Year 3	MATH 354 or 366; STAT 333; additional MATH, STAT or CSCI courses
Year 4	MATH 491; additional MATH, STAT or CSCI courses

B.Sc. Advanced Major in Mathematics and Business

In addition to the requirements for an Advanced Major in Mathematics, students take CSCI 235, plus 36 credits in Business and Economics. Details of the program can be obtained from the department chair.

Honours in Mathematics

In addition to core courses, MATH 254, 354, 366, 367, 493, CSCI 162 STAT 333, and one of MATH 454, MATH 466, or STAT 435 are required. Additional courses must include at least nine credits in MATH or STAT credits at the 300 or 400 level, with no fewer than three credits at the 400 level, plus 12 credits which may be chosen from MATH, STAT, or CSCI.

Typical Honours Pattern:

Year 1	MATH 111, 112; CSCI 161, 162
Year 2	MATH 253, 254, 267, 277; STAT 231 or 201
Year 3	MATH 354, 366, 367; STAT 333; additional MATH, STAT, and CSCI courses
Year 4	MATH 454, 466 or STAT 435; MATH 491, 493; additional MATH, STAT, and CSCI courses

[AR] Indicates Designated Course in Aquatic Resources

100 Mathematical Concepts

This course surveys interesting and useful topics from diverse areas, including geometry, number theory, mathematical systems, algebra, logic, and set theory. Students will solve problems using processes such as abstraction, pattern recognition, deduction, and generalization. Acceptable for credit in the Faculty of Arts only. Prerequisite: grade 12 MATH or equivalent. Six credits.

111 Calculus I

An introduction to differential calculus of a single variable, with applications to the physical, life, and social sciences. Topics include limits, differentiation of polynomial, exponential, logarithmic, and trigonometric functions, inverse functions and their derivatives, implicit differentiation, curve sketching, and applied max-min problems. Prerequisite: grade 12 pre-calculus or equivalent. Three credits and a one-hour lab.

112 Calculus II

An introduction to integral calculus for functions of one variable. Topics include: definite and indefinite integrals; the fundamental theorem of calculus; methods of integration; numerical approximation of definite integrals; applications to area and volume; probability density functions and distributions; differential equations; and Taylor polynomials. Prerequisite: MATH 111. Three credits and a one-hour lab.

121 Calculus I for Engineers

This course examines the main idea of calculus of a single variable. It covers functions, limits, continuity; differentiation and integration of polynomial, exponential, logarithmic, and trigonometric functions; product, quotient, and chain rules; applications of differentiation to graphing; maximum-minimum problems, and related rate problems; definite and indefinite integrals, and the fundamental theorem of calculus. Cross-listed as ENGR 121. Three credits and problem session.

122 Calculus II for Engineers

A continuation of ENGR 121, this course covers the applications of integration, including areas, volumes, moments, pressure, and work; techniques of integration; numerical integration; length of curves; surfaces of revolution; parametric equations; polar co-ordinates; sequences and series; and Taylor series. Cross-listed as ENGR 122. Three credits and problem session.

205 Business Mathematics

A presentation of mathematics applicable to business, including functions, modelling, linear programming, matrix algebra, interest, and annuities. Use of spreadsheets will be a fundamental part of this course. Acceptable for credit in the Faculty of Arts only. Three credits.

221 Differential Equations for Engineers

Covers first order linear and non-linear ordinary differential equations; ordinary differential equations of higher order with constant coefficients; applications to engineering problems; power series solutions; Laplace transforms; periodic functions; applications of Laplace transforms to linear systems; Fourier series. Cross-listed as ENGR 221. Three credits and problem session.

222 Calculus III for Engineers

Extends the ideas introduced in MATH 121 to the calculus of several variables, and covers space curves, arclength, curvature; partial derivatives; implicit functions; constrained and unconstrained extrema; multiple integrals; line, surface, and volume integrals; change of variables in multiple integrals; scalar and vectors fields; gradient, divergence, and curl; Stokes theorem. Cross-listed as ENGR 222. Three credits and problem session.

223 Linear Algebra for Engineers

Covers geometric vectors in three dimensions; dot product; cross product; lines and planes; complex numbers; systems of linear equations; matrix algebra; matrix inverse; determinants; Cramer's rule; introduction to vector spaces; linear independence and bases; rank; linear transformations; orthogonality and applications; Gram-Schmidt algorithm; eigenvalues and eigenvectors. Cross-listed as ENGR 223. Three credits and problem session.

253 Matrix Algebra

An introduction to solution of linear systems, algebra of matrices, determinants, two- and three-dimensional vector spaces, and the matrix eigenvalue problem. Prerequisite: MATH 112 or 122. Three credits.

254 Linear Algebra

An introduction to abstract vector spaces, including discussion of bases, dimension and homomorphisms of vector spaces; linear transformations, including invariant subspaces; matrix representations and diagonalization procedures. Prerequisite: MATH 253. Three credits.

267 Calculus III

Topics include: the Taylor polynomial theorem; indeterminate forms and l'Hôpital's rule; improper integrals; infinite and power series and tests of convergence; parametric equations; partial differentiation; and selected concepts from multivariate differential calculus, and multiple integration. Prerequisite: MATH 112 or 122. Three credits.

277 Discrete Structures

An introduction to sets, binary relations and operations; induction and recursion; partially ordered sets; simple combinations; truth tables; Boolean algebras and elementary group theory, with applications to logic networks, trees and languages; binary coding theory and finite-state machines. Prerequisite: MATH 112 or 122. Three credits.

287 Natural Resource Modelling [AR]

The course covers formulating real-world problems from renewable natural resources; using software to solve mathematical models; formulating and testing policies for managing dynamic systems; and developing communication skills through report writing. Prerequisites: MATH 111, 112. Three credits. Offered 2009-2010 and in alternate years.

347 Combinatorics

The course covers the principle of inclusion and exclusion; generating functions; recurrence relations; rings and modular arithmetic; finite state machines; group and coding theory; Pólya's method of enumeration; finite field and combinatorial design; graph theory. Prerequisite: MATH 277. Three credits. Not offered 2009-2010.

354 Modern Algebra I

This course introduces algebraic systems and the fundamental algebraic concepts. Applications to diverse areas such as coding theory, crystallography, circuits, logic, geometry, and graph theory will be considered. Prerequisites: MATH 254, 277. Three credits.

361 Advanced Vector Calculus

Topics include: vectors; vector differentiation including gradient, divergence, and curl; vector integration including the Gauss and Stokes theorems. Prerequisites: MATH 222 or 267 and 223 or 253. Three credits.

366 Real Analysis I

This course considers rigorous development of the real number system; numerical sequences and series; properties of continuous functions; metric spaces; sequences and series of functions. Prerequisites: MATH core courses and MATH 254. Three credits.

367 Differential Equations [AR]

Topics include: first- and second-order linear differential equations; systems of linear differential equations; methods of solution including Laplace transforms and series solution; introduction to non-linear differential equations and numerical methods. Prerequisite: MATH 222, 223 or MATH 253, 267. Three credits.

371 Modern Geometries

A brief survey of geometries including projective, affine, similarity, equiareal, Euclidean, and non-Euclidean. Emphasis is on the invariants of transformational geometry. Prerequisite: MATH 277. Three credits.

372 Theory of Numbers

Topics include: divisibility of integers; congruences; the Chinese remainder theorem; quadratic residues and non-residues; Gaussian reciprocity law; number theoretic functions; and the Moebius inversion formula. Prerequisite: MATH 277. Three credits.

384 Numerical Methods

This course covers methods used to solve mathematical problems on computer systems, including mathematical background and error analysis of solutions to non-linear equations; polynomial interpolations; integration and differentiation; quadrature methods; systems of equations and differential equations. Prerequisites: MATH 223 or 253; CSCI 161 or 125 or ENGR 144. Three credits.

387 Mathematical Modelling [AR]

This course teaches the use of mathematical models to solve real-world problems. The modelling cycle will be practiced using problems found in the real world. Prerequisites: MATH 222, 223 or MATH 253, 267. Three credits. Not offered 2009-2010.

391 Mathematical Logic

Symbolic logic is introduced and the concepts of tautology and proof are studied. Using formal languages, propositional and predicate logic are presented, including the completeness theorem for predicate logic. Sequent-style deductive systems and tableau methods of proof are introduced. Prerequisite: MATH 277 or permission of the instructor. Three credits. Not offered 2009-2010.

454 Modern Algebra II

The topics are: polynomial rings, unique factorization, irreducible polynomials; Sylow theorems, solvability of polynomial equations; Galois theory; and the Jordan canonical form. Prerequisite: MATH 354. Three credits.

462 Complex Variables

Topics include: complex numbers, elementary functions, series and integration, Laurent series, and residue theory. Prerequisites: MATH 221 or 367, 222 or 361. Three credits. Not offered 2009-2010.

466 Real Analysis II

Material includes: topology of Euclidean n-space; differentiation; Riemann Stieltjes integration; limits and continuity in n-dimensions; differentiation of nonlinear transformations; and the implicit function theorem. Prerequisite: MATH 366. Three credits.

471 Topics in Mathematics

This course will cover current mathematical topics such as graph theory, multivalued logic, dynamical systems, optimization theory, point set topology or mathematical finance. Prerequisite: MATH core courses. Three credits. See www.stfx.ca/academic/mathcs/topics.html

481 Partial Differential Equations

The study of special functions and partial differential equations, including the wave, heat, and Laplace equations in various coordinate systems. Prerequisites: MATH 254, 221 or 367. Three credits. Offered 2009-2010 and in alternate years.

491 Senior Seminar

Cross-listed as CSCI 491 and MATH 491. The purpose of this non-credit course is to assist students in carrying out research, composition, and oral presentation. Students will present a project topic in the fall term and their project in the spring. Attendance at departmental seminars is mandatory. No credit.

493 Senior Thesis

Students will prepare and present a thesis based on original research conducted under the supervision of a faculty member. Three credits.

» **MI'KMAQ** see 9.27 Modern Languages

9.27 MODERN LANGUAGES

M. Arpin, Ph.D.
U. Fabijancic, Doc. IIIe cycle
V. Kocay, Ph.D.
E. Langille, D. ès L.
R. LeBlanc, Ph.D.
M. Paz, MA
W. Tokarz, Ph.D.

Part Time

M. Fennell, MA
B. Gesicka, MA
M. Lade, M.Ed.
C. Rancy, Doc. IIIe cycle

Placement of Students

Students registering for a French course for the first time at StFX should note that the Department of Modern Languages offers several courses to first-time students, depending on their background.

- First-time registrants who have not completed highschool French or its equivalent should enroll in FREN 110. Those who have completed Grade 12 Core French or its equivalent should enroll in FREN 115.
- Students with native proficiency may register in any 200-level course.
- The department reserves the right to place students.

Recommendations

Candidates for the major, advanced major or honours degrees in French are strongly advised to spend at least one summer (five weeks) in a French-speaking environment through an immersion program or one year in the junior year abroad program. Please see below for details.

Students hoping to pursue master's or doctoral studies in the humanities or social sciences are reminded that these programs often carry language requirements.

A minor in French requires at least 6 credits at the 300- or 400- level.

Major Program**Major in French**

A student may take a major in French by completing 36 credits in FREN (excluding FREN 110), including FREN 215 and at least 18 credits at the 300 or 400 level. A thesis is not required.

Major in Spanish

The Department of Modern Languages offers a major in Spanish (language and literature) for students who have completed a year of study in an Hispanic country. Students completing the major requirement abroad will have to complete their course work at the 300 or 400 level, or equivalent, excluding courses already completed at StFX. Students who wish to apply for the major degree must seek permission from the department chair and submit relevant course descriptions of work to be done abroad to the dean's office for approval.

Advanced Major Program

A student may take an advanced major in French by completing 36 credits in FREN (excluding FREN 110), including FREN 215 and at least 24 other credits at the 300 or 400 level. The senior seminar, FREN 491, is an additional, non-credit requirement, comprising a thesis in French of approximately 4,000 words.

Honours Program

A student may take an honours degree in French by completing 60 credits in FREN (excluding FREN 110), including FREN 215 and at least 36 other credits

at the 300 or 400 level. Twelve of the 60 credits may be taken in a related field with department permission. The senior seminar, FREN 491, is an additional, non-credit requirement, comprising a thesis in French of approximately 6,000 words.

Transfer Credit for French and Spanish Summer Immersion Courses

Students may request a maximum of six transfer credits for a successfully completed immersion course. The following guidelines apply:

- Newly admitted students may request transfer credit in French only for courses taken after completing grade 12 French. Normally, transfer credit will not be granted for courses taken five years prior to admission.
- Students must obtain written permission from the dean prior to enrolling in an immersion course if credit is sought.
- Immersion courses may count as electives only.

Summer Language Bursary Program

Official Languages Programs

To promote the study of Canada's official languages, the Council of Ministers of Education, Canada (CMEC), in co-operation with the provinces and territories, administers Accent (formerly OLMP, part-time), Odyssey (formerly OLMP, full-time), Explore (formerly SLBP), and *Destination Clic* (formerly PBEFHQ). CMEC also co-ordinates official-language activities related to agreements between the federal and provincial/territorial governments.

For information on the summer language bursary program contact the provincial co-ordinator, French language bursaries, Department of Education, Box 578, Trade Mart Building, Halifax, NS, B3J 2S9, 902-424-5283, or visit the following websites: EXPLORE: www.myexplore.ca or DESTINATION CLIC: www.destinationclic.ca

For information on immersion courses in France during the summer contact the French Consulate, 777 rue Main Suite 800, Moncton, NB, E1C 1E9, 506-857-4191.

Program information is also available from the department chair.

Junior Year Abroad Program

The department encourages students in a four-year program to spend their junior year in a French-speaking environment. To this end, a study abroad program has been put into place allowing students to spend their third year at the Centre International d'Etudes Françaises in Angers, France. See section 3.18. For information about this program, see the chair or designate.

Department Requirements

A pair or a minor must be in one language. Students who complete a minor or a major in one language may also count a pair in a second language.

FRENCH

110 French Language I

Designed for students who have not completed at least high school French, this class is a review of the basic structures of the French language. It deals primarily with simple sentence structure and verbs in the present tense, but also covers past tenses, such as the imparfait and the passé composé, as well as the use of subject and object pronouns. Emphasis is also on vocabulary acquisition and reading skills. Six credits and a lab.

Notes

- The department reserves the right to refuse admission to this course to students whose knowledge of French is inadequate according to the department placement test.
- FREN 110 may not be used as credit toward a major, advanced major or honours degree. It may be used toward a minor in French, as part of a pair (with FREN 115) or as an elective.
- Closed to students who have completed FREN 115 or a higher level course, as well as to students from French schools and French Immersion programs.

115 French Language II

Designed as a follow-up to FREN 110, this course considers more advanced grammatical and syntactical structures. It includes a review of past tenses such as the imparfait, the passé composé and the plus-que-parfait. It presents object and relative pronouns and introduces sentences in the subjunctive mood. It also introduces students to short literary texts and to the techniques of writing composition. Prerequisite: Grade 12 Core French, FREN 110 (normally with a grade of at least 60) or a good result on the placement test. Six credits.

- FREN 115 may be used as a credit toward a major, advanced major, or honours degree.

- Closed to students who have credit for FREN 200 level or higher.

215 French Language III

This course focuses on complex sentence structure and writing techniques. It covers the use of past tenses such as the passé simple and the passé antérieur, as well as use of the conditional and the subjunctive mood. Special emphasis is placed on the techniques used for the expression of thought and sentiment as well as on the acquisition of reading skills and literary usage. Required for the major, advanced major, and honours degrees. Prerequisite: French immersion in high school, FREN 115, or an exceptional result on the placement test. Six credits.

216 Survey of French Literature

A study in historical context and sequence of the most important works written in French from the year 1000 to the present. Strongly recommended for all majors, advanced majors, and honours students in French. Prerequisite: FREN 115. Six credits.

220 Language and Culture

A study of different texts and issues relating to the francophone world, including selections from literary works, newspapers and periodicals. Emphasis is on vocabulary acquisition, text comprehension, and class participation. Pre- or co-requisite: FREN 115. Six credits.

225 (Français des affaires I) Business French I

An introduction to the language in which the French-speaking world conducts business. Students will acquire solid communication skills, including knowledge of specialized vocabulary. Practical drill in the language lab will familiarize students with commercial correspondence and professional telephone etiquette. Prerequisite: FREN 115 or permission of the department chair. Three credits. Not offered 2009-2010.

235 (Français des affaires II) Business French II

A continuation of FREN 225, this course introduces the language of specialized areas of business, such as marketing, finance, management, and teaches basic legal terminology. Students will learn the protocol of a formal business presentation in French as well as meeting procedures according to the *Code Morin*. Prerequisite: FREN 115 or permission of the department chair. Three credits. Not offered 2009-2010.

314 Selected Topics in French Studies

The topic for 2009-2010 is Stylistic comparison of French and English. This course develops theoretical and practical knowledge specific to the field of translation. Students will be initiated to the techniques and instruments of translation in order to reflect upon the notions of comparative stylistics and accordingly understand the fundamental differences between the English and French languages. Prerequisite: One of French 215, 216, 220 or permission of the Department Chair. Three credits.

318 Classical French Theatre

This class offers an introduction to seventeenth century French literature with a primary focus on representative works by three major dramatists: Corneille, Molière and Racine. It explores their vision of humanity and assesses their contribution to French literature and the history of ideas. Prerequisite: one of FREN 215, 216, 220 or permission of the department chair. Students who have received credit for FREN 316 may not enroll in this course. Three credits.

319 Literary Works of the grand siècle

This course studies a selection of primarily prose and poetry works from the classical period that was 17th century France. It includes a study of works by Pascal, Descartes, La Rochefoucauld, La Fontaine, Boileau, Mme de Lafayette, and La Bruyère. Prerequisite: one of FREN 215, 216, 220 or permission of the department chair. Students who have received credit for FREN 316 may not enroll in this course. Three credits. Not offered 2009-2010.

321 French Cinema

A study of France's unique contribution to the seventh art, starting with the Frères Lumières' moving pictures in 1895 and covering the history of French cinema. Emphasis will be placed on such masterpieces as *La Grande Illusion* and *Les Enfants du Paradis*. Prerequisite: FREN 115 or permission of the department chair. Three credits. Not offered 2009-2010.

322 18th-Century French Theatre

An introduction to 18th-Century French theatre. This course focuses on the evolution of the field of theater during the Enlightenment. Presented in chronological sequence, the course gives special attention to works by Lesage, Voltaire, Marivaux, Diderot and Beaumarchais. Pre- or co-requisites: One of FREN 215, 216, 220 or permission of the department chair. Students who have

received credit for FREN 326 may not enroll in this course. Three credits. Not offered 2009-2010.

324 18th-Century Literature: The Novel

An Introduction to the 18th century French novel, this course gives special attention to works by Lesage, Montesquieu, Prévost, Voltaire, Marivaux, Diderot, Rousseau and Bernardin de Saint-Pierre. Prerequisites: One of FREN 215, 216, 220 or permission of the department chair. Students who have received credit for FREN 326 may not enroll in this course. Three credits. Not offered 2009-2010.

327 French Writing I

An introduction to the techniques of composition through the study and practice of appropriate sentence structure. This course is designed to improve students' expression of complex thought and to familiarize them with the idiomatic use of French language in a variety of contexts. The course combines vocabulary enrichment, detailed analysis of texts and a variety of writing activities: descriptions, portraits, narrations, and correspondence. Emphasis is on describing and narrating. Prerequisite: One of FREN 215 or 216 or 220 or permission of the department chair. Three credits.

328 French Writing II

Building upon the introduction offered in French Writing I, students will explore the techniques of composition through the study and practice of appropriate sentence structure. The course combines vocabulary enrichment, detailed stylistic analysis of texts, and a variety of writing activities in four genres: the essay, the dissertation, the report, the literary text-analysis. Emphasis is on building plans and organizing content, expressing approval and disapproval, defending opinions, hypothesizing, analyzing and persuading. Prerequisite: FREN 327 or permission of the department chair. Three credits. Not offered 2009-2010.

329 Children's Literature

A critical survey of French children's literature. Authors to be studied include La Fontaine, Perrault, Ségur, Daudet, Cendrars, Aymé, Gripari, Sempé et Goscinny, PEF, Tournier. Prerequisites: One of FREN 215, 220 or permission of the department chair. Three credits.

333 20th-Century French Literature I

A close study, from historical, ideological and aesthetic perspectives, of selected works of prose, poetry and drama of the first half of the Twentieth Century. Authors studied may include Proust, Gide, Éluard (and other Surrealists), Sartre, Camus. Prerequisite: One of FREN 215, 216, 220 or permission of the department chair. Three credits. Not offered 2009-2010.

334 20th-Century French Literature II

A study of the theatre of the absurd and the 'nouveau roman'. Authors may include Beckett, Ionesco, Robbe-Grillet, Sarraute, Duras and Simon. Prerequisite: One of FREN 215, 216, 220 or permission of the department chair. Three credits.

341 Linguistics I: Phonetics

An introduction to linguistics, this course presents the major concepts used in linguistics and outlines the phonetic structure of the French language as revealed in word formations and in sentence structures. It includes pronunciation exercises. Prerequisite: FREN 115. Students who have received credit for FREN 340 may not enroll in this course. Three credits. Not offered 2009-2010.

342 Linguistics II:

Morphology, Syntax and Semantics

A continuation of FREN 341, this course presents the study of morphology, syntax and semantics, the major divisions in linguistics. It will therefore deal with word forms, with word groups in a sentence structure and with the meaning of word phrases. Prerequisites: FREN 215 or 341. Students who have received credit for FREN 340 may not enroll in this course. Three credits. Not offered 2009-2010.

347 French Literature from the Romantic Period

A study of major writers from the period known as French Romanticism (early 19th Century), including Mme de Staël, B. Constant, Chateaubriand, Hugo, Lamartine, Vigny, and Musset among others. Major themes of the period will be presented in a literary context as well as in the social context of the French Revolution and the subsequent Napoleonic regime. Prerequisites: One of FREN 215, 216, 220 or permission of the department chair. Three credits.

348 French Literature from Realism to Symbolism

A study of major French writers of the 19th Century, from the realist movement to symbolism, including Balzac, Sand, Stendhal, Flaubert, Zola, Baudelaire, Verlaine, Rimbaud, and Mallarmé among others. Major themes of the period will be presented in a literary context as well as in the social context of the period. Prerequisites: One of FREN 215, 216, 220 or permission of the department chair.

Students who have received credit for FREN 336 may not enroll in this course. Three credits. Not offered 2009-2010.

361 Acadian Literature

A critical description of the historical, socio-cultural, linguistic, and literary significance of Acadian writing. Consideration will also be given to stylistic evolution, from oral literature to poetry, novels, and short stories. Prerequisites: One of FREN 215, 216, 220 or permission of the department chair. Students who have received credit for FREN 376 may not enroll in this course. Three credits.

362 Acadian Language and Culture

This course will examine the current linguistic situation in the Acadian communities of the Atlantic provinces. Students will study the cultural, social and historical circumstances which have influenced and contributed to the distinct cultural identity of the Acadian people. Prerequisite: FREN 215 or 216 or 220 or permission of the department chair. Students who have received credit for FREN 376 may not enroll in this course. Three credits.

363 Québécois Literature I: Révolution tranquille to the Present

An introduction to the study of Québécois literature since the Quiet Revolution. Through a sampling of works representing the major literary genres, this course focuses on the role of literature in Quebec's political and social affirmation as a society. Special attention is given to the works of Marie-Claire Blais, Pierre Vallières, Michel Tremblay, Gaston Miron and Gabrielle Roy. Prerequisite: One of FREN 215, 216, 220 or permission of the department chair. Three credits. Not offered 2009-2010.

364 Québécois Literature II: Origins to the Révolution tranquille

A study of the major literary forms and authors of French Canada from the beginning of the colony to the Révolution tranquille (ca. 1960). Emphasis is placed on a structural and thematic approach to narrative, set against a background of cultural and ideological influences. Prerequisites: One of FREN 215, 216, 220 or permission of the department chair. Three credits.

410 Medieval French Literature

A study of literary genres from the *chanson de geste*, courtly romance, and the novels of chivalry to early French poetry covering the five hundred year period from 1000-1500. Prerequisite: one of FREN 215, 216, 220 or permission of the department chair. Students who have received credit for FREN 400 may not enroll in this course. Three credits. Not offered 2009-2010.

415 Renaissance French Literature

A study of the Renaissance period in literature and language through the works of Marot, Rabelais, Du Bellay, Ronsard, Montaigne and the poets of the baroque. The century's concern with the French language provides a convenient introduction to the study of the development of modern French. Prerequisite: one of FREN 215, 216, 220 or permission of the department chair. Students who have received credit for FREN 400 may not enroll in this course. Three credits. Not offered 2009-2010.

456 Literary Criticism (Roman et Société)

The objective of this course is to introduce the field of French literary criticism and to illustrate several analytical methods based on current schools of literary theory. After establishing a socio-historical background, the class will focus in detail on five major schools of textual analysis, springing from the concepts of structuralism and post-structuralism: *narratologie*, *sémiotique*, *psychocritique*, *thématique*, and *sociocritique*. Prerequisite: One of FREN 215, 216, 220 or permission of the department chair. Three credits. Not offered 2009-2010.

457 French Poetry from the Symbolist Movement to the Present

A study of major French poets beginning with the Symbolist Movement at the end of the 19th century and concluding with current trends in poetry. Authors include: Stéphane Mallarmé, Paul Valéry, Guillaume Apollinaire, Pierre Reverdy, Francis Ponge, Paul Claudel, Andre Breton, Henri Michaux, Francis Jammes, Blaise Cendrars, Jules Supervielle, Paul Eluard, René Char, Jacques Reda. Prerequisite: One of FREN 215, 216, 220 or permission of the department chair. Three credits. Not offered 2009-2010.

491 Senior Seminar and Thesis

An in-depth study of an area of French or French-Canadian literature chosen by the student as the basis for his or her thesis. Working under the supervision of a chosen professor, students will research and write a thesis in French of approximately 4,000 words for an advanced major and 6,000 words for an

honours student. Professor and student will meet once a month to review progress. Required for all advanced major and honours students in their final year of study. No credit.

GERMAN

100 German Language I

An introduction to the German language and culture, this course teaches basic reading, writing, and speech. Six credits.

200 German Language II

A continuation of GERM 100, this course introduces advanced grammatical patterns and structures. Emphasis is placed on the acquisition of oral and written skills. Short readings will enrich the student's vocabulary and introduce German literature. Prerequisite: GERM 100 or equivalent. Six credits.

300 German Language III

This course will develop proficiency in speaking and listening. Emphasis will be placed on advanced writing skills and grammatical structures. This course will also enhance knowledge of the German speaking world through insights into the cultural and literary life in German speaking countries. Prerequisite: GERM 200 or equivalent. Six credits.

MI'KMAQ

105 Introduction to Mi'kmaq

Introduces students to various aspects of the Mi'kmaq language: phonetics, morphology, semantics, syntax, and language acquisition. Comparisons will be made between French and English language structures and applied to the language acquisition of Mi'kmaq students. Three credits.

205 Advanced Mi'kmaq

This course is intended for students whose first language is Mi'kmaq or who are proficient speakers of the language. The aim of the course is to develop substantive knowledge of Mi'kmaq literacy. Students will be introduced to the different writing systems used by the Mi'kmaq over time. Three credits.

SPANISH

100 Spanish Language I

An introduction to the Spanish language. Students will develop the ability to express themselves in Spanish, while learning the culture and traditions of the Hispanic world. Oral and written work are stressed equally. Language lab. Six credits.

200 Spanish Language II

A continuation of SPAN 100 with more advanced literary readings and written assignments. Prerequisite: SPAN 100 or equivalent. Six credits.

305 Spanish Language III

A follow-up to SPAN 200, this course is an extensive review of the conventions that govern grammar and language usage in Peninsular and Latin-American Spanish. It focuses on the means of identifying, of analysing and of using effective stylistic resources. It introduces students to written forms such as summaries, notes, journal entries and short stories. This course includes a mandatory, one hour per week language lab. Prerequisite: SPAN 200 or equivalent. Six credits.

315 Hispanic Civilization to 1800

Students completing this course can expect to be able to read and discuss advanced texts in Spanish. Reading and course material for this course will be drawn from texts on Hispanic civilization in the Iberian Peninsula and in the New World to 1800, with emphasis on the age of exploration and discovery. Prerequisite: SPAN 200 or permission of the department chair. Students who have received credit for SPAN 300 may not enroll in this course. Three credits. Not offered 2009-2010.

325 Hispanic Civilization, 1800 to the Present

Students completing this course can expect to be able to read and discuss advanced texts in Spanish. Reading and course material for this course will be drawn from texts on the social and cultural development of Spanish speaking countries from 1800 onward. The decline of Spain as a major cultural power is counterbalanced by the emergence of Spanish American countries. Their quest for independence in the 19th century gives this course a natural narrative. Prerequisite: SPAN 200 or permission of the department. Students who have received credit for SPAN 320 may not enroll in this course. Three credits.

327 Spanish Language Cinema

This course, for advanced students, is an introduction to Spanish language films. It studies films and their language in a cultural, historical and geographic context. Essays, readings and film analysis are the main activities for this course. Students are advised that film screenings will be in addition to scheduled class time. Prerequisite: SPAN 200. Three credits. Not offered 2009-2010.

364 Spanish Literature from the Middle Ages to the Enlightenment

This course introduces students to the literary tradition of Spain through a survey of writings from the Middle Ages, the Renaissance, the Baroque and Neoclassical periods. It also considers the birth of the modern novel, the theatre of the Golden Age and Humanism. Writers studied include Cervantes, Góngora, Quevedo and Calderón de la Barca. Prerequisite: SPAN 200 or permission of the department. Three credits. Not offered 2009-2010.

374 Spanish American Literature from the Conquest to Modernity

This course introduces students to Spanish American literary currents. It includes a survey of the chronicles of explorers and conquistadores, narrations of colonization and of cultural resistance, and studies the emergence of national literatures of the Baroque, the Romantic and the Realist traditions. Texts studied include writings of explorers such as Colón and Cortes and works by writers such as Díaz del Castillo and Inés de La Cruz. Prerequisite: SPAN 200 or permission of the department. Three credits. Not offered 2009-2010.

463 Spanish Literature from Romanticism to Postmodernism

This course is a survey of the literature and cultural context of Spain during the 19th and 20th centuries. It includes the Realist novel, Unamuno, Lorca, Goytisolo and contemporary women's literature. It involves the reading and analysis of texts with emphasis on the application of literary theory and criticism. Prerequisite: SPAN 200 or permission of the department. Three credits. Not offered 2009-2010.

464 Spanish American Literature from Modernism to Postmodernism

This course is a survey of Spanish-American literary and cultural currents from modernism to the present. It considers magical realism and new realism, indigenismo and women's literature. Writers studied include Cortazar, Fuentes, García Márquez and Vargas Llosa. Classes will focus not only on specific literary texts and their authors, but will also examine the various genres and the historical and political context(s) within which the texts are situated. Prerequisite: SPAN 200 or permission of the department. Three credits.

9.28 MUSIC

R. Billington, M.Mus.
K. Brunkhorst, M.Mus.
G. Carter, M.Mus.
T. Daniels, M.Mus.
A. Genge, Ph.D.
J. O'Donnell, C.M., M.Mus., Professor Emeritus
T. O'Mahoney, M.Mus.
G. Smith, M.Mus.
P. Tynan, M.Mus.

Part Time

S. Boddie, M.Mus.
J. Brownell, DNA
A. Sutherland, M.Mus.
D. Sutherland, B.Mus.

Degrees and Diplomas in Music

The Department of Music offers a curriculum that focuses on jazz studies and contemporary music. Degrees and diplomas are a window to graduate study and commercial applications in the field of music. In addition to academically appropriate course work, award-winning faculty stress performance and composition as part of a well-rounded program.

General Admission Requirements

In addition to the general admission requirements listed in chapter 1, candidates for admission to the music program are required to pass an audition on a major instrument or voice; see section 1.3 c. Re-entry students must re-audition.

Music students are initially admitted to the Bachelor of Arts in Music (Jazz Studies) or to the Diploma in Jazz. Students must then apply for admission to the Bachelor of Arts in Music (Jazz Studies) with Advanced Major or Honours, or the Bachelor of Music (Jazz Studies) with Honours by March 31 of the second year of study. Students who fail to meet the admission requirements to one of these three programs may be eligible for the BA with Major in Music.

A candidate who fails to meet the requirements for the Bachelor of Music with Honours may be eligible for the Bachelor of Arts in Music with Honours; one who fails to meet the requirements for the BA in Music with Honours may be eligible for the BA in Music with Advanced Major, and one who fails to meet the requirements for the advanced major may be eligible for the major.

Listed below are the degrees and the diploma in the Department of Music and the type of pass required in the level exam.

Degree or Diploma	Level I	Level II
Bachelor of Music (Jazz Studies)	Pass	First class honours
BA in Music (Jazz Studies), Honours or Advanced Major (see Note 1)	Pass	Honours
BA in Music (Jazz Studies) (see Note 2)	Pass	Pass with Merit
BA with Major in Music	No level required	
Diploma in Jazz	Pass	Pass

BM, BA Mus, Dip Jazz require a Level I pass for students to continue as music majors.

Note 1: A pass with honours is required in the level II exam for students to qualify for private lessons in years three and four.

Note 2: A pass with merit in the level II exam is sufficient for students to continue in the BA in music but with no private lessons in years three and four. In lieu of private lessons and recital, students replace 395, 495 and 497 with 9 credits of other MUSI courses.

All courses offered by the Department of Music are available to any student who satisfies the prerequisite and audition requirements. Applied performance courses are only available to non-music majors with the permission of the instructor and the department chair.

For requirements for programs with jazz concentrations, see chapter 4.

Diploma in Jazz Studies

The Diploma in Jazz Studies is a two-year program designed for students who wish to enter the field of commercial music but do not wish to pursue the BA in Music (Jazz Studies) degree. Instruction is offered in theoretical, aural, and improvisational skills.

Students in the diploma program who subsequently wish to pursue studies towards BA in Music (Jazz Studies) with Honours or Advanced Major or Bachelor of Music (Jazz Studies) with Honours degrees must achieve the appropriate grade in the Level II exam and have no grade of less than 60 for the advanced major, or 70 for the honours, in any MUSI course.

Major in Music

Students may complete a major in music in the BA program by completing a minimum of 36 credits from the following in consultation with the chair:

Required 101, 160; 27 credits to be selected from 103, 106 or 107, 117, 118, 195, 201, 203, 206 or 207, 265, 295, 306 or 307, 315, 316, 375.

An audition is required for admission to this degree if applied music classes are chosen as an option. See section 4.1.3 for other degree requirements. Minimum grade requirements do not apply to the major in music.

Minor in Music

No audition is required for admission to the BA with music minor. Students may complete a minor in music in the BA or BBA program by completing a minimum of 24 credits from the following courses or others in consultation with the chair: MUSI 101, 103, 106 or 107, 117, 118, 206 or 207, 315, 316, 416.

No audition is required for admission to a minor; see section 1.3 c. Minimum grade requirements in music do not apply to the minor in music.

Pair in Music

If music is chosen as a pair, the courses must be 12 credits in music history, music theory, choral ensemble, or performance ensemble.

Graduate Diploma in Jazz Pedagogy

The Graduate Diploma program is designed for professional or amateur musicians, teachers, and others who are interested in learning about the jazz art form.

The diploma is offered during the academic year and provides training in jazz theory, arranging, history, styles and improvisation.

Students are expected to perform in a variety of ensembles.

To be admitted to the graduate diploma program, applicants will normally possess a B.Mus. degree or a BA degree with a strong music component and be able to demonstrate proficiency on their major applied instrument.

To be admitted to selected courses in the diploma program for enrichment purposes, prospective students must provide evidence of the appropriate academic background in the case of theoretical courses, or demonstrate proficiency on their major applied instrument.

The course requirements are: MUSI 501 Jazz Theory I, 502 Jazz Theory II, 503 Jazz Improvisation I, 504 Jazz Improvisation II, and Ensembles. Each course is three credits.

Common Year 1 and 2

For All Degrees and for the Diploma in Jazz

Year 1 MUSI 101, 103, 106 or 107, 117, 160, 190; 6 credits arts/science electives; level I

Year 2 MUSI 118, 201, 203, 206 or 207, 235, 265, 290; 6 credits arts/science electives; level II exam

Bachelor of Arts in Music (Jazz Studies) with Honours or Advanced Major

Typical Course Pattern:

Year 3 MUSI 306 or 307, 315, 316, 365, 395; 15 credits arts and science electives

Year 4 MUSI 406 or 407, 416, 465, 495, 497; 15 credits arts and science electives

Bachelor of Music (Jazz Studies) with Honours

Typical Course Pattern:

Year 3 MUSI 304, 306 or 307, 315, 316, 325, 365, 390; 6 credits arts and science electives

Year 4 MUSI 406 or 407, 416, 420, 465, 490, 497; 6 credits arts and science electives

The minimum grade requirement of 60 applies only to students enrolled in the degrees BA Mus.(Jazz), B.Mus.(Jazz), and BA with Advanced Major in Music.

101 Structure of Music I

This course covers the fundamentals and basic concepts of music theory and notation. Three credits.

103 Jazz Theory I

The material studied in jazz theory is designed to be applied to the performance and writing of jazz. Topics include: chord-scale relationships; chord construction; three-, four-, and five-part harmony; substitution and function; construction and analysis of harmonic progression. Prerequisite: MUSI 101 with a minimum grade of 60. Three credits.

106 Vocal Ensemble I

Participation in the St. FX University Choral and Vocal Jazz Program provides students with an opportunity to develop vocal fundamentals and musicianship through the rehearsal and performance of high quality choral music from all periods and cultures. Vocal Jazz Ensembles provide a more advanced ground for ear-training and performance through the study of complex harmony in many jazz and popular styles. All ensembles are open to all university students by audition during the first week of fall classes. Two sections will be offered, section 11 is for voice majors and students participating on more than one ensemble and section 12 is for non-majors participating in one ensemble. Three credits over the full academic year.

107 Instrumental Ensembles I: Includes Jazz Ensemble, Combos, and Percussion Ensembles

This course explores the fundamentals of jazz performance by integrating materials discussed in jazz theory with practice within a classroom and ensemble (laboratory) format. Classes and ensembles meet in alternating weeks under instructor supervision. As well, ensembles meet every week to rehearse. The standard song and jazz repertoire will be employed. Students will be expected to prepare concert material outside of the classroom/laboratory setting. Concerts are presented at the end of term. Audition and concert attendance in the visiting artist series are required. Prerequisite: successful audition. Three credits over the full academic year.

117 History of Popular Music

A survey course detailing the development of popular music since 1945. Topics include jazz, songs related to the jazz experience, blues, pop, rock, and contemporary music. Three credits.

118 World Music

A survey course covering folkloric and ethnic musical traditions from around the world: Africa, Asia, North and South America, the Caribbean, Europe. Three credits.

160 Jazz History

An introductory course in improvisational style specifically pertaining to the Jazz Idiom from 1900 to present. Extensive viewing and listening will be required. Six credits.

190 Applied Performance I

This course provides students with instruction on a major applied instrument or voice. Functional piano skills are also covered. Restricted to music major students or may be taken with permission of the instructor. Six credits.

191 Secondary Instrument I

This course provides students with instruction on an instrument other than their major instrument. Prerequisite: permission of the chair or studio teacher. Three credits over the full academic year.

195 Applied Performance I A

This course provides students with instruction on a major applied instrument or voice. Functional piano skills are also covered. Restricted to students in the BA with Major in Music. Three credits.

201 Structure of Music II

A study of chromatic harmony and advanced modulation and counterpoint. Includes harmonic analysis of appropriate music. Prerequisite: MUSI 101 with a minimum grade of 60. Three credits.

203 Jazz Theory and Arranging

A continuation of Jazz Theory I, this course introduces many devices used in small group arranging: writing intros, endings, background figures, voicing, and rhythm section parts. Prerequisite: MUSI 103 with a minimum grade of 60. Three credits.

206 Vocal Ensemble II

A continuation of MUSI 106. Prerequisite: Successful audition. Three credits over the full academic year.

207 Instrumental Ensembles II

A continuation of MUSI 107. Prerequisite: successful audition. Three credits over the full academic year.

235 Music Technology

This course introduces the basic technology used to notate and edit music. Students will also be introduced to standard industry practices for the production of commercial music. Three credits.

265 Jazz Styles and Literature: The Bebop Era

A course in the analysis of players, particularly Thelonious Monk, Miles Davis, Charlie Parker, and Dizzy Gillespie, and their innovations which brought the music to its present maturity. Three credits.

290 Applied Performance II

This course provides students with instruction on a major applied instrument or voice. Functional piano skills are covered. Restricted to music major students or may be taken with permission of the instructor. Six credits.

291 Secondary Instrument II

This course provides students with instruction on an instrument other than their major instrument. Prerequisite: permission of the chair or studio teacher. Three credits over the full academic year.

295 Applied Performance II A

This course provides students with instruction on a major applied instrument or voice. Functional piano skills are also covered. Restricted to students in the BA with Major in Music. Three credits.

304 Small Ensemble Arranging

Combines jazz arranging and orchestration with writing assignments for small ensembles. Prerequisite: MUSI 203. Restricted to music honours students or may be taken with permission of the instructor. Three credits.

306 Vocal Ensemble III

A continuation of MUSI 206. Prerequisite: Successful audition. Three credits over the full academic year.

307 Instrumental Ensembles III

A continuation of MUSI 207. Prerequisite: successful audition. Three credits over the full academic year.

315 History of Music I

An overview of musical styles and forms from the Middle Ages to the 19th century. This course addresses the broad spectrum of musical contributions that allowed for the development of Western music. Three credits.

316 History of Music II

A survey of the techniques employed in 19th- and early 20th-century music. This includes analysis of the form and harmonic content of selected works. Special consideration will be given to works and events that lead to the transformation of musical language into 20th-century models. Prerequisite: MUSI 315 with a minimum grade of 60. Three credits.

325 Jazz Composition

Designed to provide a foundation in the techniques of jazz composition with an in-depth study of modal harmony and its applications. Prerequisite: MUSI 203. Restricted to bachelor of music honours students or may be taken with permission of the instructor. Three credits.

365 Jazz Styles and Literature

An in-depth study of the tenor saxophonist in jazz music with emphasis on John Coltrane, Sonny Rollins, and Wayne Shorter, as well as the modernists they influenced. The second term will be devoted to an analytical view of the Avant Garde Movement and the 3rd stream. Three credits.

375 Contemporary Songwriting I

An in-depth study of the greatest popular songwriters and their music from the mid-1900s to the present. Artists include Bob Dylan, The Beatles, The Beach Boys, The Rolling Stones, Stevie Wonder, Joni Mitchell, Steely Dan, Paul Simon, and Sting as well as contemporary artists such as Radiohead, Coldplay, Chantal Kreviazuk and Beck. Prerequisite: general knowledge of basic music theory. Three credits.

376 Contemporary Songwriting II

This course puts into practice the various lyrical and musical devices of the greatest popular songwriters and their music from the mid-1900s to the present. Students are required to compose lyrics and music in the styles of certain artists and are encouraged to assimilate their techniques in writing songs. Prerequisite: general knowledge of basic music theory. Three credits.

385 Selected Topics I

Three credits.

386 Selected Topics II

Three credits.

390 Applied Performance III

This course provides students with instruction on a major applied instrument or voice. Students in the B.Mus. degree program will write a thesis as a component of this course. Restricted to bachelor of music honours students. Six credits.

391 Secondary Instrument III

This course provides students with instruction on an instrument other than their major instrument. Prerequisite: permission of the chair or studio teacher. Three credits over the full academic year.

395 Applied Performance III A

This course provides students with instruction on a major applied instrument or voice. Functional piano skills are also covered. Restricted to bachelor of arts in music students. Three credits over the full academic year.

406 Vocal Ensemble IV

A continuation of MUSI 306. Prerequisite: Successful audition. Three credits over the full academic year.

407 Instrumental Ensembles IV

A continuation of MUSI 307. Prerequisite: successful audition. Three credits over the full academic year.

416 History of Music III

A study of modern composition techniques, including analysis of selected contemporary music. Prerequisite: MUSI 316 with a minimum grade of 60. Three credits.

420 Advanced Arranging/Orchestration

Combines analysis of contemporary composers with orchestration for ensembles. Prerequisite: MUSI 304 with a minimum grade of 60 or permission of the instructor. Restricted to bachelor of music honours students or may be taken with permission of the instructor. Six credits.

465 Jazz Styles and Literature

An examination of the E.C.M. explosion of the 1960s, 70s, and 80s, and modern European influences. Three credits.

490 Applied Performance IV

Provides students with instruction on a major applied instrument or voice. A final recital is required. Restricted to bachelor of music honours students. Six credits.

491 Secondary Instrument IV

This course provides students with instruction on an instrument other than their major instrument. Prerequisite: permission of the chair or studio teacher. Three credits over the full academic year.

495 Applied Performance IV A

This course provides students with instruction on a major applied instrument or voice. A final recital is required. Restricted to bachelor of arts in music students. Three credits over the full academic year.

497 Honours Recital- Thesis

Students work under the supervision of their private studio instructor to produce a one-hour concert performance on their major instrument/voice. The thesis option is available to all honors students, in which case their supervisor would be chosen in accordance with the given topic. Prerequisite: fourth year honours BA Music or Bachelor of Music. Three credits.

499 Directed Study

In consultation with the department, students may undertake a directed study in an approved area of interest. See section 3.5. Six credits.

9.29 NURSING

S. Adamson, B.Sc.N.	B. MacDonald, MS, M.Ed., RN
M. Alex, M.Sc.N., CNM, RN	C. MacDonald, MN, RN
E. Arbuthnot, MN, RN	J. MacDonald, MN, RN
D. Beiswanger, MN., RN	L. MacDonald, B.Sc.N., RN
S. Bowman, BN., B.Soc.Sci., RN	M. MacDonald, MN, RN
C. Cameron, M.Ad.Ed., RN	P. MacDonald, M.Ad.Ed., RN
M. Chisholm, B.Sc.P.E., B.Sc.N., RN	E. MacFarlane, M.Ad.Ed., RN
D. Connolly, MN, RN	A. MacIsaac, M.Sc.N., RN
J. Cormier, MN, IBCLC, RN	M. MacLellan, MN, RN
D. Delorey, B.Sc.N., RN	J. MacLellan-Peters, B.Sc.N., RN
A. Dobbins, B.Sc.N., RN	M. MacNeil, B.Sc.N., RN
D. Daye, B.Sc.N., RN	C. McPherson, Ph.D., RN
L. Farrell, B.Sc.N., RN	E. McGibbon, Ph.D., RN
Y. Fraser, B.Sc.N., RN	J. Moseley, B.Sc.N., M.Ad.Ed., RN
A. Gillis, Ph.D., RN	A. Murdock, B.Sc.N., RN
H. Graham, MN, RN	D. Pierrynowski MacDougall, Ph.D., RN
P. Hansen-Ketchum, MN, RN	W. Panagopoulos, B.Sc.N., RN
P. Hawley, Ph.D., RN	K. Saulnier, B.Sc.N., RN
H. Jewers, MN, RN	J. Shaw, Ph.D., RN
K. Kenny, B.Sc.N., RN	B. Sproull-Seplaki, M.Sc.N., RN
F. LeBlanc, MN, RN	C. Stewart, MN, RN
S. Livingston, B.Sc.N., RN	J. Whitty-Rogers, MN, RN
J. Lukeman, B.Sc.N., RN	S. Wood, B.Sc.N., RN

The School of Nursing offers to qualified high school graduates, transfer students, post-degree students, registered nurses, programs of study leading to the Bachelor of Science in Nursing.

The basic program is four academic years in length with two intersessions for a total of 126 credits. The fast-track option for transfer students is three years, with two intersessions, for a total of 126 credits (not offered every year). The accelerated option is 24 months for a total of 66 credits (not offered every year).

Nursing is a unique health profession, both an art and a science. It is the professional practice of caring. Nursing is an essential service which provides

individual care and attention across the lifespan, and which involves health promotion, restoration and maintenance; illness prevention; and palliative care.

The nursing curriculum is a blend of biological and social sciences, humanities, and professional nursing courses. The emphasis in the program is on understanding the personal, family, group, and community dimensions of health and illness. The curriculum combines academic and professional theory with nursing practice, fostering scholarly inquiry, creativity, critical thinking, moral reasoning, self-directedness and a commitment to lifelong learning. Personal growth is encouraged through reflection and introspection, positive interpersonal relationships, critical inquiry and a sensitive response to human values in a climate of academic and professional excellence.

Professional Conduct

In all nursing practice situations students are expected to be safe, ethical practitioners. They must perform in accordance with the legal, ethical, moral and professional standards set out in the profession's Code of Ethics (2008), the Entry-Level Competencies for Registered Nurses (CRNNS, 2008), the Standards of Nursing Practice (CRNNS, 2008, and the StFX nursing program objectives. Student nurses are expected to act in a manner comparable to the average prudent student nurse. Behavior that endangers public health or safety may warrant nursing practice alert or failure, which may result in dismissal from the program. Prospective students are advised that the College of Registered Nurses of Nova Scotia (CRNNS), the licensure body for nurses, requires disclosure of criminal records prior to consideration for registration. Those considered a risk to others may not be considered for registration by the CRNNS. New graduates must be registered in the same province as their educational program prior to registering elsewhere.

Costs

In addition to the university fees listed in section 2.1, expenses include room and board for off-campus placements during intersession and other consolidated experiences: fees for field trips, practice experiences, uniforms, nursing books, stethoscopes, first aid and CPR certification and re-certification; the RN examination fees; other external exam fees; and travel costs to and from practice areas while in the program.

School Requirements

- BIOL 105, 115, 251, 252, CHEM 150, PSYC 260 or equivalents must be complete before the student progresses to the third year.
- Students will participate in nursing practice rotations in sites other than their location of residence.
- Students will be expected to participate in nursing practice rotations scheduled at various times including evenings, nights, and weekends.
- Students who fail a nursing course are not permitted to progress in the program and must reapply for admission. Applications for readmission must be received by May 15.
- Students are required to make up missed nursing practice time. Extended absences for nursing practice are evaluated by the chair, School of Nursing. Make-up time in clinical and tutorial experiences may not always be available.
- Students will not normally be permitted to withdraw from a course to avoid a nursing practice failure.
- Students who receive a nursing practice failure will normally be dismissed from the program for a minimum of one year following the failure. Readmission is at the discretion of the committee on studies. Students readmitted following a practice failure will return with a practice alert status. Readmitted students who receive a practice alert or practice failure will normally receive a permanent dismissal from the program.
- Students who fail nursing courses on two occasions (the same course, or two different courses) are ineligible for readmission to the program.
- Current certification in standard first aid and Level C CPR is required for entrance into the program; see 1.3 g. Students in the nursing program are responsible for re-certification as necessary. Failure to submit required documentation will prevent progression in the program.
- Students must be screened through the child abuse registry of Nova Scotia during the fall semester of first year and have a criminal records check completed at their nearest RCMP prior to entry into the program. Documentation of both is required; see 1.3 g. Students are required to disclose to the Chair, School of Nursing, any criminal record, including child abuse that has occurred subsequent to admission.
- No nursing student will be permitted to transfer to the accelerated program if they have received a course failure or a nursing practice alert.

- i) All students returning to the BSCN program, after a 2 year absence, must submit updated documentation as listed in i) and j).

Bachelor of Science in Nursing

The B.Sc. in Nursing program options vary in the time frames for completion. The four levels, from 1 to 4, correspond to the courses and course numbers at the 100 to 400 levels. Aboriginal students are encouraged to self-identify on the admissions application to be considered for the Pilot Aboriginal Nursing Student Seminar Option.

The normal sequence of courses is listed below for both the basic and fast-track options. See chapter 7 for program requirements.

Basic and fast-track program options:

Year 1	BIOL 105, 115; CHEM 150; NURS 105, 115, 125 Clinical Intersession (May); PSYC 100; RELS 120
Year 2	BIOL 251, 252; HNU 261, 263; NURS 205, 235, 245, 251, 260, 275; NURS 252 (May-June);
Year 3	NURS 300 or 310, 305, 315, 345, 355, 330 or 336; 6 credits arts/science electives
Year 4	NURS 405, 416, 491, 493; 9 credits open electives; 3 credits arts/science electives

B.Sc.N. with Advanced Major

The normal sequence of courses is the same as above, except:

Year 4	NURS 405, 416, 491, 493, 499; 9 credits open electives
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B.Sc.N. with Honours

The normal sequence of courses is the same as above, except:

Year 3	NURS 300/SOCI 300
Year 4	NURS 405, 416, 493, 491, 496, 498; 3 credits NURS elective; 6 credits open electives

The course pattern is the same as for the general B.Sc.N. except NURS 300/SOCI 300 is required in year three and that three credits of NURS electives and six credits of open electives, replace the electives in the senior year. In addition NURS 496 and 498 are required. Students in the four-year B.Sc.N. program or transfer students in the fast-track option program are eligible for the honours program.

B.Sc. in Nursing for Registered Nurses

Registered nurses who are graduates of nursing diploma programs may complete the requirements by distance education on a part-time basis. The required courses are:

DNUR	115, 135, 201, 205, 245, 300, 330, 415, 425
BIOL	105, 115, 251, 252
CHEM	100 or 150
Nursing electives	12 credits

Please note: DNUR 115 and 135 are prerequisites for all other NURS courses.

For information on this limited-enrollment program, write to Distance Nursing, Continuing and Distance Education, StFX University, Antigonish, NS, B2G2W5 or phone 902-867-5190 or 1-800-565-4371.

B.Sc. in Nursing for Post-Degree Students

*may not be offered every year

The required courses for the accelerated option for post-degree students:

NURS	105, 115, 125, 205, 235, 245, 251, 252, 275, 305, 310, 315, 330, 345, 355, 405, 416, 491, 493
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Certificate in Gerontological Nursing

A 12-credit certificate program in nursing gerontology is offered by distance education to graduates of nursing diploma programs. The required courses are NURS 115, 245, 425, 488.

For information on this limited enrollment program, write Distance Nursing, Continuing Education, StFX University, Antigonish, NS, B2G 2W5 or phone 902-867-5190 or 1-800-565-4371.

Certificate in Continuing Care

A 12-credit course certificate program in continuing care is offered by distance education to graduates of nursing diploma programs. The required courses are NURS 115, 135, 205, 425.

For information on this limited-enrollment program, write Distance Nursing, Continuing Education, StFX University, Antigonish, NS, B2G 2W5 or phone 902-867-5190 or 1-800-565-4371.

105 Introduction to Professional Nursing

Focuses on nursing as a profession and its historical evolution to the present.

Theoretical and philosophical bases of nursing are explored, with a focus on Orem's self-care theory. The role of the professional nurse is examined. Factors that influence contemporary nursing, such as legal and ethical issues, health care reform, and changing health care priorities, are discussed. This course introduces the philosophy and framework for nursing at StFX. Prerequisite: Documentation for program entry. Three credits.

115 Health Promotion and Learning

In this course, students explore the concepts of health and wellness along with aspects of the socio-cultural and economic environment that influence lifestyle and in turn determine health. An emphasis is placed on the nurse's role in health promotion using principles of teaching and learning and Orem's educative-supportive system of nursing. A major health education project provides students with an opportunity to implement the nursing process, apply theory to practice, and develop interviewing and assessment skills. Prerequisites: NURS 105 and 125. Three credits.

125 Introduction to Clinical Nursing Practice

This course provides a foundation for nursing practice and an introduction to the theory and practice of nursing skills and techniques. The nursing process and Orem's theory of self-care are used as organizing frameworks for the course. Students must achieve a minimum grade of 60 in NURS 105 and 125 in December in order to proceed into NURS 115 and the clinical component of NURS 125. The final NURS 125 grade combines mid-term, final exam and a clinical practice assignment. Prerequisite: Documentation for program entry. Three credits over the academic year.

205 Community Health Nursing

This course explores community health nursing practice in the context of a health care system that is undergoing change. The major themes of this course are community assessment; population-focused nursing practice; and population health, including epidemiology and health determinants. Three credits.

235 Introduction to Pharmacology

This course provides an overview of the basic principles of pharmacology from a nursing perspective. It focuses on the application of the nursing process as it relates to drug therapy, with particular emphasis on safe drug administration and client education. It also considers a variety of legal, professional, and contemporary issues related to drug therapy. The course provides the opportunity for practice in dosage calculations as well as laboratory practice in the administration of medications, specifically oral, topical, inhalation, ear, nose, eye. Students must successfully complete a medication dosing calculation test. Three credits.

245 Healthy Aging

This course addresses issues of health and wellness important to an increasingly aging population. Many psychological, social and physical factors affect one's health potential. Students will examine the impact these factors have in making the older adult who he or she is today. Through interaction with a senior in the community, the student will learn how the older adult defines and promotes his or her own health. Three credits.

251 Nursing Care of Adults

This course focuses on the integration of theory and nursing practice. Structured around the nursing process framework and Orem's theory, the course enables sophomore nursing students to explore, understand, and practice comprehensive nursing care of adults in the acute care institutional setting. Students delve into concepts and nursing care related to a variety of acute disease processes with an emphasis on pre/intra/post-operative nursing. Three credits. Subject to Senate approval.

252 Nursing Practice I

An intersession course (May-June) with practice experience in selected clinical settings. Prerequisite: All second year nursing courses. Three credits. [Subject to Senate approval].

260 Developmental Psychology

Cross-listed as PSYC 260; see PSYC 260. Six credits.

275 Comprehensive Health Assessment

This theory and practice course focuses on a systematic assessment of a client's health status and the normal functions and findings related to various body systems. The emphasis is on developing the assessment skills necessary to carry out a comprehensive examination of body systems, for the purpose of identifying self-care requisites. A practicum is provided in the lab setting. Three credits.

300 Research Methods

Cross-listed as SOCI 300; see SOCI 300. Six credits and lab.

305 Nursing of Adults I

In this course, students focus on the self-care and major health-deviation self-care requisites of adults arising from pathology in the cardiovascular, respiratory, and peripheral vascular systems. A strong emphasis is placed on the biological basis for these diseases and their impact on the human experience of illness. The nursing care requirements of clients arising from these disease states also constitute a major content area. Three credits.

310 Nursing Research Methods [AR]

Cross-listed as SOCI 305; see SOCI 305. Six credits.

315 Nursing of Children

This course is based on the philosophy and principles of family-centred care, promotion of self-care for child-bearing families, and family empowerment. Students will explore the ways in which families cope with illness in childhood and adolescence, and what nursing interventions children and families find helpful. Three credits.

330 Legal and Ethical Issues in Nursing Care

Cross-listed as RELS 300; see RELS 300. Six credits.

336 Ethics in Health and Medicine

Cross-listed as PHIL 336; see PHIL 336. Prerequisite: junior standing or PHIL 100. Six credits.

345 Mental Health Nursing

In this course, students engage in a comprehensive study of the mental health aspects of nursing. Included among them: anxiety, depression, dementia, and psychosis; eating disorders, trauma, and substance and gambling dependency. Students explore the principles of social justice and ethical and legal aspects of mental health care from socio-cultural, political, economic, historical, and bio-physical perspectives. Three credits.

355 Perinatal Nursing

This course is based on the philosophy and principles of family-centred health care, promotion of self-care for child-bearing families, and family empowerment. Students will explore the philosophical, cultural, physiological, psychological, and spiritual dimensions of childbirth, post-partum adaptation, lactation, and infant care. Three credits.

364 Social Justice and Health

This course examines the concept of social justice and its relationship to health status and health outcomes. Core principles of social justice such as relationship to health status such as discrimination, oppression, and the distinction between equality and equity are introduced as they relate to the population health of individuals, families, communities and nations. The course uses a human rights framework and incorporates a critique of strategic practice and policy initiatives for implementing social justice principles to improve population health in Canada and internationally. Three credits. Not offered every year.

365 Gender and Health

This course examines theoretical concepts relevant to gender and health. The broad determinants of health, sexuality, reproductive health and fertility, common diseases, substance abuse, violence and culture are examined from a gender perspective. Strategies for promoting holistic health and preventing disease will be examined. Cross-listed as WMNS 365. Three credits.

399 Co-operative Service Learning

This elective, independent nursing practice course is designed for third-year students. In an institution where registered nurses practice, students will apply their psycho-motor nursing skills, acquire confidence and independence, and gain valuable experience working as a member of a health care team.

Note: Fourth-year courses focus on trends and developments in the health field, the role of the professional nurse, and the application of research to the practice of nursing.

405 Nursing of Adults II

A theory and practice course designed to provide the senior nursing student with opportunities to render comprehensive care for adults who are experiencing, or who are at risk for, selected complex health problems. Students participate in the selection of nursing practice experiences that enable them to apply knowledge and critical thinking in the application of the nursing process in acute care, community, and home settings. Three credits.

416 Nursing of Adults III

A theory and practice course, which provide students with opportunities to render comprehensive care to individuals experiencing common health problems. Students will examine current research; develop leadership and management skills; plan, implement, and evaluate an independent experience of their choice in any setting or country that meets requirements; and participate in a consolidated nursing practice experience. Prerequisite: NURS 405. Six credits in second semester.

483 Hospice Palliative Care Nursing

Provides an overview of theories, current practices, and relevant issues in the field of palliative care, with a focus on the nurse's role. In line with the philosophy of nursing at StFX, the concepts of self-care and health promotion as they relate to quality of life issues will be discussed. Restricted to third- and fourth-year nursing and post-RN students. Offered in distance-delivery format. Three credits.

488 Challenges in Aging

This advanced nursing course focuses on holistic care of the older client, and may be used as an open or NURS elective by junior, senior, and post-RN students. Students will explore nursing and sociological perspectives on aging from an interdisciplinary perspective, and examine current gerontological issues and trends. Integrated nursing practice component. Offered on campus as well as in distance-delivery format (DNUR 488). Prerequisite: NURS 245. Three credits.

491 Trends in Health Care

A senior nursing course which examines the evolution of health care, and the development of, and challenges to, nursing education and practice. While focusing on the Canadian health care system, students will consider the international scene, particularly health conditions and needs in the developing world. The course is designed to facilitate independent inquiry and research. Three credits.

493 Leadership and Research in Nursing

Examines nursing theories, management models, and leadership concepts. Qualitative research methodologies are reviewed, with emphasis on their usefulness in exploring specific nursing problems. Three credits.

496 Senior Honours Seminar

A full-year seminar devoted to the theoretical, methodological, and presentation issues involved in preparing an honours thesis. No credit.

497 Nursing Informatics

Teaches the knowledge and skills necessary to ensure that computers have a positive impact on the nursing environment and delivery of patient care. Students learn computer concepts and terms, and examine ways computers can enhance nursing practice, education, administration, and research. Trends and issues related to the use of computers in nursing are explored. Three credits. Not offered every year.

498 Honours Thesis

The honours thesis provides an opportunity for students to document the steps performed in carrying out an empirical research investigation. To satisfy department requirements for the B.Sc.N. with Honours, an acceptable thesis based on the research project must be submitted before the conclusion of classes for the academic year. Three credits.

499 Directed Study and Practice

This course requires application and testing of nursing knowledge as well as knowledge from related disciplines in a clinical setting of the student's choice (within the limits of available resources). The student selects a faculty advisor, as well as agency staff for consultation and supervision as appropriate. Prerequisite: permission of the department chair. See section 3.5. Three credits.

DISTANCE NURSING PROGRAM OPTION

Patsy MacDonald, M.Ad.Ed., RN, Program Director

Bachelor of Science in Nursing for Registered Nurses

See chapter 7 for program requirements. All courses are offered through the distance-delivery format. Distance nursing and science courses are restricted to post-RN students. Distance science courses may be taken by students outside

the post-RN program with permission of the Dean of Science. Science labs and tutorials are incorporated into the course content.

Note: Students must complete DNUR 115 and 135 before enrolling in any other nursing course.

DNUR 115 Health Teaching and Learning

In contrast to health protection and illness prevention, health promotion is a broad and holistic concept. This course explores the concept of health promotion; the nurse's role in health promotion; the teaching-learning process; population health; social action and justice; the socio-cultural, economic, and political factors that influence health and behavior. Three credits.

DNUR 135 Contemporary Issues in Nursing

The foundation for all subsequent nursing courses, this class explores the evolution of nursing as a profession, including its theoretical and philosophical bases. Topics include: Orem's self-care theory; legal and ethical issues; health care reform; the image of professional nursing; changing health care priorities. Three credits.

DNUR 201 Community Mental Health I

Introduces the application of mental health nursing principles to specific clinical disorders. A subsequent elective course, DNUR 202, builds on the foundations explored in this class. Practice component. Three credits.

DNUR 202 Community Mental Health II

Examines the theory of and concepts in mental illness, treatment regimens, and nursing interventions. Students will apply mental health nursing principles to specific clinical disorders, building on the foundations of practice explored in DNUR 201. Three credits.

DNUR 205 Community Health Nursing

Explores the role of the community health nurse in the context of a changing health care system. Topics include: population health; primary health care; community assessment; epidemiology and demography; environment and ecology; cultural competence; ethics; the community as partner. Three credits.

DNUR 230 Nursing of Women, Children, and Families

Using a population-health approach, this course examines the social, economic, cultural, and political perspectives that affect the health and health care of women, children, and families, both locally and globally. Students will explore selected issues in illness prevention, wellness promotion, and care during illness. Community-based practice component. Six credits.

DNUR 245 Aging and the Older Adult

This course covers the process of growing older with reference to theories on universal aging. Students will learn to improve the function, quality of life, and self-care abilities of the elderly well, to assist them in maintaining independence. Topics include: aging-related changes; the role of the family and other aggregates; how elderly adults define and promote their health; the use of community resources. Three credits.

DNUR 300 Research Methods

Introduces students to research methods used in nursing science. Topics include: conducting and appraising research; concepts of research design, implementation, analysis, and interpretation; descriptive and inferential statistics; quantitative and qualitative research design; research ethics and bias. Six credits.

DNUR 330 Legal and Ethical Issues in Nursing

Examines the moral and ethical implications of various practices in the field of health care as they affect human life and the basic dignity of the person. Also treats the moral, ethical, legal and theological issues raised by recent developments in the life sciences. Cross-listed as RELS 300. Six credits.

DNUR 405 Nursing of Adults I

A theory- and practice-based course exploring chronic health issues related to violence, immune system dysfunction, cancer, and other selected conditions. In a primary, secondary or tertiary setting, students will deliver comprehensive medical or surgical nursing care to adults at risk for or experiencing a complex health problem. Three credits.

DNUR 415 Nursing of Adults II

A theoretical and practice-based course exploring chronic health issues related to diseases of the nervous, endocrine, and sensory systems, among others. In a primary, secondary or tertiary setting, students will deliver comprehensive medical or surgical nursing care to adults at risk for or experiencing a complex health problem. Leadership practice component. Three credits.

DNUR 425 Comprehensive Health Assessment

This theory and practice course focuses on a systematic assessment of the well adult. Students will incorporate health history and physical examination of body systems in identifying self-care requisites for a diverse population. Three credits.

DNUR 473 Basic Concepts of Pathophysiology

This course provides the student with an understanding of the basic concepts of pathophysiology, and builds upon a foundational knowledge of anatomy and physiology to meet the challenges presented in the study of disease process mechanisms. Prerequisites: BIOL 105, 115, 251, 252; CHEM 150 recommended. Three credits.

DNUR 483 Hospice Palliative Care Nursing

Provides an overview of theories, current practices, and relevant issues in the field of palliative care, with a focus on the nurse's role. In line with the philosophy of nursing at StFX, students will explore concepts of self-care and health promotion as they relate to quality of life issues. Restricted to third- and fourth-year students and post-RN students. Three credits.

DNUR 488 Challenges in Aging

Using nursing and sociological perspectives on aging, students will explore holistic care of the older client, including current gerontological issues and trends, and their implications for nursing. Integrated nursing practice component. Also offered on campus. May be used as an open or NURS elective by third- or fourth-year B.Sc.N. students. Three credits.

DNUR 490 Forensic Nursing

Forensic nursing refers to the application of nursing science and knowledge to legal proceedings. This course will examine the application of nursing science to the investigation and treatment of trauma, death, violent or criminal activity, and traumatic accidents within the clinical or community institution. Patient populations to be considered include: victims of sexual assault; elder, child and spousal abuse; unexplained or accidental death; trauma and assault; as well as the perpetrators of these and other criminal activity. Six credits.

DNUR 494 Leadership and Management in Nursing

Examines nursing leadership theories and management models, and their relationship to client care. The course explores the changing roles and expectations for registered nurses as leaders in the health care system. Three credits.

NURS 497 Nursing Informatics

Teaches the knowledge and skills necessary to ensure that computers have a positive impact on the nursing environment and delivery of patient care. Students learn computer concepts and terms, and examine ways computers can enhance nursing practice, education, administration, and research. Trends and issues related to the use of computers in nursing are explored. Three credits. Not offered every year.

DNUR 499 Independent Study and Practice

This nursing elective is designed to give registered nurses credit for a hospital-based course or program. Courses are evaluated for credit on an individual basis by the distance nursing education committee. Three credits.

9.30 PHILOSOPHY

D. Al-Maini, Ph.D.
C. Byrne, Ph.D.
J. Cook, Ph.D.
L. Groarke, Ph.D.
M. Kostelecky, Ph.D.
J. Mensch, Ph.D.
W. Sweet, D.Ph.

What is the purpose of our existence? How do we discover the principles which guide, or which ought to guide, our actions? Can we prove that God exists? Philosophy is the reasoned study of these and other questions of fundamental importance to human life. The study of philosophy also introduces students to the main currents of intellectual history, provides a basis for critically understanding their own ideas, and develops analytical reasoning skills.

Students planning the major, advanced major, honours or honours with subsidiary degree in this field are required to consult the department chair about their program of study. Candidates must complete the degree requirements as

specified in chapter 4 and the program requirements outlined below or at the department's webpage at www.stfx.ca/academic/philosophy.

Major Program

Of the 36 credits of philosophy required for the major, a minimum of 12 credits must be in the history of philosophy, with at least 6 credits from the ancient and medieval periods and at least 6 credits from the modern and contemporary periods. A minimum of 12 credits in the major must be at the 300/400 level.

Advanced Major Program

Of the 36 credits of philosophy required for the advanced major, a minimum of 12 credits must be in the history of philosophy, with at least 6 credits from the ancient and medieval periods and at least 6 credits from the modern and contemporary periods. A minimum of 18 credits in the major must be at the 300/400 level, including 6 credits of 400-level senior seminar coursework. Advanced major students are also required to complete a senior research paper. In the case of a joint advanced major in which philosophy is subject B, the senior research paper is completed only in subject A.

Honours Program

Of the 60 credits of philosophy required for the honours program, a minimum of 18 credits must be in the history of philosophy, with at least 6 credits from the ancient and medieval periods and at least 6 credits from the modern and contemporary periods. A minimum of 36 credits in the honours courses must be at the 300/400 level, including 6 credits of 400-level senior seminar coursework and the honours thesis.

Honours with Subsidiary Program

When philosophy is the honours subject: Of the 48 credits of philosophy required for the honours program, a minimum of 18 credits must be in the history of philosophy, with at least 6 credits from the ancient and medieval periods and at least 6 credits from the modern and contemporary periods. A minimum of 30 credits in the honours courses must be at the 300/400 level, including 6 credits of 400-level senior seminar coursework and the honours thesis.

When philosophy is the subsidiary subject: Of the 24 credits of philosophy required for the subsidiary, a minimum of 12 credits must be in the history of philosophy, with at least 6 credits from the ancient and medieval periods and at least 6 credits from the modern and contemporary periods. A minimum of 12 credits in the subsidiary must be at the 300/400 level, including 6 credits of 400-level senior seminar coursework.

When religious studies is the honours or the subsidiary subject with philosophy, PHIL 240 will normally be included in the course pattern.

Note: PHIL 100 is normally a prerequisite for advanced courses; exceptions are PHIL 210, 331 and 336.

100 Introductory Philosophy

An introduction to the study of philosophy which looks at major thinkers in the history of western philosophy as well as the fundamental and enduring questions they raised. Among the philosophers considered are Socrates, Plato, Aristotle, Aquinas, Descartes, and Hume. The questions raised by these thinkers include: What is it to think rationally and critically? Can we demonstrate the existence and nature of God? Can we discover any ethical principles that should guide our actions? What are the limits of human knowledge? Six credits.

210 Philosophy of Science [AR]

Examines the methodology of the positive sciences, including the logic of scientific discovery and experimental testing, the confirmation of hypotheses, and the nature of scientific explanation. Six credits.

230 Philosophy of Human Nature

A philosophical examination of what it means to be human. Topics may include: whether we possess free will; how the mind and the body are related; the nature of death and the possibility of survival/immortality; the nature of personal identity; skepticism and the reliability of our cognitive faculties; the limits of human knowledge; the function of art and its relation to human existence; egoism and the possibility of altruism; and the 'meaning of life.' Prerequisite: PHIL 100 or permission of the instructor. Six credits.

240 Philosophy of Religion

Explores the philosophy of religion, including different concepts of God with emphasis on the Judeo-Christian tradition; grounds for belief and disbelief in God; and issues such as human destiny, religious language, evil, faith, revelation, and verification. Prerequisite: PHIL 100 or RELS 100 or 110 or permission of the instructor. Cross-listed as RELS 230. Six credits.

251 Critical Thinking

What is an argument? How do arguments work? What makes some arguments better than others? This course will equip students to recognize and analyze arguments as they occur in a variety of contexts such as media editorials, speeches, textbooks, argumentative essays, and philosophical texts. To accomplish this, we will study the components of good arguments and techniques for criticizing and constructing arguments. Students will also be introduced to propositional logic. Prerequisite: normally at least one semester of successful university study. Three credits.

271 Philosophy and Literature

Examines selected philosophical themes as they occur in world literature. The course will explore issues such as the nature of tragedy, the conflict of existence and meaning, and the relation of the unconscious to philosophy and literature. May not be taken by students who have credit for PHIL 270. Prerequisite: PHIL 100 or permission of the instructor. Three credits.

281 Aesthetics

Is beauty in the eye of the beholder? Is it necessary or possible to define art? What is the nature of aesthetic experience? This course will examine several classical and modern theories of art and beauty selected from such writers as Plato, Aristotle, Hume, Kant, Hegel, Maritain, Dewey, Goodman, Danto, Foucault. It will also draw on a variety of examples of art, including literature, visual arts, music, poetry, theatre, architecture, and artistic handiwork. Three credits.

331 Introduction to Ethics

This course introduces students to several major ethical theories, including utilitarianism, virtue-based ethics, natural law theory and deontology. It addresses such questions as: Is there an objective moral standard? Is there a common good? Do we have duties to others? What does morality have to do with personal happiness? Prerequisite: PHIL 100 or third-year standing or permission of the department chair. May not be taken by students who have credit for PHIL 330. Three credits.

332 Contemporary Moral and Social Issues

Building on PHIL 331, this course examines contemporary moral and social issues such as freedom of speech and censorship; equality and affirmative action; legalization of non-medical drug use; the duty to alleviate suffering; assisted suicide and euthanasia; justifications for punishment and capital punishment. Prerequisite: PHIL 331. May not be taken by students who have credit for PHIL 330. Three credits.

333 Environmental Ethics [AR]

This course examines the ethical relationship between humans and the natural environment. It begins with the theoretical principles that help determine human conduct within the natural world. Once these beliefs about nature have been examined, it assesses different normative models that might govern our behaviour regarding the environment. Prerequisite: PHIL 331. Three credits.

336 Ethics in Health and Medicine

This course introduces students to ethical theories and values, and to the critical examination of contemporary issues arising in health care and medicine. Issues to be discussed may include: the concept of health; the ethical responsibilities of professionals and professional integrity; freedom, autonomy, and consent; death, dying, and euthanasia; abortion; infanticide; research involving human subjects; the allocation of scarce medical resources; confidentiality and privacy; reproductive technologies and rights; medical and non-medical drug use. Prerequisite: junior standing or PHIL 100 or permission of the instructor. Cross-listed as NURS 336. Six credits.

342 Logic

A course in formal logic. Presupposing a familiarity with propositional logic, it focuses on first order predicate logic (with identity) and metalogic. Topics to be covered include translating sentences from English into symbolic notation, the semantics of predicate logic, deductions, soundness and completeness. May not be taken by students with credit for PHIL 340. Prerequisite: PHIL 251. Three credits.

351 Socrates and Plato

Topics include the nature of Socratic dialectic, Socrates' responses to the pre-Socratic philosophers, and Plato's contributions to ethics, political philosophy, metaphysics, and epistemology. Three credits.

352 Aristotle

Topics include Aristotle's contributions to metaphysics, natural philosophy, and epistemology; his response to Plato and the pre-Socratic philosophers; and the

development of Greek philosophy in the subsequent Stoic, Epicurean, and Neo-Platonic schools. Three credits.

361 Early Medieval Philosophy

A study of the Christian and Neo-Platonic influence on philosophy from the 4th to the 12th centuries. Principal thinkers: Augustine, Boethius, Anselm, and Abelard. Principal problems: faith and reason; knowledge; evil; providence; free will; immortality of the soul; universals; ethical principles. The course ends with an introduction to important medieval Islamic and Jewish thinkers: Avicenna, Averröes, Maimonides. Prerequisite: PHIL 100. Three credits.

362 Philosophy in the High Middle Ages

A study of the influence of Christian theology and Aristotelian philosophy on thinkers of the 13th and 14th centuries. Principal figures: Bonaventure, Thomas Aquinas, John Duns Scotus, William of Ockham. Principal problems: faith and reason; knowledge; evil; providence; free will; immortality of the soul; universals; and ethical principles. Prerequisite: PHIL 100. Three credits.

365 Modern Philosophy I

A review of the intellectual developments of the Renaissance relevant to philosophy is followed by a study of Descartes and his rationalist successors, such as Spinoza and Leibniz. Prerequisite: PHIL 100 or permission of the instructor. May not be taken by students who have credit for PHIL 310 or 311. Three credits.

366 Modern Philosophy II

British philosophy of the late 17th and 18th century is traced through a study of the writings of Locke, Berkeley, and Hume. Works by Kant may also be studied. Prerequisite: PHIL 365 or permission of the instructor. May not be taken by students with credit for PHIL 310 or 312. Three credits.

367 Philosophy from Kant to Hegel

In the 19th century, German philosophy found expression in the idealist movement. Major figures such as Kant, Fichte, Schelling, and Hegel were united in the belief that reality, and the categories we use to understand it, had a common origin and development. Out of this belief came new conceptions of science, history, theology, and politics. Prerequisite: PHIL 100 or permission of the instructor. May not be taken by students who have credit for PHIL 321. Three credits.

368 Philosophy in the 19th Century

This course surveys responses to idealism in Germany, as well as the development of positivism in France and empiricism and idealism in Britain and America. Authors to be discussed may include: Schopenhauer, Marx, Nietzsche, Comte, Bentham, J.S. Mill, Bergson, James, Dewey, Bosanquet and Bradley. Prerequisite: PHIL 367 or permission of the instructor. May not be taken by students who have credit for PHIL 322. Three credits.

371 Social and Political Philosophy

Examines fundamental issues in social and political philosophy through a discussion of such questions as: What would an ideal society be like? Should there be limits on human freedom? Do human beings have rights that everyone should respect? Is it ever morally acceptable to disobey or rebel against the state? Texts will be selected from the classical, medieval, modern, and contemporary periods, but topics will focus on issues of current interest. Prerequisite: PHIL 100. Three credits.

372 Philosophy of Law

Examines fundamental issues in legal philosophy through a discussion of such questions as: What is the nature and function of law? What is the relation between law and morality? What is the character of legal reasoning and judicial decision-making? What are the justifications and aims of punishment? Texts will be selected from the classical, medieval, modern, and contemporary periods, including works on liberal, libertarian, Marxist, and feminist thought. Three credits.

381 Existentialism and Phenomenology

Examines 19th- and early 20th-century philosophical ideas in continental Europe. A look at the philosophical antecedents of existentialism and phenomenology will be followed by an discussion of the writings of some of the major figures in these movements: Kierkegaard, Sartre, Beauvoir, Marcel, Merleau-Ponty, Husserl, Arendt, and Heidegger. Prerequisite: PHIL 100 or permission of the instructor. May not be taken by students who have credit for PHIL 380. Three credits.

382 Contemporary Continental Philosophy

Examines late 20th- and early 21st-century philosophical ideas in continental Europe. A discussion of the writings of some of the major figures in contemporary philosophical movements, particularly in France and Germany: Derrida, Lévinas, Foucault, Deleuze, Kristeva, Cixous, Gadamer, Habermas, and Horneth. Prerequisite: PHIL 381 or permission of the instructor. Three credits.

391 Anglo-American Philosophy to 1950

Presents some of the major currents of philosophy in the English-speaking world in the 20th century, up to 1950. The course includes a brief account of 19th-century empiricism, pragmatism, and idealism, before turning to 'common sense analysis' (e.g., G.E. Moore), early discussions of logical positivism and the place of metaphysics, ethics, and aesthetics (e.g., Bertrand Russell, A.N. Whitehead, Ludwig Wittgenstein, A.J. Ayer, and Karl Popper), and the beginnings of 'ordinary language' philosophy. May not be taken by students who have credit for PHIL 390. Prerequisites: PHIL 100 or permission of the instructor; junior standing strongly recommended. Three credits.

392 Anglo-American Philosophy, 1950 to Present

Reviews recent Anglo-American philosophy, beginning with Ludwig Wittgenstein's *Philosophical Investigations*, and continuing with major texts in 'ordinary language philosophy' (e.g., Ryle, Strawson, Austin) and reactions to it (e.g., Quine). Debates on meaning and truth (e.g., Donald Davidson and Hilary Putnam), on knowledge and justification (e.g., Edmund Gettier and Alvin Plantinga), and on contemporary pragmatism (e.g., Richard Rorty) and contemporary metaphysics (e.g., Charles Taylor, Crispin Wright, David Chalmers) will also be presented. May not be taken by students who have credit for PHIL 390. Prerequisite: PHIL 391 or permission of the instructor. Three credits.

451 Seminar in Ethics, Political Philosophy, and the Philosophy of Law I

A seminar course that focuses on questions of ethics, political philosophy, and the philosophy of law. Topics to be addressed may include: the state and society, rights and duties, justice and equality, freedom and punishment, the moral basis of political obligation, and the concept of law. Prerequisite: junior standing in philosophy or permission of the instructor. Three credits.

452 Seminar in Ethics, Political Philosophy, and the Philosophy of Law II

A seminar course that focuses on questions of ethics, political philosophy, and the philosophy of law, not discussed in PHIL 451. Content varies from year to year. The course will include both classical and contemporary authors. Prerequisite: junior standing in philosophy or permission of the instructor. Three credits.

461 Seminar in Metaphysics and Epistemology I

A seminar course that focuses on issues in classical and contemporary epistemology and metaphysics. Topics to be considered may include: an investigation of the ultimate structure of reality as a whole: the nature of material things; the existence of the immaterial; the meaning of being; what can and cannot be known of reality; whether there is a First Cause. Prerequisite: junior standing in philosophy or permission of the instructor. Three credits.

462 Seminar in Metaphysics and Epistemology II

A seminar course that focuses on issues in metaphysics and epistemology not discussed in PHIL 461. Content varies from year to year. The course will include both classical and contemporary authors. Prerequisite: junior standing in philosophy or permission of the instructor. Three credits.

489 Honours Thesis

Each student works under the supervision of a professor who guides the selection of a thesis topic, the use of resources, the methodological component, and the quality of analysis. Restricted to honours students. Three credits over full year.

9.31 PHYSICS

C.P. Adams, Ph.D.
D.L. Hunter, Ph.D., Professor Emeritus
K. LeBris, Ph.D.
K.P. Marzlin, Ph.D.
D.A. Pink, Ph.D., Senior Research Professor
P.H. Poole, Ph.D.
M.O. Steinitz, Ph.D.
B.P. van Zyl, Ph.D.

Physics deals with the fundamental properties of matter and energy. Physicists explore phenomena both in detail and through statistical or average results, to create precise descriptions of the way in which systems behave. Physics courses stress analytical thinking and problem solving, while trying to communicate the excitement of discovery and the beauty of physics. The physics program prepares students for graduate study in physical and related sciences, engineering, meteorology, oceanography, and business administration; for professional programs such as medicine, dentistry, law and education; and for careers in science, business, and industry.

The physics department offers honours, advanced major, and major programs; joint advanced major and honours programs combining physics with mathematics (mathematics or computer science concentration), earth science, chemistry, or biology; and an advanced major in physics with business administration. Students interested in these programs, or in combining a physics degree with the engineering diploma, should consult the relevant department chairs. Since physics depends upon mathematics, most of the programs described below require at least four mathematics courses.

See chapter 7 for information on the degree patterns, declarations of major, advanced major and honours, advancement and graduation requirements. First-year students considering a physics program should consult the department chair before registration.

Major Program

The typical program outlined below may be varied with approval of the department chair.

Year 1	PHYS 120; MATH 111, 112; CHEM 120 or 100; 6 credits arts electives; 6 credits open electives
Year 2	PHYS 201, 221, 241, 242; MATH 221 or 367, 267; 6 credits arts electives; 6 credits open electives
Year 3	PHYS 223, 271, 325; MATH 253, 254; ENGR 144 or CSCI 161; 6 credits arts electives; 6 credits open electives
Year 4	PHYS 272, 302, 3 credits PHYS elective; 12 credits arts electives; 9 credits open electives

Advanced Major Program

The typical program outlined below may be varied with approval of the chair.

Year 1	Same as major program
Year 2	PHYS 201, 221, 241, 242; MATH 221 or 367, 253, 254, 267; ENGR 144 or CSCI 161; 3 credits approved elective
Year 3	PHYS 302, 322, 323, 325; MATH 361; 6 credits arts electives; 6 credits open electives; 3 credits approved elective
Year 4	PHYS 343, 344, 491 (no credit); 6 credits PHYS electives; 6 credits arts electives; 12 credits open electives; advanced major paper (consult the department chair).

Honours Program

The typical program outlined below may be varied with approval of the chair.

Year 1	PHYS 120; MATH 111, 112; CHEM 120 or 100; 6 credits arts electives; 6 credits open electives
Year 2	PHYS 201, 221, 241, 242; MATH 221 or 367, 253, 254, 267; 6 credits from ENGR 144 or CSCI 161 and arts electives. Some changes to the suggested second-year program may occur after the Academic Calendar is printed.
Year 3	PHYS 302, 322, 323, 325, 343, 344; MATH 361, 462 or 481; 6 credits arts electives
Year 4	PHYS 422, 443, 491 (no credit), 493; four of 223, 303, 342, 425*, 444*, 473, 475*, 476* (choice must include at least 2 marked *); MATH 481 or 462; 6 credits arts elective; 3 credits open elective

Honours students of superior academic standing will be encouraged to enrich their programs by taking up to one additional course each year.

100 General Physics

An introduction to mechanics, heat, electricity, magnetism, waves, optics, and modern physics. The course includes applications of physics to biological problems. Recommended for students in the life sciences program. Six credits and lab.

120 General Physics

An introduction to physics (mechanics, electricity and magnetism), this course is suitable for science students seeking a firm understanding of how the world works, e.g., from the flight of a golf ball to the orbit of a planet, or from the nature of an electron to how a generator works. Recommended for those considering further study in the physical sciences, engineering, mathematics and computer science. MATH 111/112 or 121/122 should be taken concurrently, as this course uses concepts developed in the calculus course. Six credits and lab.

171 Introduction to Astronomy I

This course provides an introduction to astronomy for students who have no background in mathematics or science. Topics include observing the night sky with and without optical aid, the development of astronomy and related sciences, time,

the evolution of the solar system, sun, planets, comets, and meteors. Observing sessions will be arranged. Recommended for arts students. Students who already have credit for PHYS 271 cannot receive credit for PHYS 171. Three credits. Offered in 2009-2010 and alternate years.

172 Introduction to Astronomy II

This course provides an introduction to astronomy for students who have no background in mathematics or science. Topics include stellar systems, galaxies, quasars, black holes, dark matter, dark energy, cosmology, cosmogony and life in the universe. Observing sessions will be arranged. Recommended for arts students. Students who already have credit for PHYS 272 cannot receive credit for PHYS 172. Three credits. Offered in 2009-2010 and alternate years.

201 Modern Physics: Introduction to Relativity and Quantum Physics

Topics include: Einstein's special relativity; wave description of matter; early atomic quantum theory; introduction to nuclear and particle physics; Schrödinger's quantum mechanics. Prerequisite: PHYS 120, concurrently with MATH 112 or MATH 122/ENGR 122. Three credits and lab.

221 Electric Circuits Basic Electric Circuits Theory

Topics include: introductory concepts; resistive networks; response to linear circuits with energy storage; exponential excitation functions; steady-state AC circuits; analysis; network analysis; systems. Cross-listed as ENGR 237. Prerequisites: PHYS 120, concurrently with MATH 221/ENGR 221. Three credits and lab.

223 Digital Electronics

This hands-on, practical course introduces digital electronics with applications to computer hardware and micro-computer peripherals. Topics include: the families of digital electronic technology; combinational and sequential logic; digital device characteristics; micro-computer interfacing; data acquisition; instrument control; data transmission. Labs provide an opportunity to design and test practical digital devices. Prerequisite: PHYS 120. Cross-listed as ENGR 238. Three credits and lab.

241 Mathematical Physics: Oscillations and Waves

An introduction to complex numbers, treatment of experimental uncertainties, ordinary differential equations, partial differential operators, partial differential equations and Fourier series for dealing with the physics of oscillating systems and waves. Simple, damped, forced, and coupled oscillators are treated in detail. The one-dimensional wave equation is derived and solved. Fourier series are introduced in order to satisfy the initial conditions. Prerequisites: PHYS 120, concurrently with MATH 112 or MATH 122/ENGR 122. Three credits.

242 Classical Dynamics I

The course covers conservative systems and potential energy; non-inertial frames; multi-particle systems; calculus of variations; Lagrangian mechanics; the connection between symmetries and conservation laws; central force problems; orbital mechanics; coupled oscillators and normal modes; Hamilton's equations of motion. Concurrent prerequisites: PHYS 241; MATH 221/ENGR 221 or MATH 367. Three credits.

271 Astronomy: The Solar System

This course provides a quantitative and more detailed treatment of the topics covered in PHYS 171. These topics include: the evolution of the solar system, sun, planets, comets, meteors, and solar wind. Open to science students as a free elective and to arts students with the permission of the instructor. Three credits. Offered 2009-2010 and in alternate years.

272 Astronomy: The Stellar System

This course provides a quantitative and more detailed treatment of the topics covered in PHYS 172. These topics include: stellar evolution, supernovae, quasars, pulsars, neutron stars, black holes, the universe, our galaxy, and cosmology. Prerequisite: PHYS 271 recommended. Open to science students as a free elective and to arts students with the permission of the instructor. Three credits. Not offered 2009-2010.

302 Modern Physics: Properties of Matter

This course considers the properties of matter in its various states of greater and lesser order. Topics include: classical thermodynamic treatment of phase transitions; an introduction to fluid mechanics; crystallographic order in crystals; elasticity; magnetic order; electrons in metals; and electrical resistance. Prerequisites: PHYS 201, 241. Three credits and lab.

303 Modern Physics: Subatomic Physics and Cosmology

Topics include: nuclei; elementary particles; concepts of general relativity; cosmology. Prerequisite: PHYS 201. Three credits.

322 Electromagnetic Theory I

This course presents a comprehensive study of electrostatics in the presence of conductors and dielectrics. Particular attention is paid to developing and solving the differential equations that describe the electric field and scalar potential. Topics include: vector fields; Coulomb's Law; Gauss's Law; Poisson's/Laplace's equation; Green's function; multipole expansion; method of images; polarization of materials; the displacement field; introduction to magnetostatics. Prerequisites: PHYS 120; MATH 267 or MATH 222/ENGR 222; PHYS 241 or MATH 361. Three credits.

323 Electronics

An introduction to electronic devices and circuits. Devices and topics discussed include diodes, bipolar junction transistors, field effect transistors, linear models, single-stage amplifiers, operational amplifiers, and digital circuits. Prerequisites: PHYS 221/ENGR 237; MATH 221/ENGR 221 or MATH 367. Three credits and lab.

325 Optics

Topics include: the nature of light; geometric optics, aberrations, optical instruments; Maxwell's equations, vector nature of light, polarization; coherence and interference; Fourier transform spectroscopy and interferometry; Fraunhofer diffraction, Fresnel diffraction; optics of solids. Prerequisites: PHYS 201, 241; MATH 221/ENGR 221 or MATH 367. Three credits and lab.

342 Classical Dynamics II

Topics include: calculus of variations; Hamilton's principle and equations; non-linear dynamic equations; van der Pol's equation; orbits; limit cycles; graphical analysis; fixed and periodic orbits; bifurcations; the transition of chaos; symbolic dynamics; chaos; Sarkovskii's theorem; Newton's method; fractals; the Julia and Mandelbrot sets. Prerequisite: PHYS 242. Three credits.

343 Quantum Mechanics I

Covers states as vectors, measurable quantities as operators in a linear vector space, eigenstates and eigenvalues; the process of measurement, superposition of eigenstates; Schrödinger's equation, applications; orbital and spin angular momentum, application; time-independent perturbation theory, applications. Prerequisites: PHYS 201, 242; MATH 254, 267. Three credits.

344 Thermal Physics

Explores configurations and states; entropy; laws of thermodynamics; Boltzmann distribution; Helmholtz free energy and partition function; blackbody radiation and Planck's distribution; chemical potential and Gibbs' distribution; ideal gases; Fermi, Bose; heat and work; Gibbs' free energy, enthalpy. Prerequisites: PHYS 242; ENGR 144 or CSCI 161. Three credits and lab.

415 Special Topics in Physics

This course will introduce one or more current topics in physics research. The topics will vary from year to year depending upon the availability of faculty and their interests. Three credits.

422 Electromagnetic Theory II

This course, a continuation of PHYS 322, covers magnetic fields in magnetic and non-magnetic materials, electromagnetic induction, the electric and magnetic fields of moving electric charges; Maxwell's equations; and the propagation and radiation of electromagnetic waves in various media. Prerequisites: PHYS 322; MATH 221/ENGR 221 or MATH 367; MATH 361. Three credits.

425 Lasers and Modern Optics

An introduction to the theory, operation, and applications of lasers. Topics include: the principles of optical coherence; optical resonators; operating principles and the most important laser types; holography; wave mixing; harmonic generation; the optical Kerr effect; stimulated Raman scattering and fiber optics. Prerequisites: PHYS 201, 325, 343. Three credits and lab.

442 Fluids

From the majesty of the Great Red Spot on Jupiter to the common-place phenomena of ocean waves, cream mixing in coffee and smoke rings, the motion of fluids is of aesthetic, practical and fundamental interest. Continuum descriptions of ideal and viscous fluid flows, both with and without compressibility, will be presented. Common flow geometries, wave and surface phenomena, solitons, convective instabilities and turbulent flow will be discussed. Prerequisites: PHYS 242, concurrently with PHYS 344 and MATH 361. Three credits.

443 Quantum Mechanics II

Topics include: function space analysis; state vectors, pure and non-pure states described by density operators; unitary and antiunitary transformations, symmetries and group theory in quantum mechanics; Schrödinger, Heisenberg, and interaction pictures; angular momentum coupling, tensor operators, the Wigner-Eckart theorem; time-dependent perturbation theory, variational approach; scattering theory with applications to modern physics. Prerequisite: PHYS 343. Three credits.

444 Statistical Mechanics

This is a course for physicists about thermodynamics and its relationship to statistical mechanics. Topics include: the thermodynamic postulates; conditions for equilibrium; heat, work energy and processes; van der Waals fluid; Legendre transformed representations; response functions and Maxwell relations; stability; phase transitions; critical points; connection to statistical mechanics through numerical models. Prerequisite: PHYS 344. Three credits and lab.

473 Soft Materials and Biophysics

Examples of soft materials are familiar from everyday life: glues, paints, soaps, plastics, and foods. These materials are neither simple liquids nor crystalline solids. Topics will be chosen from: the physical properties of colloids, polymers, and liquid crystals; the self-assembly properties of block co-polymers; amphiphiles and bio-polymers (DNA and proteins) in solution; and interfaces such as bio-membranes and bacterial cell walls. Prerequisites: PHYS 302, 344, concurrently with PHYS 444. Three credits.

474 Computational Physics

This course covers computational modeling of a variety of systems relevant to physics, physical chemistry, and engineering. Topics will include: deterministic and stochastic methods; drawing connections among different phenomena from underlying similarities revealed through the modeling process; implementing simulations and analyzing the results; numerical integration of neural networks and spin glasses. Six-week lab. Prerequisites: PHYS 241; MATH 221/ENGR 221, ENGR 144 or CSCI 161. Three credits.

475 Atomic and Molecular Physics

Covers the development of atom physics; basis of quantum mechanics; one-electron atom; radiation and radiative transitions; the Pauli principle and atomic shell structure; atomic spectroscopy; molecular binding and molecular spectra; scattering theory; electron spectroscopy; resonance and ionization by electron impact. Prerequisite: PHYS 343. Three credits and lab.

476 Solid-State Physics

An introduction to the theory of solids and important experimental results. Topics include: crystal structure; diffraction methods; lattice vibrations; specific heat of solids; thermal conductivity; the behavior of electrons in metals and semiconductors; magnetism; superconductivity. Prerequisites: PHYS 201, 302, 344, concurrently with PHYS 343. Three credits and lab.

491 Physics Seminar

All students in the fourth year of a physics program are required to attend department seminars as scheduled. No credit.

493 Honours Thesis

Students will prepare and present a thesis based on original research they have performed under the supervision of a faculty member. Three credits.

GRADUATE COURSES

The following are offered by directed study to students in the M.Sc. program.

500	Atomic and Molecular Spectroscopy
510	Low Energy Scattering
515	Quantum Theory
520	Advanced Spectroscopy
535	Quantum Theory II
545	Mathematical Physics
555	Statistical Mechanics
565	Many-Body Theory and Its Application
575	Group Theory and Its Application
585	Mathematical Physics II

Additional courses are available depending on the requirements and interests of the student and the availability of faculty.

9.32 POLITICAL SCIENCE

J. Bickerton, Ph.D.
 D. Brown, Ph.D.
 P. Clancy, Ph.D.
 S. Dossa, Ph.D.
 Y. Grenier, Ph.D.
 L. Hallstrom, Ph.D.
 J.F. Harrison, Ph.D.
 S.K. Holloway, Ph.D.
 L. Stan, Ph.D.

Department Regulations

Normally, all courses above the 100 level, except PSCI 240, require PSCI 100 as a prerequisite. Students who wish to register in courses at the 300 level or above should have 12 credits in PSCI or permission of the instructor.

See chapter 4 for information on the degree patterns, declarations of major, advanced major and honours, advancement and graduation requirements.

There are four areas within the discipline: Canadian Politics; Political Theory/Philosophy; Comparative Politics; and World Politics/International Relations. Students will normally concentrate in two of those areas.

Major and Joint Major Programs

Candidates for the major degree should choose their courses in consultation with a member of the political science department, and they must have their major form approved by the department chair. Students will normally concentrate in two areas within the discipline, and have a minimum of 15 credits at the 300 level or above. Majors are encouraged to include PSCI 399 in their course pattern.

Advanced Major Program

Candidates for a degree with advanced major in political science must choose their courses in consultation with the chair or with a supervisor assigned to them by the department. All students will take PSCI 100, 399, at least two three-credit seminar courses and a senior research paper as part of their program. Students will normally concentrate in two areas within the discipline, and have at least 15 credits at the 300 level or above, including PSCI 399 and two three-credit seminars.

Honours Program

Candidates for the degree with honours in political science require credit for PSCI 100, 200, a minimum of 6 credits from the following: 210, 220, 240, 250; 399, and two three-credit seminars, a thesis and 27 other PSCI credits. Non-Canadian students may, with permission of the department, substitute another course for PSCI 220 or 240. Students will normally have at least 24 credits at the 300 level or above, including PSCI 399, 490 and two seminars.

Honours with a Subsidiary Subject

See section 4.1 for program requirements.

Note: Not all courses are offered every year. Most 300-level courses are offered in alternate years. To confirm course offerings students should check the SFX timetable prior to registration.

[AR] Indicates Designated Course in Aquatic Resources

100 Introduction to Political Science

An introduction to the nature, variety, and use of political power in contemporary society and the state, especially Canada. This course will introduce students to the four areas of the discipline. Six credits.

200 History of Political Thought

An introductory survey of the Western tradition of political thought as it reflects persistent concern with questions of justice, political obligation, the origin of law and the purpose of government. Thinkers to be studied include Plato, Aristotle, Augustine, Thomas Aquinas, Niccolo Machiavelli, Thomas Hobbes, John Locke, Jean-Jacques Rousseau, Edmund Burke, and Karl Marx. Six credits.

210 Comparative Politics

This course provides an introduction to comparative and/or regional politics as a field of study, and prepares students for upper level courses in this field. It examines the evolution and diversity of governments in developing and developed states in Europe, Asia, Africa, and Latin America. Six credits.

220 Canadian Politics [AR]

An examination of government and politics in Canada. Topics include the Constitution, federalism, political institutions, political culture, parties and elections, interest groups. Six credits.

230 American Politics

An introductory survey of US politics with a focus on ideological and socio-economic contests, state structure and its links with American society, and the formation and nature of public policy. Six credits. Not offered 2009-2010.

240 Business and Government [AR]

This course examines the historical roots and the current contours of the business-government relationship. While the focus is on Canada, conditions in other advanced capitalist states are also considered. Topics include: the mechanisms of business power; state intervention in the modern economy; the micro-politics of business; and state policies affecting business interests. Six credits. Not offered 2009-2010.

247 Environmental Social Sciences I: Problems and Paradigms

This course introduces students to the major environmental challenges of the 21st century from a social science perspective. Modern societies that have sought to conquer natural limits have now conjured up unanticipated "environmental" consequences. Students will explore how human understandings of environmental "problems" as well as action towards environmental solutions are shaped by ways of thinking, social contexts and institutional power relations. Cross-listed as SOCI 247. Three credits.

248 Environmental Social Sciences I: Power and Change

As a continuation of PSCI 247, this course addresses the same conceptual problems but focuses more on understanding the societal and political response to environmental issues. Students will critically examine both proposed ecological futures, as well as means of environmental problem solving and societal change: state policy, intergovernmental treaties, environmental movements, and market solutions. Cross-listed as SOCI 248. Three credits.

250 World Politics [AR]

Examines the nature of the international state system. The course explores the political, military, cultural, economic, and ideological factors affecting the behavior of states and international organizations in world politics. Six credits.

291 Violence, Conflict, and Politics

An introduction to the comparative study of types of collective political violence: war, terrorism, ethnic or identity-based conflicts, coup d'état, revolution, civil war, and genocide. Specific case studies are examined along with the main theoretical approaches in the field. Three credits. Not offered 2009-2010.

292 Selected Topics

This course introduces current topics and problems in political science. Course content may change yearly, depending on faculty availability. Students should consult the department chair for the current topic. Three credits.

295 Religion and Politics

An examination of the impact of religion on politics and politics on religion. Students will consider the relationship between religion and politics in the Middle East, Northern Ireland, India and Pakistan, Eastern Europe and North America. Case studies will demonstrate interactions between the state and Christianity, Islam, Hinduism, and Judaism, as well as the influence of religion on citizenship, education, the party system, and social issues. Cross-listed as RELS 295. Three credits. Offered by distance Spring 2009.

301 Liberalism and Its Critics

A critical study of the historical development of liberal political theory, its basic concepts and its limitations in a multi-cultural age. Theorists considered may include: John Stuart Mill, L.T. Hobhouse, John Rawls, Jeremy Waldron, Joseph Raz, Charles Taylor, Michael Sandel, Will Kymlicka. Prerequisite: PSCI 200 recommended. Three credits. Not offered 2009-2010.

302 Marx and the Marxists

A study of the socialist and/or communist critique of industrial capitalism, encompassing ethical, historical, economic, and revolutionary perspectives. The course examines the works of Karl Marx, and their adoption by revolutionaries and critics of liberalism. Prerequisite: PSCI 200 recommended. Three credits.

303 Contemporary Political Arguments

An analysis of the claims of contemporary cultural and moral arguments on politics in liberal-democratic societies. Topics include: racism, feminism, ecology, corporatism, nationalism, democracy, and the legitimation crisis of the modern state. Prerequisite: PSCI 200 recommended. Three credits.

310 European Politics

Examines a variety of theoretical and empirical issues in Europe, including: patterns of social and economic development; politics and social structure; party systems, strategies and conflict; the origins and development of the modern state; and patterns of state policy. Prerequisite: PSCI 210 recommended. Six credits.

311 The European Union

This course examines European integration since World War II, with emphasis on the European Community (EC) and European Union (EU), their institutions and policy processes, and the consequences of European unity for the political process in European societies. Prerequisite: PSCI 210 recommended. Three credits.

312 Art and Politics

This course introduces students to what modern artists have to say about politics and what governments do and say about art. It provides some of the historical and theoretical tools needed to analyze the political role of art in our time. Students will examine literary works, painting, music, and architecture, and discuss specific policies on art. Cross-listed as ART 312. Three credits. Not offered 2009-2010.

315 Democratization Around the World

This course investigates the problems facing countries from different parts of the world that have sought to move from non-democratic political systems to democracy. Students will learn the social, cultural and economic conditions necessary for the process of democratization; analyze the institutional structures and constitutional designs most conducive to the transition from authoritarianism to democracy; and consider the consequences of democratization for development. Prerequisite: PSCI 210 recommended. Three credits.

321 Federalism [AR]

This course examines the theory and practice of federalism, with a focus on Canadian federalism. Topics include theories of federalism, comparative federal systems, inter-governmental relations, fiscal arrangements, federal-provincial diplomacy, and constitutional reform. Prerequisite: PSCI 220 or 240 recommended. Three credits.

322 Atlantic Canada [AR]

A course on modern government and politics in the four Atlantic provinces. Regional development and dependence are the themes within which students will explore federal-provincial relations, fiscal and administrative changes, development policies, political culture, and party systems. Prerequisite: PSCI 220 or 240 recommended. Three credits. Not offered 2009-2010.

323 Parties and Elections

This course is concerned with parties, elections, voting behavior, and public opinion in Canada. Topics include: party and electoral systems; intra-party politics and political personnel; party financing; representation and policy development; the campaign process; polling; and voting behavior. Prerequisite: PSCI 220 or 240 recommended. Three credits. Not offered 2009-2010.

324 Provincial Politics

A comparative study of the differing political cultures, institutions, behavior, and public policies of the Canadian provinces. Students will seek explanations for the similarities and differences in the social and economic structures and political histories of the provinces. Prerequisite: PSCI 220 or 240 recommended. Three credits.

330 Comparative Nationalism

An analysis of the historical origins of nationalism and of its central concepts and justifications. Both Western and non-Western nationalisms will be examined in a comparative context. Generally three cases per academic year will be considered, from among France, Canada, Bosnia, Israel-Palestine, the US, and the UK. Cross-listed as SOCI 375. Prerequisite: PSCI 210 or 250 recommended. Six credits.

341 Canadian Public Administration [AR]

The focus of this course is Canadian public administration. Topics include: organizational theory applied to the public sector; the origins and social function of bureaucratic institutions in Canada; cabinet organization; federal-provincial administrative relations; budgeting; and human resource management. Prerequisite: PSCI 220 or 240 recommended. Three credits.

342 Canadian Public Policy [AR]

An examination of contemporary public policy process and issues in Canada, including economic, social and other policy fields (e.g. environment, security and cultural). Emphasis will be on policy analysis and decision-making process. Prerequisite: PSCI 220 or 240 recommended. Three credits.

343 Law and Politics [AR]

This course explores the role of the courts in politics, particularly in Canada. Possible topics include: recent constitutional developments; the impact of the Charter of Rights; the judicialization of politics; philosophy of law; and strategic litigation. Prerequisite: PSCI 220 or 240 recommended. Three credits. Not offered 2009-2010.

344 Citizenship and Identity

This course examines various aspects of Canadian citizenship and identity, as well as the rise of new social movements. Topics include the relationship between federalism and nationalism; aboriginal rights; multi-culturalism; citizen politics; and social movements. Prerequisite: PSCI 220 or 240 recommended. Three credits.

345 Women and Politics

An introduction to the study of women and politics in Canada, this course has three parts: feminist political thought and the Canadian women's movement; political participation and representation; and public policy. Topics include: feminist political thought in the Western political tradition; the evolution and politics of the women's movement; political parties and legislatures; women and work; women and the welfare state. Cross-listed as WMNS 345. Three credits.

346 The Politics of Resource Management [AR]

This course examines the power relations arising from attempts to exploit and manage natural resources. The commodities in question range from wildlife and fish to agriculture, forests, and minerals. Topics will include: preservation and conservation strategies; crown rights and systems; co-management regimes; environmental assessment techniques; commodity-marketing schemes and sustainable-development policies. Three credits. Not offered 2009-2010.

347 Politics of the Environment

Environmental factors have increasingly become important components of political decisions. This class examines how environmental issues arise and the different ways they are framed, argued, and dealt with politically in that context. It will also explore the theoretical assumptions, questions and ethical frameworks that have been developed to guide and analyze environmental policy-making. Prerequisite: PSCI 247, 248. Three credits. Not offered 2009-2010.

351 Canadian Foreign Policy [AR]

This course is designed as a general historical survey of Canadian external interests, external policy-making processes, and contemporary themes and issues. Prerequisite: PSCI 250 recommended. Three credits. Not offered 2009-2010.

352 American Foreign Policy

This course examines the major foreign policy interests in the United States from the late 19th century to the present. Emphasis is placed on the ideologies and personalities of key decision-makers, the effect of the domestic socio-economic structure on policy decisions, and America's position in the international system. Prerequisite: PSCI 250 recommended. Three credits.

353 International Organizations

A study of the development and role of international organizations in world politics. Topics include: the history and evolution of the United Nations, the effects of international law on state behavior, and the extent to which international co-operation has been effective in resolving global problems. Prerequisite: PSCI 250 recommended. Three credits.

354 International Political Economy

This course examines the politics of international economic relations: international trade, the international monetary system, multinational corporations and international development. Prerequisite: PSCI 250 recommended. Three credits. Offered in alternate years; not offered 2009-2010.

355 Global Issues

This course examines the state's supremacy and its capacity to manage such global issues as: transnational flows of goods, services, money, and ideas; the continuing problem of poverty in the developing world; the phenomenon of failed states in the post-Cold War period; global environmental issues; international concerns with human rights; weapons proliferation; terrorism and other forms of transnational crime; and the rise of trans-national social activist groups. Prerequisite: PSCI 250 recommended. Cross-listed as DEVS 355. Three credits.

356 War and Peace in the Middle East

The first part of this course will survey the major explanations of war and conflict among states and within states. The second part will apply these theories to

conflict in the past half century in the Middle East, including the Arab-Israeli wars, the Yemen and Lebanon civil wars, the Iran-Iraq and Iraq-Kuwait wars, and the two Palestinian Intifadas. Finally the prospects for conflict resolution will be discussed. Prerequisite: PSCI 250 recommended. Three credits.

360 Russian Politics

This course explores the reasons for the collapse and the pursuit of political and economic alternatives to state socialism in the Russian Federation. Students are encouraged to develop their own project, examining the manner in which forms of ownership, constitutional developments, party formation, political personalities, and domestic and international pressure influence events in Russia's developing system. Six credits. Offered in alternate years; not offered 2009-2010.

361 East European Politics

A comparative study of government and politics in Central and Eastern Europe during communist and post-communist times. Topics include parties and elections, political representation, opposition and dissent, political police and citizen surveillance, nationalism and ethnic conflict, the cult of personality and political succession. Prerequisite: PSCI 210 recommended. Three credits.

362 Contemporary China

A study of the origins and development of the gradual but revolutionary political and economic reforms in China since 1978, with emphasis on the changing roles of the Communist Party, the central bureaucracy and local governments, the military, the emerging entrepreneurial class, and the 80 million members of the overseas Chinese community. Prerequisite: PSCI 250 recommended. Three credits. Not offered 2009-2010.

363 Japan and East Asia

Examines a world power in its regional context and the diplomatic interactions among Japan, China, and the US in the world's fastest growing economic centre. The course also explores the domestic politics of Japan and other states in the region. Prerequisite: PSCI 250 recommended. Three credits.

370 Third World/South-North Politics

A critical introduction to the political economy of new nations. Topics include: the impact of colonization; theories of development and dependency; the role of the state; the debt crisis and the IMF; north-south dialogue; and prospects for democracy in the Third World. Two case studies drawn from Asia, the Middle East, and Africa will be considered in detail. Cross-listed as DEVS 355. Six credits.

372 Iran and the Muslim World

A critical study of Iranian politics since the 1979 Revolution with particular focus on the role of Shiite Islam and Iranian culture in shaping the Iranian state, its internal dynamics, and its political influence in Lebanon and Iraq. This course will also consider Iranian relations with the West and Israel. Students will be introduced to the basic tenets of Islam. Prerequisite: PSCI 210 recommended. Three credits.

380 African Politics and Society

A critical exploration of the history, politics, economics and culture of sub-Saharan African states, in the context of Africa's place in global politics and the world economy. Topics will include: the colonial legacies, development strategy, state and national formation, economic autonomy, the impact of AIDS, the IMF and World Bank policies. Several case studies, drawn from Southern, Central and East Africa, will be the focus of intensive study each year. Prerequisite: 12 credits PSCI or permission of the instructor. Six credits. Offered in alternate years; not offered 2009-2010.

390 Politics and Society in Latin America

This course offers an introduction to the unity and diversity of Latin American politics. It will focus on country studies in addition to examining specific issues related to the challenges of democratization and development in the region. Prerequisite: PSCI 210 recommended. Six credits.

395 Mexican Politics

This course looks at Mexico's distinct political tradition. It presents and discusses Mexico's main political actors (political parties, groups, social movements) and institutions (democratic, republican, federal, presidential), and examines the political challenges of democratization and liberalization. Prerequisite: PSCI 210 recommended. Three credits. Not offered 2009-2010.

399 Research Methods and Statistics

Covers research methods and controversies in the field of political science today. Students learn to use statistics and computers in political science research,

broadening their employment opportunities and introducing them to post-graduate research methods. Requires no mathematics or computer skills. Three credits.

401 Political Theory I (Seminar)

This seminar will involve an advanced, in-depth analysis of selected concepts, problems, themes and controversies in Western classical, medieval and early modern political theory, and their current relevance to the discipline of political science and politics. Prerequisite: PSCI 200 recommended. Three credits. Not offered 2009-2010.

402 Political Theory II (Seminar)

This seminar will critically analyze selected themes, issues and controversies in contemporary political theory, as well consider non-western political thought and its relevance to Western political science and politics. Prerequisite: PSCI 200 recommended. Three credits. Not offered 2009-2010.

421 Canadian Politics I (Seminar)

This seminar will consider theoretical perspectives on Canadian politics and the Canadian state, followed by an examination of Canadian political institutions and their setting. Prerequisite: PSCI 220 or 240 recommended. Three credits.

422 Canadian Politics II (Seminar)

This seminar deals with social power in Canada and the politics of identity and rights, as well as various issues and policy problems stemming from globalization and Canada's relations with the United States. Prerequisite: PSCI 220 or 240 recommended. Three credits.

442 Public Policy (Seminar)

This seminar examines the analysis and evaluation of public policy, as well as specific policy issues in different political systems. It will combine different theoretical perspectives on policy analysis with comparisons of how issues such as political culture, federalism, and institutional design affect policy-making. It will also encourage students to explore the application of different analytic tools and theories to public policy issues such as the environment, fiscal policy, health, energy and natural resources. Prerequisite: PSCI 342 recommended. Three credits. Not offered 2009-2010.

451 International Politics (Seminar)

This seminar seeks to introduce the student to the advanced theories and great works of International Relations. Prerequisite: PSCI 210 or 250 recommended. Three credits.

452 Comparative Politics (Seminar)

This seminar discusses major issues in comparative politics and examines the advanced theories, methods, and concepts in the field. Prerequisite: PSCI 210 or 250 recommended. Three credits.

490 Thesis

Six credits.

499 Directed Study

See section 3.5. Six credits.



9.33 PSYCHOLOGY

E. Austen, Ph.D.
 A. Bigelow, Ph.D.
 K. Brebner, Ph.D.
 T. Callaghan, Ph.D.
 J. Edwards, Ph.D.
 P. Hauf, Ph.D.
 P. Henke, Ph.D.
 E. Koch, Ph.D.
 C. Lomore, Ph.D.
 K. MacLean, Ph.D.
 P. McCormick, Ph.D.
 J. McKenna, Ph.D.
 E. Pencer, Ph.D.
 J. Sullivan, Ph.D.
 M. Watt, Ph.D.
 E. Wright, Ph.D.

BA Major Program

Candidates must follow the degree regulations in chapter 4 and complete:

- PSYC 100;
- one of PSYC 210, 220, 225 or 230;
- 12 PSYC credits at the 300 or 400 level; and
- 12 additional PSYC credits.

Students contemplating pursuing an advanced major or honours degree are strongly recommended to complete PSYC 290 in their second year.

BA and BSc Advanced Major Program

Candidates must follow the degree regulations in chapter 4 and complete:

- PSYC 100, 290; at least 6 PSYC credits at the 400 level;
- PSYC 391, 491 (non-credit);
- a senior research paper; and
- a total of 36 PSYC credits.

BA and BSc Honours Program

Candidates must follow the degree regulations in chapter 4 and complete:

- PSYC 100; one of PSYC 210, 220, 225 or 230; PSYC 290, 300, 390;
- 6 credits at the 400 level;
- PSYC 391, 491 (non-credit) and PSYC 490, the honours thesis; and
- a total of 60 PSYC credits.

Students contemplating Psychology as a Subsidiary Subject

If psychology is selected as a subsidiary subject by an honours student in the BA program, 24 PSYC credits are required. These credits must include PSYC 300.

B.Sc. Program

Candidates must follow the degree regulations in chapter 5 and should note the following:

- PSYC courses are considered science courses only when they are taken as part of an advanced major or honours subject in the B.Sc. program;
- B.Sc. advanced major and honours degree programs must include BIOL 111, 112; CHEM 100; MATH 111, 112; and 12 additional credits in science courses (excluding PSYC);
- for the B.Sc. advanced major program, the 18 credits of electives approved by the department must consist of courses in PSYC or in other science subjects.

B.Sc. with Joint Honours

Students enrolled in joint honours programs in which psychology is one of the two honours subjects must take PSYC 230.

Note: PSYC 100 is a prerequisite for all other courses except PSYC 290 and 390.

100 Introduction to Psychology

A survey of the major topics of psychology and an introduction to the methodology of psychological research. Students are normally expected to be involved with ongoing research in the department by participating in experiments as subjects during the course of the academic year. Six credits.

210 Learning

A review of research on animal and human learning, and a consideration of the major issues that have shaped the study of learning. Topics include: general

principles of learning; classical conditioning; operant conditioning; radical behaviorism and its limitations; biological constraints on learning and social-cognitive learning. Recommended for students considering graduate work in clinical psychology. Prerequisite: PSYC 100. Lab component. Six credits.

220 Cognitive Psychology

This course deals with the basic cognitive processes: perception, attention, memory, language, thinking, and problem-solving. Prerequisite: PSYC 100. Lab component. Six credits.

225 Sensation and Perception

An examination of how the physical structure of sensory systems and the psychological interpretation of sensory information influence what is perceived. Major sensory systems will be covered. Theoretical and empirical work will be explored. Prerequisite: PSYC 100. Lab component. Six credits.

230 Brain and Behavior

An introduction to behavioral neuroscience, including analysis of the anatomical, physiological, and biochemical mechanisms underlying behavior. Recommended for students considering graduate work in clinical psychology. Prerequisite: PSYC 100. Lab component. Six credits.

240 Social Psychology

This course covers relationships among individuals and the effect of those relationships on behavior and personality. Topics may include: aggression, altruism, conformity, attributions, and attitudes. Lab component. Prerequisite: PSYC 100. Six credits.

260 Developmental Psychology

The study of major environmental and maturational influences and their relationship to the growing person. Lab component. Cross-listed as NURS 260. Prerequisite: PSYC 100. Six credits.

291 Research Methods in Psychology

An introduction to the methods used to conduct psychological research. Topics include identifying research questions, theory development, experimental, correlational, and observational research designs, ethics, qualitative methods, measurement, sampling, survey development, and APA style research proposals. Lab component. Three credits.

292 Introductory Statistics for Psychological Research

An introduction to the statistical methods used to conduct psychological research. Topics include descriptive statistics, hypothesis testing, inferential statistics including z-test, t-tests, correlation and regression, and basic analysis of variance, and non-parametric procedures such as chi-square. Students will learn to use statistical software. Lab component. Three credits.

300 History and Theory of Psychology

An examination of psychology's evolution, including the theoretical issues that underlie past and present debates about the discipline's subject matter and methodology. Approaches to historiography within the history of the sciences will also be discussed. Prerequisite: honours standing or permission of the chair. Six credits.

310 Health Psychology

This course provides an introduction to key issues in health psychology. In adopting a bio-psycho-social approach the course will examine the ways in which biological, psychological, and social factors interact to affect health. Restricted enrollment. Prerequisite: 12 credits PSYC; PSYC 210 is recommended. Six credits.

325 Biopsychology of Pain

Contrary to popular belief, a person's experience of pain is not necessarily linked to the presence of intense energy, or injury that is encountered by his or her body. This course discusses the variable link between pain and injury, as well as: the relationship between sensation and perception; the neuro-anatomical bases of pain; pain measurement and clinical pain syndromes; contrasting theories of pain perception; and, different approaches to pain control. Lectures, discussions and student presentations are included. Prerequisite: 12 credits of PSYC, PSYC 225 and 230 are recommended. Six credits.

341 The Self

This course explores contemporary perspectives and research on the self as it relates to social behavior. The nature and function of the self and the ways in which the self is both influenced by and influences other people will be examined from a social-psychological perspective. Topics will include: knowledge of the

self, self-motivation, self-esteem, self-regulation, self-prediction, the self in the context of relationships with others, and the influence of culture on views of the self. Prerequisite: 12 credits PSYC, including PSYC 240. Three credits.

345 Communication and Language

This course explores the social psychology of language and communication. Topics include: basic concepts in language; language attitudes; language variation; bilingualism and multiculturalism; language and culture; discourse analysis; the relationship between language and social identity. This seminar will consist largely of student presentations. Restricted enrollment. Prerequisite: 12 credits PSYC. Six credits.

350 Psychology of Personality

The purpose of this course is to explore the diverse body of contemporary research and theory on personality psychology. The course may involve small group research projects and/or an APA-style research proposal. Prerequisite: 12 credits PSYC. Six credits.

360 Psychology of Gender

This lecture course explores the development of gender roles as well as the psychology of women and men. Prerequisite: 12 credits PSYC. Cross-listed as WMNS 360. Six credits.

370 Abnormal Psychology

Examines current perspectives and research on the various classes of psychological abnormality. Courses in learning, brain and behavior, and personality form a useful background for this course. Prerequisite: 12 credits PSYC. Six credits.

375 Applied Psychology

Two topic areas are covered in this lecture course: industrial/organizational psychology, which will be covered in the first term, and sports psychology, which will be covered in the second term. In these fields, psychological principles, theory, and research are applied in work and sports settings. Prerequisite: 12 credits PSYC. Six credits.

377 Drugs and Behaviour

This course explores the effect of psychoactive drugs on the brain. The course will cover basic pharmacological principles, the basis of cellular communication in the brain and how drugs that cross the blood brain barrier affect brain function, and in turn affect behavior. Drugs that will be discussed include antidepressants, antipsychotics and drugs of abuse such as alcohol, cocaine, heroin and marijuana. Prerequisite: 12 credits PSYC. Six credits.

380 Forensic Psychology

This lecture and seminar course will focus on the relationship between psychology and law. Course content will include the history of the relationship between psychology and law; basic concepts in criminal justice and the study of crime; and the nature of offending from a psychological perspective. Restricted enrollment. Prerequisite: 12 credits PSYC, including PSYC 370 or permission of the department chair. Field trip component. Six credits.

386 Selected Topics

School Psychology. An examination of the application of the scientific principles of learning and behavior to the assessment and amelioration of school related problems and design and delivery of appropriate school programs and psychological services specifically for at risk children. Prerequisite: 12 credits PSYC. Three credits.

387 Selected Topics in Psychology

Prerequisite: 12 credits PSYC. Six credits.

389 Selected Topics in Psychology

Learning Disabilities. This course will offer students an in-depth look at learning disabilities from emergent characteristics, assessment and diagnosis, and treatment across the lifespan. Current research in diagnosis and educational programming will also be explored. Prerequisite: 12 credits PSYC. Three credits.

390 Advanced Statistics for Psychological Research

An examination of intermediate and advanced statistical procedures for the psychology researcher, with emphasis on the use of statistical software packages. Lectures and lab sessions cover topics such as factorial analysis of variance; mixed designs; contrasts and comparisons; power; multiple regression and correlation (MRC); the MRC approach to factorial and mixed designs; and multivariate analysis. Prerequisite: PSYC 290. Six credits.

391 Junior Seminar

The purpose of this non-credit course is to assist students in carrying out their thesis or senior paper research, choosing a career, and gaining admission to graduate or professional school. Attendance at colloquia and guest lectures relevant to psychology is mandatory. Prerequisite: junior standing in an advanced major or honours program in psychology.

420 Advanced Topics in Cognition and Perception

An examination of topics in perception and cognition, including pattern recognition; attention; memory; and cognitive skills such as reading-skill acquisition. Laboratory component. Prerequisites: PSYC 220 or 225; advanced major or honours standing or permission of the chair. Cross-listed as BIOL 450. Six credits.

430 Advanced Topics in Behavioral Neuroscience

This is a lecture, seminar, and laboratory course in which current topics in the field of behavioral neuroscience will be considered. Prerequisites: PSYC 230; advanced major or honours standing or permission of the chair. Lab component. Six credits.

440 Advanced Social and Personality Psychology

An examination of topics in experimental social psychology, and consideration of the overlap between social psychology and studies in personality. Content is partially determined by student interests. Prerequisites: PSYC 240 or 350; advanced major or honours standing or permission of the chair. Lab component. Six credits.

460 Advanced Developmental Psychology

An examination of topics in developmental psychology from various theoretical perspectives and in terms of empirical evidence. Lab component. Prerequisites: PSYC 260; advanced major or honours standing or permission of the chair. Six credits.

490 Honours Thesis

Prerequisites: PSYC 390; honours standing in psychology. Six credits.

491 Senior Seminar

The purpose of this non-credit course is to assist students in carrying out thesis or senior paper research, choosing a career, and gaining admission to graduate or professional school. Students will present their thesis proposal orally in the fall term and their completed research in the spring. Attendance at colloquia and guest lectures relevant to psychology is mandatory. Prerequisite: senior standing in an advanced major or honours program in psychology.

499 Directed Study I and II

These are reading or laboratory courses in which the student pursues an individual program of study under the direction of a faculty member. See section 3.5. Three credits each.

9.34 RELIGIOUS STUDIES

A. Ahern, Ph.D.

B. Appleby, Th.D.

R. Kennedy, Ph.D.

B. MacDonald, Ph.D.; Senior Research Professor

M.Y. MacDonald, D.Phil.

K. Penner, Ph.D.

A. Sandness, Ph.D.

Religious studies grew out of the field of theology in North America during the 1950s and 1960s in response to religious pluralism, ecumenism, and secularization. Students will be introduced to the religions of the world as well as to new religious groups. Recognizing its place in a university that has been shaped by the Catholic tradition, the department's course offerings are weighted towards the Christian tradition, paying close attention to Roman Catholicism. Although students are able to complete a major, advanced major or honours degree in religious studies, the courses are intended for a broad range of undergraduate students who wish to examine the religious answers to the major questions about human existence.

Students planning a major, advanced major, or honours degree in religious studies must consult the department chair. The department offers an honours degree with Celtic studies, English, history, modern languages, philosophy or psychology as a subsidiary subject. See *chapter 4 for regulations*. Further information is available in the department handbook.

100 Introduction to Christianity

This course examines the place of Christianity among world religions, in particular its relationship to Judaism and Islam. Students will explore the Bible, the history of Christianity, Christian beliefs and practices. Topics will include: Catholicism, Protestantism, Orthodoxy, various forms of modern Christianity, and contemporary issues such as social justice, women's leadership, evangelicalism, apocalypticism, and spiritual renewal. Six credits.

110 An Introduction to World Religions

An introduction to the study of religion will be followed by a detailed consideration of the history, sacred literature, beliefs, practices, institutions, and contemporary situation of a number of religious traditions: Hinduism, Buddhism, Taoism and Confucianism, Shinto, Judaism, Christianity, and Islam. Six credits.

120 Religion, Spirituality, and Health

This course introduces students to concepts of religion and spirituality as they relate to health and healing throughout the life span. Students will consider the influence of religious beliefs on individual, familial, communal, and environmental health. Recommended for nursing students. Six credits.

200 Introduction to Religious Ethics

An introduction to religious ethics, this course examines Christian and other religious traditions and their approaches to social justice, ecology, pluralism, healthcare, and non-violence. Six credits. Not offered 2009-2010.

210 The Bible and Film

This course examines the impact of the Bible on film, and introduces major biblical themes in films with, and films without, explicit religious content. Students will learn how biblical knowledge can enrich our understanding of modern culture and important human issues, such as creation, redemption, election, messiah-ship, charisma, and tradition. Three credits.

215 Sociology of Religion

An introduction to the sociological study of religion. Topics include: social factors that influence religion at individual and communal levels; religion as agent of social cohesion and social conflict; religion and power structures; the impact of pluralism and globalization on religion today. Prerequisite: RELS 100, 110, or 120. Three credits.

225 Cults and New Religious Movements

A study of cults in the context of 20th-century North American society, beginning with defining cults in relation to sects and churches. Topics include: neo-paganism; Hare Krishna; the theosophical tradition; the Unification Church; tragic endings to cults such as the Branch Davidians and Heaven's Gate; why people join cults; and the religio-cultural significance of cults today. Prerequisite: RELS 100, 110, or 120. Three credits.

230 Philosophy of Religion

Cross-listed as PHIL 240; see PHIL 240. Six credits.

235 Introduction to Hinduism and Buddhism

This course will explore various paths to enlightenment as identified by members of classical Hindu and Buddhist traditions of India and Tibet. By means of this exploration, we will examine the philosophy, mythology and ritual traditions of Hinduism and Buddhism as well as classical Hindu deities and both historical and mythological figures of Theravada, Mahayana and Vajrayana Buddhism. Prerequisite: RELS 110 or permission of the instructor. Three credits.

253 Introduction to the Hebrew Bible or Old Testament

Designed for students who wish to begin a systematic study of the Hebrew Bible or Old Testament. Each biblical book will be placed in its historical, theological, and literary context, and will be augmented by archeological data, historical background, and contemporary scholarship. Three credits.

255 Introduction to the New Testament

This course is designed for students who wish to begin a systematic study of the New Testament. Each biblical book will be placed in its historical, theological, and literary context, and will be augmented by archeological data, historical background, and contemporary scholarship. Three credits.

265 Introduction to the Gospels

In this course, students will employ source, form, and redaction criticism to explore the four canonical gospels, and to examine ideas about the kingdom of God, the parables, and the quest for the historical Jesus. Three credits. Not offered 2009-2010.

275 Introduction to Paul's Letters

The course will consist of a literary and historical study of the letters ascribed to Paul in the New Testament. Attention will be given to recent research on Paul and Judaism; Paul and the Law; the Pauline churches. Three credits.

295 Religion and Politics

Cross-listed as PSCI 295, see PSCI 295. Three credits

300 Health Care Ethics

This course examines the role of ethical theory in the development of bio-medical ethics. Topics will be analyzed from the perspective of the health care professional as well as the patient, and will include end-of-life care, genetics, reproductive technologies, and medical research. Cross-listed as NURS 330. Six credits.

310 Religion in Modern India

This course will explore continuity and change in modern Indian religion. After an introduction to contemporary Indian secular democracy, we will explore traditional Indian religion as a living phenomenon and review basic elements of traditional Hinduism. We will examine the contribution of various change-makers to the evolution of Indian religious tradition and traditional Indian responses to the challenges created by Buddhism, Islam, British colonization, the partition of India, and Indian secular democracy itself. Through this examination, we will consider the influence of important modern Indian thinkers and modern Indian religious movements including India's experience of fundamentalism. Prerequisite: RELS 110 or permission of the instructor. Six credits.

315 Women in Hinduism and Buddhism

This course examines diverse images of the feminine, both human and divine, in the philosophy, mythology and experience of women in Hinduism and the Buddhism of India and Tibet. It concentrates on the roles of Hindu and Buddhist women by means of historical and phenomenological approaches, and it promotes reflection on the interaction of gender, culture and religious identity in these societies as well as in our own. Prerequisite: RELS 110 or 100 or WMNS 200. Cross-listed as WMNS 397. Three credits.

323 Mary and the Identity of Women

An examination of Mary in the New Testament and the development of ideas concerning her status as Mother of God. Students will explore depictions of Mary in art and literature, and examine the ways in these images have both shaped and reflected ideas about women. The continuing devotion to Mary in the modern world including ongoing interest in Marian shrines, apparitions, and movements will be discussed. Cross-listed as WMNS 323. (RELS 323 and 325 replace RELS 320.) Three credits. Not offered 2009-2010.

325 Early Christian Women

This course investigates women's participation in early Christian groups from the time of Jesus' ministry to the 6th century. Christian women's lives will be compared to those of women in Jewish and Greco-Roman societies. Students will analyze New Testament and other early Christian writings, read feminist scholarship, and examine such issues as women's leadership and violence against women. Cross-listed as WMNS 325. (RELS 323 and 325 replace RELS 320.) Three credits. Not offered 2009-2010.

337 Mysticism

This course offers a survey of mysticism as encountered in various world religions. Theories for the modern student of mysticism in its various forms will be discussed at length, including the ideas of such thinkers as William James, Carl Jung, Stephen Katz, and Walter Stace, among others. Following their introduction to these theoretical frameworks, students will read and discuss passages from an array of mystical texts from several of the world's religions. Religious traditions that will be represented include those of Ancient Greece, Judaism, Christianity, Islam, Hinduism, Buddhism and Taoism. Supplementing the study of these more familiar world religions will be some discussion of experiences not presented by any specific religious traditions. Prerequisite: RELS 110. Three credits. Not offered 2009-2010.

350 The History of Ancient Israel and Judah

This course explores the history of ancient Israel and Judah from their origin to the fall of Jerusalem in 70 CE. Students will examine the geography, culture, and historical milieu that gave rise to the Old Testament and Hebrew Scriptures, and discuss the major persons and events in ancient Israel and Judah. Six credits.

353 Christian Art: The Life of Christ

Cross-listed as ART 356; see ART 356. Three credits.

354 Christian Art: The Saints

Cross-listed as ART 357; see ART 357. Three credits.

355 Current Issues in Biblical Archeology

While many histories of Israel and Judah depend on biblical narratives, contemporary scholars question the use of the Bible as the principal source for understanding the social world of ancient Israel, and look instead to other Near Eastern texts and documents, and to archeology, anthropology, and sociology. This course will examine current debates on the place of biblical narratives, other ancient texts, and archeology in the study of ancient Israel and Judah. Three credits.

356 Religion and Ecology

The course explores the two most prevalent ways that religion intersects with ecology: as a significant resource containing rich and varied myths, symbols and teachings about our earth home that promotes ecopraxis and, in an opposite manner as a conserving force that does not wish to challenge "global militaristic capitalism". The course looks at each of the major religious traditions and their approaches to these issues. Prerequisites: RELS 100 or 110 and 6 credits in RELS at the 200-level. Six credits. Not offered 2009-2010.

363 The First Christians

Examines the development of Christianity from its beginnings in the 1st century to its acceptance as the official religion of the Roman Empire in the 4th century. Students will learn about early Christian beliefs and practices, and explore the challenges faced by the first Christians. Topics include community organization, persecution, martyrdom, Gnosticism, and women in the church. (RELS 363 and 365 replace RELS 360.) Prerequisite: RELS 100 or 110 or 120. Three credits. Not offered 2009-2010.

365 Spirituality in Medieval Christianity

This course will focus on the spirituality of the formative years in the development of Christian thought, beginning with the legalization of Christianity in 313 CE and ending with the Reformation. Students will see how some of the most searching and intelligent men and women in both the Western and Eastern churches have wrestled with the question of how it is possible to know God. (RELS 363 and 365 replace RELS 360.) Three credits. Not offered 2009-2010.

370 Islam in the Modern World

This course will explore the social and political dimensions of contemporary Islam. The current Islamic revival will be viewed within the context of renewal and reform in Islamic history. Students will analyze case studies (including Saudi Arabia, Iran, Egypt, and Pakistan) and examine such issues as the re-assertion of Islam in politics, Islamic fundamentalism, and the status of women in today's Islam. Six credits. Not offered 2009-2010.

383 Reformation Christianity

A history of Christianity during the Reformation period. The course pays close attention to the transformation during this time of new Christian groups into the Anglican, Presbyterian, Mennonite, Baptists and Lutheran churches. Topics include Luther and Calvin, critical events, prominent Protestant women, and new creeds. (RELS 383 and 385 replace RELS 460). May be taken as credit in history. Prerequisite: One of RELS 100, 110, or 120. Three credits. Not offered 2009-2010.

385 Modern Christianity

This course delves into the history of Christianity in North America from the colonial period to the 20th century. It covers revivalism, mission activity, the ecumenical movement, the charismatic movement, and the birth of new Christian churches. Other topics include the social gospel, the feminist movement within the churches, and the impact of Vatican II on North American Catholicism. (RELS 383 and 385 replace RELS 460.) Prerequisite: RELS 100 or 110 or 120. Three credits.

398 Selected Topics

Three or six credits.

401 Religious Approaches to Sexuality

Human sexuality is explored from two main perspectives: first, the teachings and practices of various religious traditions; and second, contemporary developments in sexual and reproductive health and rights. Among the issues to be considered are sexuality and gender roles, contraception and abortion, marriage and family. Cross-listed as WMNS 411. Prerequisite: RELS 110 or WMNS 200. Three credits.

402 Religious Approaches to Sexual Diversity

This course will focus on religious teachings and traditions on sexual diversity within the broader context of human rights associated with sexual orientation and sexual differences. In particular, we will look at the experiences of gay, lesbian, bisexual, intersexual and transgendered persons within religious communities. Cross-listed as WMNS 412. Prerequisite: RELS 110 or WMNS 200. Three credits. Not offered 2009-2010.

440 Jesus

The course examines the answer, developed over centuries by the Christian church, to the question associated with Jesus in the three synoptic gospels: "Who do you say I am?" The class will study the beginnings of the answer found in the letters of Paul and in the four canonical gospels. Attention will be paid to recent writings on the historical Jesus. Prerequisite: RELS 100 or 110 or 120. Six credits. Not offered 2009-2010.

490 Honours Thesis

Each student works under the supervision of a chosen professor who guides the selection of a thesis topic, use of resources, methodological component, quality of analysis and execution, and literary calibre of the student's work. Required for all honours students. Six credits.

499 Directed Study

Under the direction of a faculty member, students may pursue an individual program of study in an area of religious studies not available in the course offerings. For eligibility, see section 3.5. Three or six credits.

► **SERVICE LEARNING** see 9.25 Interdisciplinary Studies

9.35 SOCIOLOGY

R. Bantjes, Ph.D.
A. Calliste, Ph.D.
P. Cormack, Ph.D.
L. Harling Stalker, Ph.D.
D. Lynes, Ph.D.
D. MacDonald, MA
D. MacInnes, Ph.D.
P. Mallory, MA
C. Mulcahy, MA
R. Olstead, Ph.D.
J. Phyne, Ph.D. (on leave)
D. Smythe, Ph.D.
N. Verberg, Ph.D.

The Sociology program in the Department of Sociology and Anthropology offers honours, advanced major and major programs in Sociology. Sociology courses above the 100 level require SOCI 100 as a prerequisite.

BA Major in Sociology

Candidates must follow the degree requirements of the Faculty of Arts and complete 36 SOCI credits which normally include:

- SOCI 100;
- SOCI 202 and at least one of the following: SOCI 210, 215, 230, 250, 290; and,
- at least 18 SOCI credits at the 3rd- or 4th-year level including at least 3 credits in theory or methods: SOCI 300, 301, 302, 303, 306 and 307.

BA Advanced Major in Sociology

Candidates must follow the degree requirements of the Faculty of Arts and complete 36 SOCI credits which normally include

- SOCI 100;
- SOCI 202 and at least one of the following: SOCI 210, 215, 230, 250, 290;
- at least 6 SOCI credits at the 3rd year or 4th year level;
- SOCI 300, 306 or 307; plus at least 3 credits from: SOCI 301, 302, 303;
- a senior research paper.

BA Honours in Sociology

Candidates must follow the degree requirements of the Faculty of Arts and complete 60 SOCI credits which normally include,

- SOCI 100;
- SOCI 202 and at least one of the following: SOCI 210, 215, 230, 250, 290;
- at least 6 SOCI credits at the 3rd year level;

- d) SOCI 300, SOCI 306 or 307 plus at least 6 credits from SOCI 301, 302, 303,
 e) SOCI 400 (thesis), SOCI 491, plus at least 6 credits at the 4th year level.

Honours with a Subsidiary Subject

If Sociology is selected as a subsidiary subject by an honours student in the BA program, 24 SOCI credits are required, with at least 6 of those credits at the 300 level.

[AR] Indicates Designated Course in Aquatic Resources

100 Introduction to Sociology

Sociology provides tools for understanding a wide range of human experience and action, from the search for identity, to struggles against exploitation, to the making of a new 'global' world order. This course introduces the basic concepts and methods of sociology; helps students make sense of the social world; and explores the extent and limits of our capacity to change the social world. SOCI 100 is a prerequisite for all other sociology courses. Six credits.

202 Research Principles and Practices

This course addresses how various philosophic assumptions shape the aims and practices of research in sociology. It provides students with empirical research design principles and an introduction to methods of collecting and recording data, assessing reliability and validity, and conducting data analysis. Different research strategies are introduced. The ethical implications of research will be discussed. Three credits.

Note: SOCI 202 is a prerequisite for entry into higher level methods courses (except SOCI 305 and NURS 310).

210 Sociology of Marriage and the Family

This course analyzes the institution of the family from a sociological perspective. Attention is given to macro and micro levels of analysis. Statistical profiles of family patterns are employed to illuminate change in family structure over the past century. Topics include marriage, fertility, parenting, family violence, divorce, and family policy. Cross-listed as WMNS 210. Six credits.

212 Social Dissent

Social dissent has been a persistent, perhaps necessary, feature of modern (capitalist, bureaucratic, technocratic, patriarchal) societies. Students will explore ways in which dissent has been voiced and alternatives have been envisioned in the 20th century, including new organizational forms and tactics of dissent, and new technologies and international networks. Students may use the course as a basis for advanced social scientific research. Three credits.

215 Race, Class, Gender, and Sex

This course discusses the interconnected realities of race, class, gender and sex from various sociological perspectives. Substantive topics will include the socially constructed nature of these concepts in places like media, and the experiences of classism, sexism and racism in the workplace, schools, and everyday life. Cross-listed as WMNS 215. Six credits.

230 Sociology of Education

This course provides students with a social interpretation of education in Canada, emphasizing contemporary structures. Students will investigate the relationship between educational opportunity and conditions of inequality arising from socio-economic status, the economy, family, and religion. Six credits.

241 Socialization

This course examines traditional and contemporary theories of identity formation, and the influence of self-conception on the development of policy, research, and education. Emphasis is placed on boundary crossing (liminality) as it relates to the social construction of identity. Students will explore the liminal space between child and adult, able and disabled, the body and technology; and between races, sexualities, and genders. Three credits.

247 Environmental Social Science I: Problems and Paradigms

Cross-listed as PSCI 247; see PSCI 247. Three credits.

248 Environmental Social Science II: Power and Change

Cross-listed as PSCI 248; see PSCI 248. Prerequisite: SOCI 247 or PSCI 247. Three credits.

250 Deviance and Social Control

This course introduces students to the processes of deviance and social control by critically examining the social category of deviance and its use in social institutions and daily social practices. Topics include: mental illness, drug and alcohol use, alternative sexualities, social violence, business crime, the normalization of disability; and forms of social control such as the judicial system, law, medicine, education, and social interaction. Six credits.

290 Social Inequality

Explores the distribution of social, political, and economic resources in Canadian society, and the unequal access to these resources based on social class, race, ethnicity, gender, age, and region. Using a central theme based upon the concepts of class and power, the course examines specific issues such as the socio-economic bases of social inequality, ascription, and the consequences of poverty in Canada. Six credits.

300 Research Methods [AR]

This course covers the many phases of the research enterprise, from designing studies, to analyzing data with an SPSS computer program, to writing up the final research. Students will test theories used in nursing and related disciplines, paying special attention to the transition from theoretical statement to testable hypothesis. Cross-listed as NURS 300. Prerequisite: SOCI 202. A 70 percent average is recommended for entry. Six credits and lab.

301 Classical Social Theory [AR]

Explores the development and diversity of sociology's foundational perspectives through the study of selected original works by such authors as Karl Marx, Emile Durkheim and Max Weber. Three credits.

302 Topics in Contemporary Theory [AR]

This seminar course on contemporary theory varies from year to year. While a survey approach to contemporary theory may be part of the course, it is probable that the professor will choose specific interests for in-depth analysis. Potential perspectives include feminist theory, anti racist theory, postmodernism, and neo-Marxist theory. Three credits.

303 Early Modern Social Thought

This course examines early modern ways of thinking about the social world. These include theories of social contract, liberalism, political economy, positivistic science, evolution and progressive history. Students will discuss these intellectual influences in terms of how they either provided assumptions and authority for the emergence of the discipline of sociology in the 19th century or were questioned and challenged by sociologists. Three credits.

305 Applied Methods in Social Research

An introduction to the research process, and to quantitative and qualitative research methods used in appraising nursing and health care literature. Topics include: the language and culture of research; the context within which nursing research is conducted; research design, implementation, analysis, and interpretation. Restricted to students in nursing and nursing with advanced major. Cross-listed as NURS 310. Six credits.

306 Interpretive Methods in Social Research

Beginning with a critique of social scientific methods, this course introduces interpretive methods grounded in phenomenology, hermeneutics, and the sociology of knowledge. Students will examine textual, conversational, and other forms of discourse analysis as well as analysis of lived experience, and engage discourse as a form of social action tied to knowledge production, power relations, and identity formation. Prerequisite: SOCI 202. A 70 percent average is recommended for entry. Three credits.

307 Qualitative Research Methods

The course introduces students to the qualitative research methods used by sociologists. The course introduces the philosophical, theoretical, and ethical aspects of qualitative research as well as qualitative approaches to data collection, data analysis, presentation of results, and methods of evaluating qualitative research. The various aspects of qualitative research are illustrated with classical and contemporary studies. Prerequisite: SOCI 202. A 70 percent average is recommended for entry. Three credits.

310 Gender

The course will examine the origin and persistence of gender-based inequalities in our society and their impact on personal lives. Biological, psychological, economic, and cultural analyses of male-female social relations will be considered. Cross-listed as WMNS 310. Six credits.

311 Men and Masculinities

A critical review of the 'science' of masculinity and recent theoretical developments on the social construction of men's lives and masculinities. Topics include: male gender role socialization; the role social institutions play in shaping masculinities; masculinity politics, men's movements, and social change. Cross-listed as WMNS 311. Three credits.

312 Social Movements

This course provides students with the tools for analyzing popular movements for social change. Students will survey the best examples of social movement analysis in the neo-Marxist, new social movement, social constructionist, and resource mobilization traditions. Movements covered may include: labor, environmental, student, peace, anti-racist, women's. Prerequisite: SOCI 212. Three credits.

320 The Black/African Diaspora

This course critically examines structural and sociocultural factors that operate to produce and/or reproduce powerlessness among Black people in the Diaspora. Attention will also be given to the contributions of Blacks to society, Black resistance, self-determination, and self-reliance. The course will discuss globalization, racism, and transnationalism as factors in the contemporary Black experience. Six credits.

321 Sociology of Atlantic Canada [AR]

Treats the Atlantic provinces as a distinctive region of Canada. The three areas of investigation are: the progress of various ethnic and religious groups who settled the region; the socio-economic development of the Maritimes and Newfoundland (from pioneer settlement through industrialization); and the strategies employed in the ongoing recovery from a century of regional disparity within Canada. Three credits.

322 The Antigonish Movement as Change and Development

Explores both social change and economic development through the history, philosophy, and practice of the Antigonish Movement as experienced at home and abroad. This movement will be used to examine political systems, labor relations, class conflict, education, co-operative strategies, religion, and ethnicity in the context of social transformation. Three credits.

325 Mass Media

This course explores the various forms of media and their function in society. Students will be expected to critique the use of media in communications and the social construction of popular culture as portrayed in mass media. Six credits.

330 Sociology of First Peoples

Examines how the contemporary situation of First Peoples in Canada is related to historical interactions among Aboriginal and non-Aboriginal societies and indigenous cultural traditions. Attention will be paid to the intersection of race, class and gender and the relevance of existing theoretical perspectives in explaining the experiences of First Peoples. Six credits.

340 Sociology of Health and Health Systems

This course discusses racial/ethnic, gender, and class disparities in health and inequities in access to health services from various sociological perspectives. It also examines barriers in access to the health professions; the discourses on race which link racialized and ethno-specific groups to certain health problems such as SARS and AIDS, and the effects of the discourses on immigrant settlement and integration. The course will discuss health policy reforms to address health inequities. Six credits.

350 Criminal Justice and Corrections

This course examines the structures and theories of the criminal justice system in Canada, with contrasting references to the United States and other western countries. Elements of the system studied include policing, the court system, institutional and non-institutional correctional practices, the role of politicians, victims' rights organizations, and the general public. Regular class sessions will be supplemented when possible with guest lectures, attendance at court sessions and field trips. Prerequisite: SOCI 250. Six credits.

352 Policing and Society

An introduction to the social science literature on policing, this course covers both public and private policing. The course has four sections: the social and historical context of public policing in Canada and the UK; the structure and operation of policing in Canadian society; contemporary issues (police-community relations, aboriginals and policing, women in public policing); the emergence and development of regulatory and private security policing. Prerequisite: SOCI 250. Three credits.

360 Social Policy [AR]

The aim of this course is to explain social service systems in Canada and other industrial nations. The course will address historical and contemporary trends in federal and provincial social policies, and the effects of these programs (e.g., unemployment insurance, welfare) on the state, social institutions, and groups. Six credits.

364 Food and Society

This course emphasizes linkages between food production and consumption in the changing global political economy. The social organisation of food production and consumption will be assessed from the standpoint of comparative research on global food chains and recent insights surrounding the social construction of food risks and benefits. Case studies will change on an annual basis but will always involve some consideration of the interrelations between countries from the 'North' and the 'South'. Three credits

366 Coastal Communities [AR]

This course introduces students to social research on coastal communities. Emphasis is given to the social transformation of common property fisheries, the rise of industrial aquaculture, demographic transitions in coastal communities and recent moves towards integrated coastal resource management. Comparative case materials from North Atlantic coastal communities in Atlantic Canada, Britain, Ireland, and the Nordic Countries will be used in this course. Three credits

370 Sociology of Work

What is the meaning of work in pre-modern and capitalist societies? How is globalization influencing the experience of work, labour, and un/employment in Canada and internationally? The course introduces the theory and research on how labour markets, work organizations, industrial relations, and economic restructuring influence patterns of employment and the subjective experience of work, labour and un/employment. Six credits.

373 Irish Society

This course emphasizes the major factors that contributed to the making of modern Ireland. The topics to be covered include: the role of the Great Famine in altering both the social structure of Ireland and claims to Irish identity, the Irish diaspora and Irish emigrants to Atlantic Canada, social and political changes in the Republic of Ireland from independence to the 'Celtic Tiger' phenomenon and continuity and change in the conflict in Northern Ireland. Three credits.

375 Comparative Nationalism

Examines explanations pertaining to contemporary nationalism. These will be used in an assessment of nationalism in the former British colonies of Canada, Ireland and South Africa. In addition, Basque and Catalan nationalism in Spain and Celtic nationalism among minority language groups in Ireland, Scotland and Wales will be covered. Consideration will be given to the role of the cultural division of labor, leadership, class, gender, and ethnicity in the articulation of nationalist claims. Cross-listed as PSCI 330. Six credits.

400 Honours Thesis Research

A required course for all senior honours students. Six credits.

417 Social Difference: Race, Ethnicity, Gender, Class, Sex, and Disability

Explores current theories of social difference and the personal, social, economic, and political effects of these differences in Canadian, western, and international contexts. Topics include: oppression, resistance, identity politics, and discourse theory. Starting with the question, "What differences do some differences make?" students will examine how issues of difference become relations of dominance. Prerequisite: SOCI 215. Cross-listed as WMNS 417. Three credits.

421 Ancestry, Society, and Personal Identity

This course attempts to locate personal biography in the context of social history. Students' genealogies provide the starting point for explorations of family, social history, and personal identity. Students will apply sociological ideas to the historical periods that helped shape their personal and family histories. Three credits.

424 Women and Work

This course will focus on feminist analyses of women's paid and unpaid work in 20th-century Canada, though historical and cross-cultural perspectives will be considered. Topics include: race, class, and ability; pay equity, affirmative action, sexual harassment; women in family enterprises; domestic labor, the division of labor in the home, and mother work. Prerequisite: SOCI 310 recommended. Cross-listed as WMNS 424. Three credits.

426 Consumer Society

An examination of the ways in which identity, relationships, and social policies are shaped by the drive to expand consumer credit, spending, and needs. Students will analyze the impact of the consumer ethic on gender roles, family life, sexuality and reproduction; work and leisure; developing nations and the environment; and will explore individual resistance to expanding consumer demands, cultural imperialism, and the globalization of consumer markets. Three credits.

433 Advanced Problems in Environment and Society

The course allows students to pursue issues raised in SOCI 247 and 248 in greater depth. It also exposes them to new developments in social theory. Each year will have a different thematic focus which could include: the ways in which social conceptions of "natural" and "unnatural" have changed over time; the social implications of new biotechnologies; the global environmental movement; or ideals of an ecological future. Prerequisite: SOCI 247, 248 or PSCI 247, 248. Three credits.

451 Selected Topics in Social and Criminal Justice

This course examines current theoretical and research issues in crime and social justice. Using qualitative, quantitative, and historical methodologies, students will explore topics such as gender, class, minorities, and criminal justice; police-community relations; carceral and non-carceral forms of punishment; criminal and regulatory legal procedures. Prerequisite: SOCI 350 or 352. Three credits.

491 Senior Seminar

A forum in which students gain scholarly experience by presenting and discussing their research; and taking part in colloquia, guest lectures, and public talks relevant to sociology. Required for honours students in their senior year. No credit.

499 Directed Study

Under the direction of a professor, students will work in an area of sociology not available in other course offerings. Students must consult with the faculty member by March 31 of the academic year in which they wish to take the course. See section 3.5. Three or six credits.

» **SPANISH** see 9.27 Modern Languages

9.36 STATISTICS

See section 9.26 for Mathematics, Statistics and Computer Science faculty listing and other departmental regulations.

Statistics is the science of data and is a useful tool for research in virtually all areas of human endeavor. It involves collecting, organizing, summarizing, and analyzing information in order to draw conclusions. The practice of statistics takes into account the notion of uncertainty (variability), which leads to error when estimating something, predicting something, or making a decision. It is important, therefore, to measure and, if possible, control error. The framework for quantifying uncertainty is probability, which is a mathematical theory used to describe and analyze chance events. For this reason, probability is the foundation of statistics. Statistics is used in many different fields: medical studies, economics, GNP growth, forecasting, stock market valuations, futures pricing, sociological studies, social policy, marketing research, opinion polls, political polls, industrial processes, environmental processes, and ecological processes and issues.

The Department of Mathematics, Statistics, and Computer Science offers degrees in both the Faculty of Science and the Faculty of Arts with Major and Advanced Major in Statistics. Students must meet the general requirements of both the faculty and the department. Course and program regulations for mathematics are listed in section 9.26.

All students who want to pursue a major or advanced major degree in statistics must take the following core courses: MATH 111, 112, 253, 267, 277, STAT 231 (201 if the degree is in the Faculty of Arts), 311, 331, 333, 491, and CSCI 161.

Major in Statistics

Additional courses in MATH, STAT, and CSCI to meet the requirements of the Faculty.

Advanced Major in Statistics

In addition to the core courses, STAT 334, and one other three credit STAT course at the 300 or 400 level are required, plus additional courses in MATH, STAT, and CSCI to meet the requirements of the Faculty.

Typical Advanced Major Pattern:

Year 1: MATH 111, 112, CSCI 161

Year 2: MATH 253, 267, 277, STAT 231 or 201

Year 3: STAT 311, 331, 333, 334; additional MATH, STAT, and CSCI courses

Year 4: STAT 491 (no credit); additional MATH, STAT, and CSCI courses

Honours in Statistics

There is no honours program currently offered in Statistics. Students wishing to pursue honours may do so in the Mathematics program, as outlined in section 9.26.

[AR] Indicates Designated Course in Aquatic Resources

201 Elementary Statistics [AR]

This course teaches statistics for students in business and arts. Topics include: descriptive statistics; data collection, tabulation, and presentation; measures of central tendency and variability; binomial, normal, and chi-square distributions; estimation of parameters and tests of hypothesis; simple linear regression and correlation; introduction to a statistical computer package. Cross-listed as HKIN 301. Three credits.

224 Probability and Statistics for Engineers

This course covers: probability laws and the interpretation of numerical data; probability distributions and probability densities; functions of random variables; joint distributions; characteristic functions; inferences concerning mean and variance; tests of hypotheses; linear regression; and time series analysis. Engineering applications are emphasized and statistical computer packages are used extensively. Cross-listed as ENGR 224. Three credits and problem session.

231 Statistics for Students in the Sciences [AR]

Topics include: descriptive statistics; data collection, tabulation, and presentation; measures of central tendency and variability; elementary probability; binomial, normal and chi-square distributions; parameter estimation and tests of hypotheses; linear regression and correlation. Students will learn about statistical significance and the communication of statistical evidence, and be introduced to a statistics computer package. Prerequisite: MATH 112 or 122. Three credits and a one-hour lab.

311 Survey Sampling Design

Topics include simple random sampling, stratified sampling, systematic sampling, cluster sampling, multi-stage sampling, bootstrap samples. Prerequisite: an introductory STAT course. Three credits and a one-hour lab. Offered 2009-2010 and alternate years.

331 Statistical Methods [AR]

An investigation of statistics and experimental design in the context of biological and health science issues. Topics include: analysis of variance, categorical data; distribution-free tests; linear and multiple regression. Students will learn to analyze data and interpret conclusions using a statistical software package. Recommended strongly for all major, advanced major, and honours students. Prerequisite: STAT 231. Cross-listed as BIOL 331. Three credits and a one-hour lab.

333 Introductory Probability Theory

Material will include: combinational analysis; axioms of probability; the law of total probability and Bayes' Theorem; discrete and continuous random variables; mathematical expectation and variance; joint distributions; introduction to moment-generating functions and their applications; limit theorems. Prerequisites: MATH 253, 267. Three credits.

334 Mathematical Statistics

Topics include: distribution theory; order statistics; point and interval estimation; MVUEs and the Rao-Blackwell theorem; consistency and sufficiency; the method of maximum likelihood; the method of moments; uniformly most powerful tests and the Neymann-Pearson fundamental lemma; likelihood ratio tests; least squares theory; statistical models and estimation in ANOVA. Prerequisite: STAT 333. Three credits.

435 Regression Analysis

Topics include: straight-line regression, multiple regression, variable selection, residual analysis, multicollinearity, multiple and partial correlations, analysis of co-variance, logistic regression. Prerequisite: STAT 231 or 333. Three credits and a one-hour lab. Offered 2009-2010 and alternate years.

472 Topics in Statistics

This course will cover a selection of current statistical topics, such as sampling theory, time-series analysis, stochastic processes, design and analysis of experiments, bootstrap methods, and multivariate analysis. Prerequisite: STAT 231 or 333. Three credits. See www.sfx.ca/academic/mathcs/topics.html

491 Senior Seminar

Cross-listed as CSCI 491 and MATH 491. The purpose of this non-credit course is to assist students in carrying out senior paper research, composition, and oral presentation. Students will present their research topic in the fall term and their completed research in the spring. Attendance at Departmental seminars is mandatory. No credit.

493 Senior Thesis

Students will prepare and present a thesis based on original research conducted under the supervision of a faculty member. Three credits.

9.37 WOMEN'S STUDIES

E. Austen, Ph.D.	Co-ordinator
Advising Faculty	Department
C. Fawcett, Ph.D.	Anthropology
N. Forestell, Ph.D.	History
D. MacDonald, MA	Sociology
E. McGibbon, Ph.D.	Nursing
M. Moynagh, Ph.D.	English
R. Semple, Ph.D.	History
C. Weaving, Ph.D.	Human Kinetics

The academic field of women's studies provides an interdisciplinary, multicultural and feminist analysis of women's lives and history. It re-examines traditional ideas about women and their place in society and introduces theoretical frameworks for understanding questions about the roles, problems and accomplishments of women.

Through a combination of core courses and cross-listed courses offered by various university departments, students will critically examine topics such as women and politics; women in sport; the psychology of gender; women's history; the relationship of gender, class and race; women's literature; feminist theory; women and religion; women and medicine; women in management; and women and work. Service-learning projects may be incorporated into some women's studies courses.

See chapter 4 for information on the degree patterns, declarations of major, advanced major and honours, advancement and graduation requirements.

Program Requirements

Students may choose a BA with Advanced Major or Major in women's studies, or a BA with Joint Advanced Major or Major in women's studies and a Faculty of Arts subject. See chapter 4. Arts and science students may fulfill requirements for a pair in women's studies.

Students interested in women's studies should consult with the coordinator as early as possible. To enroll in the first core course, WMNS 200, students must have completed 30 credits of university courses or have permission from the women's studies co-ordinator. WMNS core and cross-listed courses are described below.

Major in Women's Studies

Students are required to complete:

- a) 12 credits of WMNS 200 and 303, 398 or 399; and,
 - b) 24 credits WMNS including cross-listed courses.
- No more than 12 credits of cross-listed courses may be from a single department.

Joint Major in Women's Studies and a Faculty of Arts Discipline

- a) 36 credits in WMNS (subject A) and 36 credits in another Faculty of Arts department (subject B). The program or department requirements for majors are applicable in both subjects. Students must complete the following:
 - i) 12 credits of WMNS 200 and 303, 398 or 399; and,
 - ii) 24 credits WMNS including cross-listed courses.

No more than 12 credits of cross-listed courses may be from a single department. None of the cross-listed credits may be in the student's declared subject B.
- b) Course Pattern: see section 4.1.3

Advanced Major in Women's Studies

Students are required to complete:

- a) 18 credits of WMNS 200, 303, 398 or 399, 400;
 - b) 18 credits WMNS including cross-listed courses; and
 - c) A senior paper. Guidelines for the senior paper are available from the women's studies coordinator or the course instructor for WMNS 400. The senior paper is written in conjunction with WMNS 400.
- No more than 12 credits of cross-listed courses may be from a single department.

Joint Advanced Major in Women's Studies and a Faculty of Arts Discipline

Requirements are:

- a) 36 credits in WMNS (subject A) and 36 credits in another Faculty of Arts department (subject B) or 36 credits in a Faculty of Arts department (subject A) and 36 credits in WMNS (subject B). The program and department requirements for advanced majors are applicable in both subjects. Students must complete the following:
 - i) 18 credits of WMNS 200, 303, 398 or 399, 400;
 - ii) 18 credits WMNS including cross-listed courses.

No more than 12 credits of cross-listed courses may be from a single department. When WMNS is subject A, none of the cross-listed credits may be in the student's declared subject B. When WMNS is subject B, none of the cross-listed courses may be in the student's declared subject A.
- b) Course Pattern: see section 4.1.3
- c) A senior paper is required for all advanced major students. Guidelines for the women's studies senior paper are available from the women's studies co-ordinator or the course instructor for WMNS 400. The senior paper will be written in WMNS 400 when women's studies is subject A. When women's studies is subject B, the senior paper will be written in accordance with the guidelines of subject A.

Minor in Women's Studies (Four-Year BA)

- a) WMNS 200 (6 credits); and,
- b) 18 credits in women's studies, which may include WMNS 303 and/or 398 or 399 in addition to cross-listed courses. No more than six credits of cross-listed courses may be from a single department.

Pair

- a) WMNS 200 (6 credits); and
- b) 6 credits in women's studies, which may include WMNS 303 and/or WMNS 398 or 399 or (a) cross-listed course(s).

Women's Studies Core Courses

200 Introduction to Women's Studies

An introductory course which combines interdisciplinary, feminist, and multicultural perspectives on women and gender. Students are introduced to the nature, roles, problems, and accomplishments of women, particularly in Canada. Prerequisite: 30 credits or permission of the co-ordinator. Six credits.

303 Feminist Theory

This course examines various directions feminists have taken in studying women's experiences and the construction of gender. Students will learn how these theoretical approaches have influenced feminist research and critical practice. The course will include early feminist thought as well as contemporary feminist theory. Prerequisite: WMNS 200 or permission of the instructor or co-ordinator. Three credits.

398 Selected Topics in Women's Studies I

Course content changes from year to year and may reflect faculty involvement in a specific area of research. Three credits

399 Selected Topics in Women's Studies II

This course provides students with the option of a second selected topics course. Three credits.

400 Research Methods Seminar

This seminar examines research methods used by feminist scholars in different fields. Students will consider the development of new methodologies and insights on methodology in the field of women's studies. The seminar also serves as the foundation for the senior paper. Prerequisite: WMNS 200 or permission of the instructor or co-ordinator. Six credits.

Note: Students are required to take only one of the special topics courses, either 398 or 399, in order to complete a major, advanced major, joint major or joint advanced major degree in women's studies.

Women's Studies Cross-listed Courses

WMNS	Course		Credits
210	SOCI 210	Sociology of Marriage and the Family	6
215	SOCI 215	Race, Class, Gender, and Sex	6
229	ENGL 229	Women in English Literature	6
308	HIST 308	Canadian Women's and Gender History	6
310	SOCI 310	Gender	6
311	SOCI 311	Men and Masculinities	3
323	RELS 323	Mary and the Identity of Women	3
324	ANTH 324	Anthropology of Gender	3
325	RELS 325	Early Christian Women	3
326	ANTH 326	Cross-Cultural Families and Households	3
329	ENGL 329	Studies in Women Writers: Feminisms and Their Literatures	3
330	ENGL 330	Studies in Women Writers: Genres, Cultures, and Contexts	3
332	HKIN 332	Gender in Sport and Physical Activity	3
333	HIST 332	The Medieval Body	3
345	PSCI 345	Women and Politics	3
370	HIST 360	European Women's History	3
360	PSYC 360	Psychology of Gender	6
364	NURS 364	Social Justice and Health	3
365	NURS 365	Gender and Health	3
367	BSAD 367	Current Challenges: Women in Management	3
397	RELS 315	Women in Hinduism and Buddhism	3
411	RELS 401	Religious Approaches to Sexuality	3
412	RELS 402	Religious Approaches to Sexual Diversity	3
417	SOCI 417	Social Difference: Race, Ethnicity, Gender, Class, Sex, and Disability	3
424	SOCI 424	Women and Work	3

Other courses may be considered WMNS cross-listed courses after consultation with the women's studies co-ordinator.



UNIVERSITY PERSONNEL

As of January 31, 2009

University Officers

Sean E. Riley, D.Ph.	President
Mary B. McGillivray, Ph.D.	Academic Vice-President & Provost
H. Ramsay Duff, BAH	Vice-President, Finance & Operations
TBA	Vice-President, Advancement
Keith Publicover, BA Rec	Vice-President, Recruitment & Student Experience
Mary Coyle, MA	University Vice-President, Director, Coady International Institute Dean of Arts
Steve Baldner, Ph.D.	Dean of Science
William Marshall, Ph.D.	University Librarian
Lynne Murphy, MLIS	Registrar
Tim MacInnes, MBA.	Dean of Students
Joe MacDonald, M.Sc.	Chaplain
Rev. Daniel MacLennan, M.Div.	Director, Schwartz School of Business & Information Systems
Leo Gallant, MBA, FCA	Director, School of Education
Jeff Orr, Ph.D.	Director, Health and Counselling
Angela Marshall, M.Ed.	Director, Admissions & Recruitment
Justin Fox, MA, MLIS	Director, Research Grants
John D. Blackwell, MLIS	

University Faculty

Professors

Amoako-Tuffour, J., Ph.D.(Alberta)	Economics
Anderson, A., Ph.D.(Queen's)	Earth Sciences
Aquino, M.A.S., Ph.D.(Carleton)	Chemistry
Arpin, M., Ph.D.(Laval)	Modern Languages
Baldner, S., Ph.D.(Toronto)	Philosophy
Beck, J.F., Ph.D.(UBC)	Chemistry
Beltrami, H., Ph.D.(UQAM)	Earth Sciences
Bernard, I., Ph.D.(Pennsylvania)	Education
Bickerton, J., Ph.D.(Carleton)	Political Science
Bigelow, A., Ph.D.(Simon Fraser)	Psychology
Blek, L., Ph.D.(Prague)	Human Kinetics
Callaghan, T., Ph.D.(Brown)	Psychology
Clancy, P., Ph.D.(Queen's)	Political Science
DeMont, M.E., Ph.D.(UBC)	Biology
Dossa, S.A., Ph.D.(Toronto)	Political Science
Edwards, J.R., Ph.D.(McGill)	Psychology
El-Sheikh, S., Ph.D.(Queen's)	Economics
English, L., Ed.D.(Columbia)	Adult Education
Gallant, L., FCA	Business Administration
Gallant, M., M.Sc.P.E.(Dalhousie)	Human Kinetics
Garbary, D., Ph.D.(Liverpool)	Biology
Genge, A., Ph.D.(State U. NY)	Music
Gerriets, M., Ph.D.(Toronto)	Economics
Gillis, A., Ph.D.(Texas)RN	Nursing
Grant, J., Ed.D.(Toronto)	Education
Grenier, Y., Ph.D.(Laval)	Political Science
Harrison, J.F., Ph.D.(Durham)	Political Science
Henke, P.G., Ph.D.(Georgia)	Psychology
Holloway, S., Ph.D.(Ohio State)	Political Science
Jacono, J.J., Ph.D.(Western)RN	Nursing
Klapstein, D., Ph.D.(Victoria)	Chemistry
Kocay, V., Ph.D.(Toronto)	Modern Languages
Langille, E.M., D. ès L.(Sorbonne)	Modern Languages
Leaist, D.G., Ph.D.(Yale)	Chemistry
MacCaull, W., Ph.D.(McGill)	Math, Stats. & Comp. Sci.
MacDonald, M.Y., D.Phil.(Oxford)	Religious Studies
Madden, R.F., MBA(Queen's), FCA(ICANS)	Business Administration
Marangoni, D.G., Ph.D.(Dalhousie)	Chemistry
Marquis, P.A., Ph.D.(Queen's)	English
Marshall, W.S., Ph.D.(UBC)	Biology
McGillivray, M.B., Ph.D.(Queen's)	English
Melchin, M.J., Ph.D.(UWO)	Earth Sciences
Mensch, J.R., Ph.D.(Toronto)	Philosophy
Murphy, J.B., Ph.D.(McGill)	Earth Sciences
Naczka, M., Ph.D.(Technical U. Gdansk)	Human Nutrition
Nemesvari, R.A., Ph.D.(Queen's)	English
Nilsen, K., Ph.D.(Harvard)	Celtic Studies
Norris, J.D., Ph.D.(Alberta)	Education
O'Mahoney, T., M.Mus.(Miami)	Music
Orr, J., Ph.D.(Alberta)	Education
Phyne, J., Ph.D.(McMaster)	Sociology and Anthropology

Poole, P., Ph.D.(Boston)	Physics	Taylor, B., Ph.D.(Calgary)	Biology
Quigley, A., Ed.D.(N.Illinois)	Adult Education	Thompson, A., Ph.D.(Saskatchewan)	Human Kinetics
Quinn, W.R., Ph.D.(Queen's)P.Eng.	Engineering	Tompkins, J., Ed.D.(OISE)	Education
Rasmussen, R., Ph.D.(Saskatchewan)	Human Kinetics	Tynan, P., MM(U. North Texas)	Music
Smith, D., Ph.D.(Manitoba)	English	van Bommel, M., Ph.D.(Waterloo)	Math, Stats. & Comp. Sci.
Smith, G., M.Mus.(Eastman)	Music	Verberg, N.J., Ph.D.(Waterloo)	Sociology and Anthropology
Smith-Palmer, T., Ph.D.(Auckland)	Chemistry	Vincent, S., Ph.D.(Toronto)	Sociology and Anthropology
Stanley-Blackwell, L., Ph.D.(Queen's)	History	Vossen, D., Ph.D.(UWO)	Human Kinetics
Steinitz, M.O., Ph.D.(Northwestern)	Physics	Wadsworth, L., Ph.D.(Saskatchewan)	Human Nutrition
Sweet, W., Ph.D.(Ottawa), DEA(Sorbonne), D.Ph.(Saint Paul)	Philosophy	Watt, M., Ph.D.(Dalhousie)	Psychology
van den Hoogen, R., Ph.D.(Dalhousie)	Math, Stats. & Comp. Sci.	White, R., Ph.D.(OISE)	Education
Wang, P., Ph.D.(Regina)	Math, Stats. & Comp. Sci.	Williams, P.J., Ph.D.(Memorial)	Biology
Wilputte, E., Ph.D.(Toronto)	English	Yang, L.T., Ph.D.(Victoria)	Math, Stats. & Comp. Sci.
Wright, E., Ph.D.(Alberta)	Psychology	Zecker, R., Ph.D.(Pennsylvania)	History
		Zhou, P., Ph.D.(Witwatersrand)	Math., Stats. & Comp. Sci.
Associate Professors			
Adams, C., Ph.D.(Toronto)	Physics	Assistant Professors	
Ahern, A. J., Ph.D.(McMaster)	Religious Studies	Abolghasem, G.H., Ph.D.(Dalhousie)	Information Systems
Alex, M., M.Sc.N.(Dalhousie)RN	Nursing	Al-Maini, D., Ph.D. (Calgary)	Philosophy
Apaloo, J., Ph.D.(Montana)	Math., Stats. & Comp. Sci.	Anthony, D., MBA(Lake Superior State U.)	Business Administration
Arbuthnot, E., MN(Dalhousie)RN	Nursing	Appleby, B., Th.D.(Toronto)	Religious Studies
Bantjes, R., Ph.D.(Lancaster, UK)	Sociology and Anthropology	Austen, E., Ph.D.(UBC)	Psychology
Black, P.A., Ph.D.(Simon Fraser)	English	Bentz, W., Ph.D.(Waterloo)	Math, Stats. & Comp. Sci.
Boucher, J.L., Ph.D.(Université de Montréal)	Human Kinetics	Billington, R., M.Mus.(W. Michigan)	Music
Bourbeau-Walker, M., Ph.D.(UBC)	Modern Languages	Bourlon, E., Ph.D.(UQAM)	Earth Sciences
Boyle, T., Ph.D.(Carleton)	Information Systems	Bracklenbury, A., Ph.D.(UWO)	Biology
Burke, D., Ph.D.(Saskatchewan)	Human Kinetics	Brebner, K., Ph.D.(Carleton)	Psychology
Byrne, C., Ph.D.(Toronto)	Philosophy	Brown, D., Ph.D.(Melbourne)	Political Science
Calliste, A., Ph.D.(Toronto)	Sociology and Anthropology	Brunkhorst, K., MM(University of North Texas)	Music
Cameron, J. D., Ph.D.(Queen's)	History	Chareka, O., Ph.D.(UNB)	Education
Carter, G.G., M.Mus.(Eastman)	Music	Coady, M., Ph.D.(Nottingham, UK)	Adult Education
Cormack, P., Ph.D.(York)	Sociology and Anthropology	Comeau, F., Ph.D.(Dalhousie)P.Eng.	Engineering
Cormier, J., Ph.D.(McGill)	Chemistry	Cook, J., Ph.D.(Toronto)	Philosophy
Daniels, T., MM(Boston)	Music	Cormier, J., MN(Dalhousie)RN	Nursing
Diochon, M.C., Ph.D.(Durham)	Business Administration	Curry, A., B.Ed.(Carleton)	Education
Dodaro, S., Ph.D.(Toronto)	Economics	D'Arcy, M., Ph.D.(Cornell)	English
Fabijancic, U., Doc. IIIe cycle (Montpellier III)	Modern Languages	Delgado, I., MFA(Instituto Allende)	Art
Fawcett, C., Ph.D.(McGill)	Sociology and Anthropology	Fagan, D., M.Sc.(Memorial)	Human Nutrition
Ferguson, G., Ph.D.(Manitoba)	Earth Sciences	Finbow, S., Ph.D.(Victoria)	Math, Stats. & Comp. Sci.
Forestell, N.M., Ph.D.(OISE)	History	Firminger, M., M.Ed.(StFX)	Education
Galea, C., Ph.D.(Lancaster, UK)	Business Administration	Foran, A., Ph.D.(Alberta)	Education
Galway, M., Ph.D.(Australian NU)	Biology	Foroughi, B., M.Sc.(Guelph)	Adult Education
Gillis, D., M.Sc.(Guelph)	Human Nutrition	Foshay, N., MBA(UBC)	Information Systems
Graham, L., Ph.D.(Calgary)	Biology	Frazer, C., Ph.D.(Brown University)	History
Groarke, L., Ph.D.(Waterloo)	Philosophy	Fuller, M., Ph.D.(York)	Business Administration
Hallstrom, L., Ph.D.(Purdue)	Political Science	Gondra, I., Ph.D.(Oklahoma State)	Math, Stats. & Comp. Sci.
Hansen-Ketchum, P., MN(UNB)RN	Nursing	Graham, H., MN(Dalhousie)RN	Nursing
Hauf, P., Ph.D.(Frankfurt)	Psychology	Gregory, S., Ph.D.(University of London)	Art
Hawley, M.P., Ph.D.(Alberta)	Nursing	Haller, M., Ph.D.(Pittsburgh)	Sociology & Anthropology
Hynes, T., Ph.D.(Calgary)	Business Administration	Harling-Stalker, L., Ph.D.(Carleton)	Sociology & Anthropology
Kellman, L., Ph.D.(UQAM)	Earth Sciences	Holmes, G., MBA(McMaster)	Economics
Kennedy, R., Ph.D.(Notre Dame)	Religious Studies	Johnson, C., M.Sc.(MSVU)	Human Nutrition
Koch, E., Ph.D.(Florida)	Psychology	Kalman, S., Ph.D.(McMaster)	History
Lalande, G., Ph.D.(McGill)	History	Karunakaran, V., Ph.D.(Strathclyde)	Biology
LeBlanc, R., Ph.D.(Laval)	Modern Languages	Khoury, J., Ph.D.(Carleton)	English
Lin, M., Ph.D.(Linkoping)	Math., Stats. & Comp. Sci.	Lavrence, C., Ph.D.(York)	Sociology & Anthropology
Lynes, D.A., Ph.D.(York)	Sociology and Anthropology	LeBris, K., Ph.D.(École Polytechnique de Montréal)	Physics
Lynes, J., Ph.D.(York)	English	Leo, T.W., Ph.D.(Toronto)	Economics
MacAulay, K., Ph.D.(Queen's)	Business Administration	Linkletter, M., Ph.D.(Harvard)	Celtic Studies
MacDonald, L., Ph.D.(Alberta)	Education	Litz, S.A., Ph.D.(Konstanz, Germany)	Business Administration
MacIsaac, A., M.Sc.N.(McGill)RN	Nursing	Lomore, C., Ph.D.(Waterloo)	Psychology
MacLean, K., Ph.D.(Simon Fraser)	Psychology	Long, B., MBA(York)	Business Administration
Mahaffey, T., Ph.D.(Queen's)	Business Administration	MacDonald, B., M.Sc.(Boston)RN	Nursing
Martinez-Espineira, R., Ph.D.(York, UK)	Economics	MacDonald, C., MN(Dalhousie)RN	Nursing
Marzi, H., Ph.D.(U-Wales)	Information Systems	MacDonald, J., MN(Dalhousie)RN	Nursing
McCormick, P., Ph.D.(Waterloo)	Psychology	Mackenzie, S., Ph.D.(Saskatchewan)	Human Kinetics
McGibbon, E., Ph.D.(Toronto)RN	Nursing	MacLean, B.J., Ph.D.(Memorial)	Chemistry
McInnis, P., Ph.D.(Queen's)	History	MacLellan, M., MN(Dalhousie)RN	Nursing
McKenna, J., Ph.D.(McGill)	Psychology	MacLellan-Peters, J., B.Sc.N.(Dalhousie)RN	Nursing
Meyer, M., Ph.D.(McGill)	Education	Maltby, N., MBA(Dalhousie)	Business Administration
Moynagh, M.A., Ph.D.(Texas-Austin)	English	Marmura, S., Ph.D.(Queen's)	Sociology & Anthropology
Murray-Orr, A., Ph.D.(Alberta)	Education	Marziin, K., Ph.D.(Konstanz, Germany)	Physics
Oguejiofor, E., Ph.D.(Saskatchewan)P.Eng.	Engineering	Mazier, P., Ph.D.(UBC)	Human Nutrition
Olson, M., Ph.D.(Alberta)	Education	McMillan, L.J., Ph.D.(UBC)	Sociology & Anthropology
Palanisamy, R., Ph.D.(IIT, New Delhi)	Information Systems	McPherson, C., Ph.D.(McMaster)RN	Nursing
Pencer, E.L., Ph.D.(Waterloo)	Psychology	Morgan, D., Ph.D.(Chicago)	Chemistry
Pierrynowski-MacDougall, D., Ph.D.(Calgary)RN	Nursing	Morrison, B., MBA(Dalhousie)	Business Administration
Scrosati, R., Ph.D.(UBC)	Biology	Moseley, J., M.Ad.Ed.(StFX)RN	Nursing

Mukerji, B., Ph.D.(Carleton)	Business Administration	Vusich, J., MA(John Hopkins)	Art
Mwebi, B., Ph.D.(Alberta)	Education	Vossen, J., M.Sc.(UWO)	Human Kinetics
Newton, M. S., Ph.D.(Edinburgh)	Celtic Studies	Wood, D., MA, B.Litt(Oxford)	English
Nilges, M., Ph.D.(Illinois)	English	Young, R., BD Vis.Com.(NSCAD), M.Ad.Ed.(StFX)	Art
Olstead, R., Ph.D.(York)	Sociology & Anthropology		
Orlova, G., Ph.D.(Boston)	Chemistry	Adjunct Professors	
Oxner, M., Ph.D.(Alberta), CFA(AIMR)	Business Administration	Corbin, L., M.Sc.(MSVU)	Human Nutrition
Potts, J., Ph.D.(John Hopkins)	English	Daly, M., M.Sc.(Montreal)	Human Nutrition
Risk, D., Ph.D.(Dalhousie)	Earth Sciences	Dillon, H., MBA(Hawthorne)	Human Nutrition
Robinson, D.B., M.Ed.(Alberta)	Education	González Rouce, J.F., Ph.D.(UCM, Madrid)	Earth Sciences
Roy, C., Ph.D.(OISE)	Adult Education	Lelièvre, M.A., M.Phil.(Cambridge, UK)	Sociology & Anthropology
Rushton, C., Ph.D.(Bristol)	English	McCarron, S.E., B.Sc(StFX)	Human Nutrition
Rymhs, D., Ph.D.(Queen's)	English	Mitchell, S., Ph.D.(UNB)	Biology
Sandness, A., Ph.D.(Sorbonne)	Religious Studies	Montávez-Gómez, J.P., Ph.D.(Granada)	Earth Sciences
Semple, R., Ph.D.(King's College, UK)	History	O'Leary, S.J.B., Ph.D.(Victoria)	Biology
Stan, L., Ph.D.(Toronto)	Religious Studies	Ortiz-Alvarez, O., MD(Mexico)	Human Nutrition
Stewart, S., Ph.D.(Saskatchewan)	English	Walker, M., B.Sc.(StFX)	Human Nutrition
Sullivan, J., Ph.D.(Waterloo)	Psychology		
Taylor, T., Ph.D.(Dalhousie)	Math, Stats. & Comp. Sci.	Distinguished University Fellow	
Tokarz, W., Ph.D.(Alberta)	Modern Languages	Stewart, J.B., Ph.D.(Columbia)	Political Science
Trembinski, D., Ph.D.(Toronto)	History		
van Zyl, B., Ph.D.(Queen's)	Physics	Retired Faculty	
Vishwakarma, V.K., Ph.D.(U of New Orleans)	Business Administration	Aalto, S., Ph.D.(Oregon State)	Math., Stats. & Comp. Sci.
Walls, M., Ph.D.(UNB)	History	Aboud, Sr. H.T., Ph.D.(Cornell)	Human Nutrition
Weaving, C., Ph.D.(UOW)	Human Kinetics	Asadulla, S., Ph.D.(Florida)	Math, Computing & Info. Sys.
Whitty-Rogers, J., MN(Dalhousie)RN	Nursing	Balawyder, A., Ph.D.(McGill)	History
Wyeth, R., Ph.D.(Washington)	Biology	Beckwith, C., Artist in Residence	Music
Yasmeen, W., Ph.D.(UNSW)	Economics	Berridge, J., Ph.D.(Basel)	Religious Studies
Young, D.C., Ph.D.(Western)	Education	Brooks, G.P., Ph.D.(Queen's, Belfast)	Psychology
		Buckland-Nicks, J., Ph.D.(Alberta)	Biology
		Burke, Sr. B., MA(Columbia TC)	Music
		Campbell, Sr. M.E., CND, M.Ed.	Principal, Mount Saint Bernard
		Carty, E., M.Litt.(Glasgow)	Philosophy
Lecturers		Chiasson, L.P., Ph.D.(Toronto)	Biology
Delorey, R., MBA(Moncton)	Business Administration	Cormier, R.F., Ph.D.(MIT)	Geology
Lunney, L.A., M.Ed.(StFX)	Education	Currie, S., Ph.D.(Alabama)	English
MacDonald, D., MA(Acadia)	Sociology & Anthropology	den Heyer, K.C., Ph.D.(Manitoba)	Psychology
Paz, M., MA(Ottawa)	Modern Languages	Duncan, C.M., Ph.D.(UWO)	Business Administration
Sutherland, D., BAM(StFX)	Music	Fiaz, M., Ph.D.(Toronto)	Sociology and Anthropology
Walsh, L., BBA(StFX)	Business Administration	Gallant, C.D., Ph.D.(Illinois)	Math, Stats. & Comp. Sci.
		Gillen, M., Ed.D.(Toronto)	Adult Education
Part-Time Faculty		Gillis, H.A., Ph.D.(Notre Dame)	Chemistry/ Academic Vice-President 1995-99
Brown-Georgallas, K., BFA(NSCAD)	Art		
Campbell, B., MFA(NSCAD)	Education	Gillis, M.L., M.Sc.(Boston)RN	Nursing
Carty, E., M.Litt.(Glasgow)	Philosophy	Grant, C., Ph.D.(Purdue)	Economics
Cavanagh, M.	Human Kinetics	Grant, Sr. J., M.A.(Notre Dame)	Art
Clark, S.	Human Kinetics	Grew, E., MNS(Harvard)	Nursing
Dockrey, P., Ph.D.(Cambridge,UK)	Political Science	Hayes, Z.L., Ph.D.(Waterloo)	Psychology
Fecteau, J., BA(StFX)	Art	Hogan, M.P., Ph.D.(Toronto)	History
Fennell, M., MA(Columbia, NY)	Modern Languages	Hunter, D., Ph.D.(King's, London)	Physics
Flynn, L., MA(Wilfred Laurier)	English	Jackson, W., Ph.D.(Washington)	Sociology and Anthropology
Gaudet, M., M.Ad.Ed.(StFX)	Interdisciplinary Studies	Jan, N., Ph.D.(Cambridge)	Physics
Gibson, M., MA(Goldsmiths College, UK)	Art	Johnson, R.W., Ph.D.(Manitoba)	Psychology
Gillies, C., LL.B.(Dalhousie)	Business Administration	Kontak, W., MA(Oxford)	Political Science
Gunn, J., M.Ed.(Ottawa)	Education	Kuzzman, F.J., Ph.D.(East Coast U.)	Education
Haley, F., MHSA(Dalhousie), P.Dt.	Human Nutrition	Lander, D., Ph.D.(Nottingham)	Adult Education
Hills, G.	Art	Langley, J.T., M.Sc.(Nebraska)FCGA	Administrative Vice-President 1972-2002
Hinchey, M., M.Ed.(StFX)	Education	Liengme, B.V., Ph.D.(Imperial)	Chemistry
Jan, S., BA(StFX)	Art	Losier, Sr. A., Ph.D.(Notre Dame)	Theology
Lade, M., M.Ed.(Kiell)	Modern Languages	Lynch, B.M., Ph.D.(Melbourne)	Chemistry
MacDonald, B., MA(UNB)	Education	MacAdam, A.J., MPE(Springfield)	Human Kinetics
MacDonald, B., Ph.D.(CUA)	Religious Studies	MacDonald, B., Ph.D.(CUA)	Religious Studies
MacDougall, N.K., M.Ed.(Saint Mary's)	Education	MacDonald, Rev. R.B., SSL(Biblicum), STD(Urban)	Religious Studies
MacFarlane, M., BFA(NSCAD)	Art	MacDonell, Sr. M., Ph.D.(Harvard)	Celtic Studies
McCulloch, G.	Art	MacDonell, Rev. M., MA(Toronto)	History
Miadonye, A., Ph.D.(Loughborough)	Engineering		President 1970-78
Milner, P., Ph.D.(Notre Dame)	English	MacEachern, A., Ph.D.(Iowa State)	Math., Stats. & Comp. Sci.
Nicholson, M., B.E.D.S.(TUNS)	Art	MacFarlane, E., M.Ad.Ed.(StFX) RN	Nursing
Pulsifer, M., M.Sc.(Acadia)	Biology	MacInnes, D., Ph.D.(McMaster)	Sociology and Anthropology
Pygott, I.	Art	MacInnis, M., M.Ed.(Alberta)	Education
Quigley, L., BA(Saskatchewan)	Art	MacIsaac, T., Ph.D.(Temple)	Education
Rancy, C., Ph.D.(Toulouse)	Modern Languages	MacKinnon, Rev. G.A., Ph.D.(Ottawa)	Theology
Redgrave, J., Fine Arts Dip.(Sheridan College)	Art		President 1978-90
Riley, B., M.Ed.(Saint Mary's)	Interdisciplinary Studies	MacKinnon, N., Ph.D.(Queen's)	History
Ryan, R., M.Ed.(Memorial)	Education	MacKinnon, R.J., Ph.D.(Oklahoma State)	Information Systems
Segal, B., MGDC	Art	MacLellan, Rev. V.J., MA(Notre Dame)	English
Simpson, A., MA(Queen's)	English	MacMullin, Sr. M.R., Ed.D.(Temple)	Education
Sparks, B., MA(Carleton)	Art	MacNeil, T., Ph.D.(Wisconsin)	Adult Education
Strickler, J., MA(Queen's)	English	MacPherson, J., Ph.D.(Ottawa)	English
Sutherland, T., M.Kin.(Calgary)	Human Kinetics		
Syperek, A., BFA(NSCAD)	Art		
Tetu, O.	Art		

Extension Department

Davison, P., Ph.D. (UNB) Senior Associate
 MacIntosh, P., M.A.Ed. (MSVU) Fieldworker
 Radford, William, M.A.Ed. (StFX) Director

Industry Liaison Office

Manager Andrew J.D. Kendall, B.Sc.

Administrative Departments**Administrative Services**

Vice-President, Finance & Operations H. Ramsay Duff
 Director, Finance Helen MacGregor
 Director, Human Resources Heather MacDougall
 Director, Ancillary Services Bob Hale

Admissions Office

Director, Admissions & Recruitment TBA
 Admissions Officer Sarah Murray
 International Admissions Officer Mark Kolanko, BA HKIN
 Networking Officer Neil Stephen
 Senior Admissions Advisor & Campus Tours Jennie MacDonald, BBA
 Admissions Advisor Erin MacDonald, M.Sc.
 Financial Aid Officer Lynn O'Donnell
 Scholarship Officer Donna Hudson

University Advancement

Vice-President, Advancement Peter Fardy, MBA
 Director, Advancement Relations Iain Boyd, BBA
 Director, Alumni Affairs Helen Murphy, BA
 Director, Marketing & Communications Kyler Bell, B.Comm

Athletics and Recreational Services

Director Leo MacPherson, MBA
 Athletic Therapist Tara Sutherland, M.Kin., CAT(C)
 Assistant Athletic Therapist Katrina Lambert, B.Sc., CAT(C)
 Coach, Women's Volleyball Michelle Aucoin, MBA
 Coach, Women's Rugby Michael Cavanagh
 Coach, Cross Country & Indoor Track Bernard Chisholm, B.Ed.
 Coach, Men's Soccer Graham Kennedy, M.Ed.
 Coach, Men's Basketball Stephen Konchalski, LLB
 Coach, Men's Hockey Brad Peddle, B.Sc.P.E.
 Coach, Women's Soccer Trevor Reddick, B.Sc.P.E.
 Coach, Women's Basketball Matthew Skinn, M.Sc.
 Coach, Women's Hockey David Synishin, BA
 Coach, Men's Football Gary Waterman, B.Sc.P.E.
 Marketing & Community Relations Co-ordinator Jerrett DeFazio, BA
 Sports Information Co-ordinator Krista McKenna, MA
 Fitness and Recreation Service Manager Jeff Vossen, M.Sc.

Co-operative Program

Manager Joy Hanley, B.Ed.

Facilities Management

Director Leon MacLellan, M.Eng., P.Eng.
 Maintenance Manager Shaun Chisholm, BBA
 Manager, Custodial Services Peter MacDonald
 Budget Analyst Dave MacNeil, BBA
 Project Manager Brian Doiron, P.Eng.
 Project Manager Tim Handforth, CET
 Project Co-ordinator Candice Finbow, BA

Office of the Registrar

Registrar Tim MacInnes, MBA
 Associate Registrar Danny McInnis, M.Sc.
 Assistant Registrar, Scheduling Shannon Morell, B.Ed.
 Degree Compliance Co-ordinator Suzanne Russell, B.Comm.

Service Learning

Program Co-ordinator TBA
 Program Manager Marla Gaudet, M.Ad.Ed.

Student Services

Vice-President, Recruitment & Student Experience Keith Publicover, BA Rec
 Director, Residence Services Noreen Nunn, B.Ed.
 Residence Life Manager Shannon Thornhill-Kelly, BA
 Acting Residence Life Manager Rachel MacFarlane, BA
 Dean of Students Joseph MacDonald, M.Sc.
 Judicial Affairs Officer Sean Ryan, BA
 Student Placement Officer Jane MacDonald, MLIS
 Black Student Advisor Agnes Calliste, Ph.D
 International Student Advisor Brenda Berthiaume, BA

Director of Health & Counselling Angela Marshall, MA, CCC
 Students with Disabilities Co-ordinator Mary Ellen Clancy, M.Ed.
 Acting, Students with Disabilities Co-ordinator Elizabeth Kell, B.Ed.
 Director of Athletics Leo MacPherson, MBA
 Human Rights, Equity & Sexual Harassment Advisor Maureen Shebib, LLB
 Aboriginal Student Advisor Krista Hanscombe, BA
 LBGT Student Advisor Chris Frazer, Ph.D.
 Writing Centre Co-ordinator Nancy Marenick, B.Ed.

Technology Support Group

Chief Technology Officer Duncan Macpherson, M.Sc., P.Eng.
 Director of Management Information Systems Gary Doucette, BBA
 Director of Infrastructure Operations John Delorey, B.Sc.
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 Ed. McHugh, MBA Halifax, Nova Scotia
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Term Expires December 31, 2010

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 Moira Buyting, B.Sc., B.P.R. Fredericton, New Brunswick
 Irene Lefort, B.A., LL.D (Hon.) Antigonish, Nova Scotia
 Dr. Margaret Y. MacDonald, D. Phil. Antigonish, Nova Scotia
 Colin Patrick MacDonald, LL.B. Calgary, Alberta
 Rev. Sydney Miffen, B.Ed. Antigonish, Nova Scotia
 Jack O'Donnell, CM, D. Litt, (Hon.), M.Mus, M.Ed. Antigonish, Nova Scotia
 Allan Ross, MBA Calgary, Alberta

Term Expires December 31, 2011

John Beck, Ph. D. Antigonish, Nova Scotia
 Robert Madden, MBA, FCA Antigonish, Nova Scotia
 Brenda MacDonald, M.Sc. RN Antigonish, Nova Scotia

Remaining members to be announced in early 2009

Elected Student Members*Term Expires May 15, 2009*

Ian Arbuckle Amherst, Nova Scotia
 Corbin Bourree Nelson, British Columbia
 Matt MacGillivray Antigonish, Nova Scotia

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K. Publicover, BA Rec.	Vice-President, Recruitment & Student Experience
S. Baldner, Ph.D.	Dean of Arts
W. Marshall, Ph.D.	Dean of Science
T. MacInnes, MBA	Registrar
L. Murphy, MLIS	University Librarian
W. Radford, M.Ad.Ed.	Director, Extension
J. Clarke	Vice-President, Students' Union

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Chair Joe Apaloo, Ph.D.
Secretary John Cook, Ph.D.

Elected Faculty Members

Term Expires September 2009

J. Boucher, Ph.D.
D. Brown, Ph.D.
J. Cameron, Ph.D.
P. Chareka, Ph.D.
J. Cook, Ph.D.
B.J. MacLean, Ph.D.
M. Oxner, Ph.D.
C. Rushton, Ph.D.
J. Sullivan, Ph.D.
P. Tamas, Ph.D.
T. Taylor, Ph.D.

Term Expires September 2010

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J. Apaloo, Ph.D.
L. Gallant, MBA
M. Galway, Ph.D.
E. McGibbon, Ph.D., RN
J. Orr, Ph.D.
R. van den Hoogen, Ph.D.
S. Vincent, Ph.D.

Term Expires September 2011

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O. Chareka, Ph.D.
R. Leblanc, Ph.D.
M. Linkletter, Ph.D.
J. McNally, Ph.D.
M. Melchin, Ph.D.
K. Nilsen, Ph.D.
J. Potts, Ph.D.
D. Trembinshi, Ph.D.

Elected Student Members

Term Expires May 15, 2009

L. Galbraith
D. Hindmarsh
K. MacKeigan
S. Molyneaux
D. Sharma

GLOSSARY

Academic Calendar (also known as the Calendar)

The university's official publication which outlines admission requirements, fees, grading systems, academic regulations, course offerings, and other information. Students admitted in a particular year are bound by the regulations described in the Academic Calendar for that year.

Academic Year

The regular academic year at StFX runs from September to April. The first term lasts from early September to mid-December and the second term, from early January to late April. See also spring and summer sessions.

Advanced Standing

Students may enter a higher level of courses in a subject when they have mastered the lower, usually introductory, level. This is normally permitted after completion of international baccalaureate (IB) or advanced placement (AP) courses. See *section 1.3 h*. Advanced standing does not reduce the number of credits required for a degree.

Audit

Audit means to listen. A student may attend a course without working toward or expecting to earn credits for the course. Only courses without a laboratory or hands-on component may be audited. Fees for a course taken for audit are normally one-half of the usual fee.

Bachelor's or Baccalaureate Degree

The degree usually awarded after three or four years of study and successful completion of course and program requirements. A bachelor's degree may be awarded in arts (BA), science (B.Sc.), business administration (BBA), education (B.Ed.) or information systems (BIS); some may be earned with honours, with advanced major, or with major. See page 3 for more information on bachelor's degrees at StFX.

Bursary

A monetary award based on financial need and reasonable academic standing.

Chair

The head of an academic department, for example, the chair of the Department of Celtic Studies.

Concentration

A tertiary subject or area of study, normally at least 18 credits in one subject.

Convocation

The graduation ceremony held every spring and fall at which degrees and diplomas are awarded.

Credit

The value assigned to a course. A course with three or more contact hours per week for the academic year has a value of six credits and is called a full course. A course taught for three hours a week for one term has a value of three credits and is called a half course. When students successfully complete a course, they are said to have credit for the course.

Dean

At StFX, there are two types of deans. The first is the academic dean, or head of a faculty, as in the Dean of Arts and the Dean of Science, who are responsible for the Faculty of Arts and the Faculty of Science, respectively. The Dean of Students is responsible for maintaining good order in the university community, and for quality of life issues for students both on and off campus.

Dean's List

An academic honour granted to students who achieve high grades while enrolled in 30 credits. See 3.19.

Decile

The student decile ranking in a course (10 high, 1 low) recorded for courses with 15 or more registrants.

Diploma

An earned document which follows a program of study typically lasting two years or less.

Distinction

A designation awarded to students whose general average over their final three years of study is 80 or higher. Minimum averages each year may also apply. See 3.20.

Electives

Optional courses which are not specified in a degree program. Electives may be open, that is, chosen by the student, or approved. Approved electives require permission from either the chair of the department of the student's major, or the chair of the department in which the student wishes to take a course. Arts/Science electives do not include professional program courses such as business administration or nursing.

Faculty

A grouping of departments which give academic instruction in related subjects. At StFX, there are two faculties: the Faculty of Arts and the Faculty of Science. The Faculty of Arts is comprised of subjects in the humanities and social sciences. There is also a School of Business and Information Systems within the Faculty of Arts. The Faculty of Science contains the life, earth and physical sciences, as well as engineering, human kinetics, human nutrition, nursing and mathematics, statistics, and computer science. The term faculty is also used to describe members of the teaching staff of the university.

Faculty Advising

New students are assigned to a faculty member who gives advice on courses for the first year of the student's program. This advising session takes place prior to registration.

Full Time/Part Time

There are several definitions of full time/part time. Normally a student carries 30 credits for an academic year. Only students carrying at least 30 credits are considered for in-course scholarships. For the purpose of billing students, the business office considers a student carrying 24 or more credits to be full time. For the purpose of student loans 18 to 24 credits, or 60 percent to 80 percent of the normal load, may be considered full time by agencies which administer loan programs. For purposes of reporting to Statistics Canada full time is defined as 18 credits or more.

Grade Appeal

The process by which a student appeals his or her final grade for a course. See 3.13.

GPA (Grade Point Average)

Grades and averages reported in a 4.0 scale: at StFX the conversion of number grades to letter grades to a 4.0 scale, for example, 50 = D- = 0.5; 55 = D = 1.0; 60 = C- = 1.5; 65 = C = 2.0; 70 = B- = 2.5; 75 = B = 3.0; 80 = A- = 3.5; 85 = A+ = 4.0

Graduate Degree

Master's or doctoral (Ph.D.) degrees require completion of an undergraduate degree first.

Honours

A degree which requires not only depth and breadth of subject study, but also superior academic achievement.

Humanities

The study of human thought which includes literature, philosophy, history, religion, languages, and the fine arts.

Invigilator

A person who, in the absence of the professor, administers and oversees examinations.

Junior

A third-year student.

Level

A student beginning a four-year program or a diploma program is classified at the first-year level. Advancement in level (first year to sophomore to junior to senior) is granted when a student earns 30 credits in the preceding level. Courses are also referred to as introductory level (numbered in the 100-199 range), second-year level (200-299), third year (300-399) and fourth year (400-499).

Major

A student's primary subject. StFX also offers joint majors, studying a combination of two subjects. While StFX does not have programs with double majors, there are opportunities for students to have the equivalent of double majors.

Mature Student

A candidate who has not fulfilled the normal admission requirements and has been out of school for at least three years.

Minor

The secondary subject or area of study, normally at least 24 credits in one subject.

Non-Degree Student

A student who is not registered in a degree program but is enrolled in courses either part time or full time.

Orientation

A program for new students providing an academic and social introduction to university life, held during the three days prior to the beginning of classes in September.

Pair

Twelve credits in a particular subject, normally with six credits at the 200 level or higher.

Passing Grade

The passing grade for all undergraduate courses is 50. See *chapter 3*. For education, see *chapter 4*. For graduate studies, see *chapter 8*.

Pattern

The recommended or suggested series of courses a student takes in order to fulfill degree requirements.

Placement Test

Incoming students who wish to study music or modern languages must take placement tests to determine their eligibility for, and appropriate level of, study. See *department guidelines, chapter 9*.

Plagiarism

A form of cheating in which a student attempts to pass off as his or her work the words or ideas of another person or another writer. See 3.8.

Prerequisite

A course which must be completed before taking another course.

Program

An approved set of courses, requirements and study pattern, leading to a degree, diploma or certificate.

Rank

The student's rank in his/her group and year of study. Ranking is not recorded for part-time students or for those who withdraw during an academic year.

Registrar

The university officer responsible for managing academic information and processes and enforcing the regulations contained in the Academic Calendar as they pertain to students' academic performance.

Registration

The process of formally enrolling in courses.

Repeated Course

When a student repeats a course, the original grade remains on the transcript and in the student's average. However, the credits originally earned are removed from the student's transcript.

Scholarship

A monetary award based on academic merit or excellence.

Senior

A fourth-year student.

Service Learning

Service learning is an innovative way to integrate experiential learning, academic study and community service. It is an opportunity for students to apply what they are learning in the classroom in a community setting. The goal is to blend service and learning so that the service reinforces, improves and strengthens learning. Service learning is possible in many academic disciplines and through a broad range of courses and service experience.

Social Sciences

The systematic study of human behavior, including anthropology, development studies, economics, political science, psychology, sociology and social sciences.

Sophomore

A second-year student.

Special Needs Student

A student with a physical or learning disability. *See 1.1.*

Spring Session

An eight-week term from early May to late-June.

Student Loan

A sum of money which must be repaid. Loans to university students are obtained through the Canada Student Loan Plan.

Study Abroad

The opportunity for a student enrolled in a four-year program to study at another accredited university as part of a degree from StFX. *See 3.18.*

Subject Abbreviations

The abbreviations below are used throughout the Calendar and on transcripts:

ADED	Adult Education	GERM	German
ANTH	Anthropology	HIST	History
AQUA	Aquatic Resources	HKIN	Human Kinetics
ART	Art	HNU	Human Nutrition
BIOL	Biology	IDS	Interdisciplinary Studies
BSAD	Business Administration	INFO	Information Systems
CATH	Catholic Studies	MATH	Mathematics
CELT	Celtic Studies	MIKM	Mi'kmaq
CHEM	Chemistry	MNST	Ministry
CLAS	Classical Studies	MUSI	Music
COML	Comparative Literature	NURS	Nursing
CSCI	Computer Science	PHIL	Philosophy
COOP	Co-operative Education	PHYS	Physics
DEVS	Development Studies	PSCI	Political Science
ECON	Economics	PSYC	Psychology
ESCI	Earth Sciences	RELS	Religious Studies
EDUC	Education	SOCI	Sociology
ENGR	Engineering	SPAN	Spanish
ENGL	English	STAT	Statistics
ENSC	Environmental Sciences	WMNS	Women's Studies
FREN	French		

Subsidiary Subject

When the study of two subjects is combined such that one is subordinate to the other, the second is considered a subsidiary to the first. Within the BA Honours with a subsidiary subject, the subjects in which an honours is possible are those in which one may complete a single honours; a subsidiary is possible in those fields in which one may complete at least a major. For example, aquatic resources may not be an honours subject but may be a subsidiary subject.

Summer Session

A six-week term scheduled from early July to mid-August.

Thesis

The lengthy paper required for an honours or graduate degree.

Transcript

The record of a student's program of study, courses taken, and grades achieved. *See section 3.15 for information on academic records.*

Transfer Credit

Courses taken at another university or college are given equivalent StFX course numbers and credit value for transfer credit.

Undergraduate Degree

A first degree completed at a university or college. At StFX, the first degree is the baccalaureate degree which takes a minimum of three years, but normally four years, to complete.

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