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## **1. ADMISSION PROCEDURES AND REQUIREMENTS**

- 1.1 Admission Procedures
- 1.2 Admission to University Programs
- 1.3 Admission from Nova Scotia Grade XII
- 1.4 Admission from Other Provinces
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- 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](mailto:admit@stfx.ca)

Applications for admission should be made on the appropriate form. A non-refundable application fee of \$40 is required. All applicants should request their high school guidance 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.

#### **Nova Scotia 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 Community College System**

Applicants who have earned a diploma, completed three 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.

#### **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.

## 2 Admission Procedures and Requirements

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### Part-Time Degree Programs

Details of the part-time undergraduate degree programs are given in section 4.5.

### Special Needs

To assist students with physical or learning disabilities, the university has a program coordinator for students with disabilities. For further information, call 902-867-2281.

### 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 XII

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 combined average of 70 in grade XI and grade XII to include English each year, with no failures; and
  - ii) credit for five university preparatory courses in each of grade XI and grade XII.

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 XII 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 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/anthropology, 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) 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.

- f) 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, the part-time post RN option, or the option for LPNs. 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. 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.
- g) Advanced Placement (AP): The AP program is accepted for admission on the same basis as Nova Scotia grade XII. 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.
- h) International Baccalaureate (IB): The IB program is accepted for admission on the same basis as Nova Scotia grade XII. 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.
- i) Early fall admission: Students who have a grade XI average of at least 80 may be considered for early fall admission before their first set of grade XII marks is available. Due to limited enrollment, a higher average is required for some programs based on Grade XI marks. Students applying for early fall admission should include their final grade XI marks and a school-approved list of courses they are taking in grade XII (both semesters) with their application. Grade XII courses must be consistent with the guidelines listed above. For further information, contact the admissions office.

**FACULTY OF ARTS** Four-year programs unless otherwise stated

<b>Program</b>	<b>Description</b>	<b>High School Requirements</b>
Bachelor of Arts with Major	Offered in aquatic resources, Catholic studies, Celtic studies, computer science, development studies, economics, English, French, history, mathematics, music, philosophy, political science, psychology, religious studies, sociology/anthropology, 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 XII. See 1.3 d.
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 XII. 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 XII. Limited enrollment
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, biology, chemistry or physics; and three other university preparatory courses in grade XII. Limited enrollment
Bachelor of Arts in Music Bachelor of 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 year 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 all three 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 tape. See 1.3 c. Limited enrollment
Bachelor of Education (two years)	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** Four-year programs unless otherwise stated

<b>Program</b>	<b>Description</b>	<b>High School Requirements</b>
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 XII. See 1.3 e. 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, chemistry, biology or physics; and two other university preparatory courses in grade XII. 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 XII. Limited enrollment
Bachelor of Science in Nursing (four years and one intersession)	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 XII. See 1.3 f. Limited enrollment
Engineering Diploma (two years)	Upon completion of the diploma, students transfer to another university such as Dalhousie University, to complete the remaining requirements for the four-year Bachelor of Engineering degree.	English; pre-calculus math; two of biology, chemistry or physics (normally chemistry and physics); and one other university preparatory course in grade XII. Limited enrollment

**GRADUATE STUDIES**  
See chapter 6

**DIPLOMA IN ADULT EDUCATION**  
See section 4.3

**DIPLOMA IN MINISTRY**  
See section 4.4

## 4 Admission Procedures and Requirements

### 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 XII 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 XII 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

Under the new curriculum, Ontario secondary school students must have a minimum of six grade XII courses with five U level and a sixth U or M level (including any program-specific prerequisites) 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	
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 students from a British system of education, 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. Students may also be granted advanced standing in certain programs. 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. All students must have completed English with a minimum grade of B and four other academic courses with grades of at least C at the ordinary level. English, mathematics, two sciences, and one other academic subject are required for admission to programs in the Faculty of Science.

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, or 236 on the computer-based test, and the Test of Written English with a minimum score of 4.0, may be required.

### 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, part-time post-RN option, or the option for LPNs. Admission is competitive and enrollment is limited.

Program	Description	Admission Requirements
Accelerated Post Degree 66 credits plus pharmacology	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 129 credits plus pharmacology	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.
LPN 111 credits	Students can complete the program in three years, with one spring and one summer session.	Graduation from an approved LPN program subsequent to 1998 with current LPN license. Enrollment limited to 10.

### 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 section 4.2 for admission and program requirements.

### 1.9 ADMISSION TO GRADUATE PROGRAMS

The requirements for admission to graduate programs are given in chapter 6.

## 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
  - 2.2.2 Residence and Meal Fees and Regulations
  - 2.2.3 Cancellation of Residence Application and Contract
  - 2.2.4 Dates for Residence
- 2.3 Student Services
- 2.3.1 Athletic and Recreational Programs
  - 2.3.2 Career Planning and Placement Services
  - 2.3.3 Chaplaincy Services
  - 2.3.4 Counselling Services
  - 2.3.5 Dean of Students
  - 2.3.6 Financial Aid Office
  - 2.3.7 Health Services
  - 2.3.8 Special Advisors and Contact Persons
  - 2.3.9 Wellspring Centre
  - 2.3.10 Writing Centre
- 2.4 University Scholarships and Bursaries
- 2.4.1 Entrance Scholarships
  - 2.4.2 Scholarship Application Process
  - 2.4.3 Major Scholarship Recipients 2003-2004
  - 2.4.4 University In-Course Scholarships
  - 2.4.5 Bursaries
  - 2.4.6 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 2003-2004 in Canadian dollars and are subject to change. An addendum to this academic calendar will show the fees for 2004-2005. The information is also available on the internet at <www.stfx.ca>

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

Fewer than 24 credits	\$187.50 per credit
24 to 30 Credits	\$5310
Above 30 Credits	\$5310 plus \$169.16 per credit

#### 2.1.2 Other Registration Fees

Up to 18 credits, a pro-rated students' union fee is assessed at \$2.17 per credit hour. For 18 or more credits, the fee is a flat rate of \$132.50.

Students registered in 18 or more credits automatically make a contribution of \$15.00 to the university's capital campaign.

Students registered in 18 or more credits are automatically enrolled in the students' union administered health care plan and charged the applicable fee on behalf of the students' union. The fees are as follows:

Canadian students	\$125.71
International students	\$620.59

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 equivalent coverage to the students' union secretary by September 30, 2004.

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](mailto: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.

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 \$130 per credit. For 24 or more credits, the fee is a flat rate of \$3,900.

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	
	per credit		per credit				per credit	
Tuition	187.50		187.50		5310.00		5310.00 +	169.16
Technology	10.00		10.00		300.00		300.00	
Student Union	2.16		132.50		132.50		132.50	
Capital Campaign	-		15.00		15.00		15.00	
Health Care Plan	-		Cdn 125.71		125.71		125.71	
	-		Intl 620.59		620.59		620.59	
International Fee	130.00		130.00		3900.00		3900.00	

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

Canadian Student	\$ 5,883.21
International Student	\$ 10,278.09

#### 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. For each term, there is a date by which all course changes for that term must be completed. After that date, tuition and registration fees are refunded at 95% for the first week and then at 5% less per week for every week thereafter. Refunding in this manner continues until the last day on which courses may be dropped for the applicable term, after which there is no refund for courses in that term. *These dates are clearly indicated in the calendar of events at the front of this Academic Calendar.* Students are not charged for second-term courses if they drop those courses or withdraw prior to the last day for changing second-term courses.

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

For examples of refunding, refer to the accounts receivable web page at <www.stfx.ca/campus/admin/accounts-receivable> or to the virtual registrar's office in mesAMIS.

#### 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.

## 6 General Information

### Students' Union fees fund the following:

	<i>full-time</i>	<i>part-time per credit</i>
Students' union general budget	74.00	1.23
Bloomfield Centre/Students' Union building	35.00	.55
Capital campaign fee	15.00	--
University fundraising campaign:		
planning for student priorities	15.00	.27
Athletic fee	6.00	.12
Refugee student support	<u>2.50</u>	<u>--</u>
	\$ 147.50	\$ 2.17

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

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.

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 can check their fee account balance details online at <www.stfx.ca> by using their student number and PIN to access this information.

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 (e.g., deadlines for supplementary exams).

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
Late payment fee (each term) (see note a)	25
Confirmation payment:	
New and B.Ed. students (see note b)	100
New B.Sc.N. students (see note c)	100
Transcript of record (each copy)	5
Supplementary exam (each paper)	100
NSF cheque	15

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 15, and in the second term if payment is delayed beyond January 15.
- 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.
- 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 Handbook, 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.

### 2.2.1 Application for Residence

#### New, Re-Entry and Transfer Students

The residence and food service application and contract form will be mailed with letters of acceptance to StFX. Applications from newly accepted students must be accompanied by a \$300 room deposit, which includes a non-refundable \$100 residence application fee. The total deposit is applied toward the student's residence and board fees. No application will be considered complete without the deposit.

#### Returning Students

Returning students have priority for rooms up until April 30 or until we have reached our capacity for rooms held for returning students. Rooms are not held for returning students who have not filled out a residence application/contract. After April 30 new students are given priority for room assignments and roommate preferences; normally in order of the date of receipt of their completed application/contract.

### 2.2.2 Residence and Meal Fees and Regulations

All students living in residence (with the exception of the apartment-style residence) are required to participate in a combined room and board plan. Students living in apartment-style residence are required to 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.

Residence fees must be paid at registration; however, payment may be made in two installments. A first installment may be made in September with the balance due at registration in January.

As part of our continuing efforts to improve the quality of residence life, Morrison Hall, the architecturally magnificent dining facility, was completely renovated and enlarged to provide students

with restaurant-quality food in one of the most advanced campus dining facilities in North America.

The following rates were in effect for 2003-2004 and are intended to serve as a guide for 2004-2005. The rate structures for university residence vary with single and double occupancy and choice of meal plan.

#### **Meals per week in Morrison Hall**

##### **Based on Single or Double Occupancy**

Meals/week	10 + \$200 DCB	14 + \$250 DCB	17 + \$200 DCB
Single	\$6440	\$6640	\$6740
Double	\$5695	\$5895	\$5995

### **2.2.3 Cancellation of Residence Application and Contract**

#### **2.2.3a Dormitory-Style Residence**

Students who wish to cancel their residence and food service contract must notify the residence office in writing.

##### **Cancellation**

##### **Before Commencement of the Academic Year**

###### **New Students**

If a letter of cancellation is received prior to June 15, \$200 of the \$300 room deposit will be refunded. After June 15, but on or before July 15, \$100 is refundable. After July 15, but on or before the September opening date, \$50.00 is refundable.

###### **Returning Students**

Although returning students are not required to submit an application deposit, they will be assessed a cancellation fee as follows. If a letter of cancellation is received by the residence office on or before May 15, the student is assessed a \$100 cancellation fee; after May 15 but on or before July 15, the student is assessed a \$200 cancellation fee; after July 15 but on or before the first day of classes the student is assessed a \$300 cancellation fee.

Unless the university is otherwise notified, a room is held for the student. Failure to check into the assigned room by 4 p.m. on the first day of classes will result in cancellation of the residence contract, forfeiture of the \$300 room deposit for new students, or a \$300 cancellation fee for returning students. Normally students are responsible for room fees until the end of term.

##### **Cancellation**

##### **After Commencement of the Academic Year**

###### **Voluntary Withdrawal from Residence**

New students withdrawing from residence will forfeit the \$300 room reservation deposit, and returning students withdrawing from residence will be charged a \$300 cancellation fee. In addition, students will be charged room fees to the end of the semester in which they withdraw, unless the university can fill the vacancy with a new residence application. In this event, the student is responsible for room fees to the day in which s/he withdraws, and meal plan fees until the end of the month in which s/he withdraws.

Students who choose to withdraw from residence for the second term must notify the residence office in writing before the end of the first term, complete the paper work, return the keys, and vacate their room 24 hours after their last exam to avoid being held financially responsible for the second term.

###### **Involuntary Withdrawal from Residence**

The university reserves the right to cancel residence contracts on the basis of violation of the university Community Code and/or Residence Life Handbook. In this event, new students will forfeit the \$300 room deposit, and returning students will be charged a \$300 cancellation fee. As well, students will be charged room fees to the end of the term in which the contract is cancelled or 30 days' room fees, whichever is greater. Students will be charged for their meal plan until the end of the month in which their contract is cancelled.

#### **Withdrawal from University**

New students withdrawing from the university, including completion of courses in December, will forfeit the \$300 room deposit, and returning students will be charged a \$300 cancellation fee. Students will be charged room fees to the day on which they withdraw, and will be charged for meals until the Friday of the week in which they withdraw. Students withdrawing from the university are required to vacate their residence within 24 hours of withdrawal.

Notwithstanding any of the exceptions hereinbefore noted, no refund for either residence or food service will be made to students withdrawing from residence and/or withdrawing from the university after November 15 in the first term or February 15 in the second term.

No refund 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 only processed after the appropriate paper work has been completed and room keys have been returned.

#### **2.2.3b Apartment-Style Residence**

Accommodation is based on an eight-month academic year contract.

##### **Cancellation**

##### **Before Commencement of the Academic Year**

Although returning students are not required to submit a deposit with their application and contract for apartment-style residence, they will be assessed a \$300 cancellation fee if they withdraw from apartment-style residence after an apartment has been assigned to them by the residence office. If notice is received before the first day of classes in September, there will be no financial penalty added to the \$300 cancellation fee. The student must notify the residence office in writing of his/her intent to withdraw from apartment-style residence. If the residence office is not so notified, a room will be held for the student. Failure to check into the room by 4 p.m. on the first day of classes in September will result in a \$300 cancellation fee, and the student may also be held responsible for the balance of the residence fees for the remainder of the year.

##### **Cancellation**

##### **After Commencement of the Academic Year**

###### **Voluntary Withdrawal**

Students withdrawing from apartment-style residence will be charged residence fees for the remainder of the year.

###### **Involuntary Withdrawal**

The university reserves the right to cancel any residence contract on the basis of violation of the StFX university community code and/or residence life handbook. In this event, the student will be charged residence fees to the end of the academic year in which the contract is cancelled or 30 days' room fees, whichever is greater. When the student has a meal plan other than DCB, which is non-refundable, s/he is responsible for meal plan fees until the end of the month in which the contract is cancelled.

#### **Withdrawal from University**

Students withdrawing from the university, including completion of courses in December, will normally be held responsible for room fees until the end of the academic year. When the student has a meal plan other than DCB (which is non-refundable), s/he is responsible for meal plan fees until the Friday of the week in which s/he withdraws. Students withdrawing from the university are required to vacate their residence within 24 hours of academic withdrawal.

### **2.2.4 Residence will open and close as follows:**

#### **First Term**

Sun. Sept 5, 2004 9 a.m.

Residence opens for new students only.

Wed. Sep. 8, 2004 2 p.m.

Residence opens for returning students.

Sun. Dec. 19, 2004

Residence closes and meals end with breakfast.



## 8 General Information

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### Second Term

Mon. Jan. 3, 2005

Residence opens for all students and meals begin with dinner.

Fri. Apr. 22, 2005

Residence closes and meals end with breakfast.

Please note that students are required to leave residence 24 hours after their last exam in each term.

All inquiries about residence or meal contracts should be made to:

The Co-ordinator, Residence Services, Morrison Hall

e-mail: [bjmacdon@stfx.ca](mailto:bjmacdon@stfx.ca) 902-867-2473

### 2.3 STUDENT SERVICES

Along with residence and food service, other 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.

The location, telephone number, and e-mail address of the contact person 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, 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 Inter-University Sport organizations. There are women's teams in basketball, cross-country, hockey, rugby, soccer and volleyball; and men's teams in basketball, cross-country, hockey, football, and soccer. Men's rugby is a club sport.

#### 2.3.2 Career Planning and Placement Services

The centre for student employment and career development (CSECD) empowers students to succeed in the workplace, through workshops in résumé writing, interview skills, and networking. The CSECD library contains current career information, including company brochures, annual reports, federal and provincial government publications, career books and serials.

The CSECD 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. Beginning in September 2004, the centre will offer the portfolio for career readiness program, a 10-week session in which students will create an individual career portfolio under the direction of a certified portfolio practitioner.

The CSECD is located in Camden Hall 115, Mount Saint Bernard and may be reached at 867-2296, by e-mail [spo@stfx.ca](mailto:spo@stfx.ca), and online at [www.stfx.ca/campus/stu-serv/csecd](http://www.stfx.ca/campus/stu-serv/csecd)

#### 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 counselling centre provides a variety of services to help students take full advantage of their university experience. Issues dealt with on a one-to-one basis with a counsellor include interpersonal relationships, self-confidence, motivation, sexuality, depression, academic and career choices. All contact with the counselling centre is strictly confidential.

A resource room contains material on other educational institutions in Canada and abroad, graduate school admission tests, and study skills.

#### 2.3.5 Dean of Students

The dean of students is responsible for the student judicial system and administration of the community code. In addition, the dean of students works with the students' union on quality of life issues for students both in residence and off campus.

#### 2.3.6 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.

#### 2.3.7 Health Services

A physician is available at regular times Monday through Friday in the health and counselling centre. Three physicians share this service. Medical care is also available from specialists based at the regional hospital in Antigonish.

University nurses are available at regular times and are on call 24 hours a day. They also co-ordinate a campus wellness program for health promotion.

The university is not responsible for the cost of prescriptions nor for any medical or dental expenses incurred by students.

International students are responsible for payment of their own medical and surgical expenses, as well as hospitalization and diagnostic fees.

All students, Canadian and international, are automatically enrolled in a health benefit insurance plan administered by the students' union. The premium is charged to their university account. Students may opt out of the plan by providing proof of equivalent coverage.

#### 2.3.8 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 and mature student advisor. There is a contact person for students with disabilities, and for gay, lesbian and bisexual students.

#### 2.3.9 Wellspring Centre

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

#### 2.3.10 Writing Centre

The services of the writing centre are designed to complement course work and assist students in developing their academic skills, through individual consultations on essay writing, note-taking, time management, oral presentations, and exam preparation.

The writing centre administers the following three programs for the StFX community; additional information and applicable fees are available at [www.stfx.ca/people/writingc](http://www.stfx.ca/people/writingc).

#### eXcel: A Success Program for First-Year Students

No matter how well a student performs in high school, university presents a new set of challenges. This program provides entering students with the skills to ensure that they excel in their new environment. Classes are 75 minutes per week each term, and students also meet individually with their instructors four times over the year. The cost of the program is \$300. Students who complete the program by meeting the participation and attendance requirements receive a \$200 refund at the end of the school year. Students who

withdraw from the program before September 1 will receive a \$250 refund; however, after this date there is no refund. The course is graded on a pass/fail basis and the grade is noted on the student's academic transcript.

#### **APEX: Academic Program of Excellence**

This is a mandatory program which students on probation must take in order to register at StFX, including students accepted or placed on probation and students re-admitted after suspension or dismissal as a result of a previous year's academic performance. See section 3.12. Upon application by a student, the committee on studies of the appropriate faculty may excuse the student from taking APEX. There is a non-refundable charge for APEX.

#### **LEAP-4-3-2-1: Learning English for Academic Purposes**

Designed for international students at the university level, this innovative program enhances communication skills, and expands students' ability to think and write in English. All LEAP programs include practice in listening, speaking, reading, and writing in an academic context. International students with a TOEFL score between 520 and 580, or an equivalent score on another test, must take LEAP as a condition of admission to StFX. The program is also available on an optional basis for other international students.

## **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:

Dr. Louis J. Allain Scholarship  
 Daniel W. & Marjorie E. Almon Scholarship  
 Christopher Amirault Award  
 George D. Anderson Business Award  
 Bank of Montreal Scholarship  
 Rev. R.V. Bannon Scholarship Fund  
 Bergengren Credit Union Scholarship  
 Harry and Martha Bradley Scholarship  
 Bishop Bray Foundation Scholarship  
 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  
 Central Home Improvement Fund  
 Dr. Leo P. Chiasson Award  
 Donald A. Chisholm Memorial Scholarship  
 Rev. J.C. Chisholm Scholarship in Biology  
 Rev. John Archie Chisholm Memorial Scholarship  
 in Celtic Studies  
 Rev. John W. Chisholm Fund  
 Joseph D. Chisholm Scholarship  
 Mary Ann Chisholm Nursing Bursary 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  
 Rev. C.B. Collins Scholarship  
 Rev. Cornelius J. Connolly Scholarship  
 Louis Connolly Fund  
 James E. & Mary D. Deagle Endowment  
 Alphonse Desjardins Commemorative Scholarship  
 L.A. DeWolfe Memorial Scholarship  
 John Dobson Memorial Scholarship

Rev. John Dougher Bursary  
 The Sir James Dunn Foundation Internship Scholarship  
 Trudy Eagan Women in Business Award  
 J. Wallace Farrell Memorial Scholarship  
 Rev. Peter Fiset Fund  
 H.J. Francis Business Leadership Award  
 Roger Franklin Memorial Scholarship  
 Douglas P. Furlott Award  
 Hugh Allen Fraser Scholarship  
 Fund for French Scholarships  
 Danny Gallivan Memorial Scholarship  
 Wilfred J. Garvin Scholarship  
 Dr. Marie Gillan Award  
 Rev. J. Edward Grant Bursary  
 General Motors of Canada Ltd. Women in Science  
 Scholarship  
 General Motors of Canada Ltd. Women in Science  
 Bursary  
 Joseph and Tessie Gillis Fund  
 The Glen Scholarship  
 Fred Gormley Scholarship  
 Daniel and Emeline Grant Scholarship  
 The Gulf Canada Scholarship  
 Dr. H.B. Hachey Scholarship  
 Charles Hamilton Fund  
 Heaslip/Macdonald Award Fund  
 Bernard M. Henry Scholarship  
 Philip H. Hynes Memorial Scholarship  
 Julie Anne Award  
 B.J. Keating Memorial Award  
 Rev. George Kehoe Memorial Bursary  
 Alexander and Mary Kell Memorial Scholarship  
 Angus Kell Memorial Bursary  
 Thelma May Kempffer Award  
 Margaret Kennedy Scholarship  
 Livingstone-Topshee Award  
 Rev. Martin Luther King, Jr. Award  
 Rev. John B. Kyte Scholarship  
 Joan Gillis Lang Fund  
 Senator John MacCormick Scholarship  
 MacDonald-MacIntyre Scholarship  
 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  
 John H. MacDougall Award  
 Allan J. MacEachen Fellowship in Celtic Studies  
 Angus MacGillivray Fund  
 Rev. R.K. MacIntyre Scholarship  
 Rev. Charles MacIsaac Memorial Bursary  
 Donald F. MacIsaac Memorial Scholarship  
 John C. MacIsaac Foundation Scholarship  
 Elizabeth Mackasey Scholarship  
 Michael and Jean MacKenzie Award  
 Hugh MacKinnon Scholarship  
 Donald and Ethel Lyle MacLean Scholarship  
 Monsignor Donald A. MacLean Scholarship  
 Rev. Leonard (Butch) MacLean Bursary  
 Roderick D. MacLean Award  
 Rev. J.D. MacLeod Bursary Fund  
 Joan M. and Douglas MacMaster StFX University Award  
 Donald and Mary MacNeil Fund  
 John V. MacNeil Fund  
 Joseph B. MacSween Award  
 Rev. Rod J. MacSween Scholarship  
 Margaret Martell Farrell Scholarship Fund  
 Married Students Bursary  
 James A. Martin Award  
 Emerson Mascoll Scholarship  
 James McArthur Memorial Fund  
 Harrison McCain Scholarship  
 J.P. McCarthy Scholarship  
 Dr. Daniel McCormick Scholarship  
 Irene McFarland Memorial Bursary  
 Frederick J. McInerney Scholarship  
 Rev. Roderick McInnis Fund

Rev. L.G. McKenna Scholarship Fund  
Mary McNair MacIsaac Bursary  
William Ian Meech and Lloyd Remington Meech Memorial Scholarships  
Memorial Scholarship for a Woman in Engineering  
Dr. Edward J. Meyer Scholarship  
Dr. Marguerite Michaud Scholarship  
Myles Mills Class of 1959 Leadership Award  
Robert J. and Gertrude Gillis Munroe Scholarship  
Daniel Joseph Murphy Fund  
Nasha Murphy Award  
Rev. J.B. Nearing Scholarship  
Rev. Dr. P.J. Nicholson Scholarship  
Nova Scotia Power Scholarships  
Daniel and Margaret O'Brien Fund  
Dr. Ed O'Connor Scholarship  
Commodore Bruce S. Oland Scholarship  
Philip W. Oland Scholarship  
Barry O'Leary Leadership Award  
Pluta Family Bursary  
Rev. Donald M. Rankin Scholarship  
Dr. Abraham Risk Award  
Bruce and Dorothy Rossetti Scholarship  
Dr. Ria Rovers Memorial Scholarship  
Royal Bank Leadership Award  
B.A. Ryan Scholarship  
James P. Sawler Scholarship  
J.P. Sawler Scholarship  
Scotiabank International Women Leaders Fund  
T.J. Sears Family Scholarship  
Sisters of St. Martha Scholarship in Nursing  
C. Gordon Smith Scholarship  
St. Francis Xavier University Alumni Scholarships  
St. Francis Xavier Association of University Teachers Bursary  
J. Jarvis Stewart Bursary  
John L. Stoik Scholarship  
Students' Union Bursary  
Fred L. Taylor Memorial Scholarship  
Allard Tobin Fund  
Dr. J.J. Tompkins Memorial Scholarship  
Rev. John F. Toomey Scholarship Fund  
Judge D. Tramble Scholarship  
Arthur P.H. Tully Fund  
Katherine Tully Scholarship  
Paul Wacko Scholarship  
Katherine Wdowiak Memorial Award  
James and Mary Whelan Scholastic Award  
Rev. Robert Wicks Fund  
John H. Young Award  
Young Family Award

### 2.4.1 Entrance Scholarships

StFX is founded on the values of academic excellence, leadership, and service to others. The new StFX National Entrance Scholarship program reflects these qualities. Students' efforts in achieving a high school average of 85% or greater are recognized with a guaranteed minimum award. Students offered a renewable scholarship must maintain a superior grade average and rank in each year of study, similar to conditions listed in 2.4.5.

#### **\$32,000 StFX President's Scholarships**

These awards recognize outstanding academic achievement. Renewable for four years at \$8,000 per year, these awards are for entering students who demonstrate the qualities and values honored at StFX: high academic success, leadership, and dedication in service to others.

#### **\$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 which are renewable for four years at \$6,000 per year. Students are nominated by their high schools. Oland and the McCarthy scholarships are available to students from the Atlantic provinces.

#### **\$24,000 StFX Canadian Scholarships**

These scholarships are awarded based on academic achievement and the province of origin of the student. The scholarships are renewable for four years at \$6,000 per year.

#### **\$24,000 StFX International Scholarships**

These scholarships are awarded based on academic achievement in the country of origin of the student. The scholarships are renewable for four years at \$6,000 per year.

#### **\$12,000 StFX Merit Scholarships**

These scholarships are awarded to outstanding students across our programs in arts, science, and the Gerald Schwartz School of Business and Information Systems, based on academic achievement. The scholarships are renewable for four years at \$3,000 per year.

#### **\$1,000 StFX Guaranteed Scholarships**

These entrance scholarships are awarded to all students who graduate from high school with a scholarship admissions average of 90 and above. These scholarships are awarded automatically; no application is required.

#### **\$500 StFX Guaranteed Scholarships**

These entrance scholarships are awarded to all students who graduate from high school with a scholarship admissions average between 85% and 89.9%. These scholarships are awarded automatically; no application is required.

#### **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 Scholarship Application Process

#### **StFX President's, National, Merit Scholarships**

To be considered for scholarships, students must apply to StFX no later than March 1. All applications for renewable scholarships (excepting the Philip W. Oland Scholarships and J.P. McCarthy Scholarships) require the following:

- A high school transcript with an average greater than 85;
- A résumé including a description of extra-curricular activities and employment;
- A brief letter outlining the student's goals;
- Two letters of recommendation from high school teachers, one of which must be from the current year.

#### **Philip W. Oland Scholarships and J.P. McCarthy Scholarships**

The Philip W. Oland Scholarships and the J.P. McCarthy Scholarships are offered to entering students from the Atlantic provinces and the J.P. McCarthy Scholarships to entering students from Canada. Students with the highest scholastic standings and demonstrated leadership ability may be nominated by their high schools. These scholarships, tenable over four years of study towards a first degree, have a maximum value of \$24,000. Successful candidates will be awarded \$6,000 per year of study provided they maintain a superior grade average and rank in each year of study, similar to the conditions listed in 2.4.4. After the second year, scholarship holders must be enrolled in an honours program, when this is available. A letter of nomination from the high school administration should be accompanied by a résumé of extra-curricular activities. To be considered for the Philip W. Oland and J.P. McCarthy Scholarships, students must apply to StFX by March 1 of the year of attendance.

#### **StFX Guaranteed Scholarships**

Students are automatically considered for these scholarships, and no additional application is necessary beyond the application for admission to StFX.

**2.4.3 Major Scholarship Recipients 2003-2004****StFX President's**

Kathleen Claire Fraser, Dartmouth, NS  
David Austin Clark, Kinkora, PE

**International**

Elliot Peter Moriarty, Dublin, Ireland

**Philip W. Oland Scholarship Recipients**

Ryan Thomas Brennan, Antigonish, NS  
Laura Ruth Maynard, Tyne Valley, PE

**J.P. McCarthy Scholarship Recipients**

Meghan Lee Crowley, Margaree Forks, NS  
Meghan Marie MacIntyre, Sydney, NS  
Teri Elyse Emrich, Rothesay, NB  
Nicole Aileen Proudfoot, New Glasgow, NS  
Michael Thomas Zifkin, Lower Sackville, NS

**2.4.4 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 \$3,000.
- b) A student with an average of 85 or higher and a rank in the top five percent of a scholarship group may qualify for the amount of \$1,500.
- c) A student with an average of 85 or higher and a rank in the top 10 percent of a scholarship group may qualify for the amount of \$1,200.
- d) A student with an average of 80 or higher and a rank in the top 10 percent of a scholarship group may qualify for the amount of \$1,000.

**2.4.5 Bursaries**

A number of university bursaries are available, usually ranging in value from \$100 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 officer and must be returned by January 30 of the year for which a grant is sought.

Other awards, up to \$3,000, are available to students with satisfactory academic standing and may be based on extra-curricular activities, place of residence, or financial need. These awards are advertised to all students.

**2.4.6 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 are awarded to graduating students:

Marie A. Gillen Award in Adult Education  
John Dobson Memorial Award in Adult Education  
Dr. Leo P. Chiasson Award for Biology to the Outstanding Advanced Major or Honours Student  
Dr. Marguerite Michaud Prize for Canadian Studies  
Angus L. Macdonald Memorial Scholarship for Celtic Studies  
Chemistry Industry Merit Award  
Society of Chemical Industry Merit Award  
Dr. D.J. MacDonald and Dr. A.B. MacDonald Memorial Prize for Economics  
Elizabeth Mackasey Memorial Award for Education  
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  
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  
Consulate of Argentina Prize for Spanish  
Professor Donald J. MacNeil Memorial Award for Geological Sciences  
Mining Society of Nova Scotia Centennial Scholarship Medal  
Mining Society of Nova Scotia Prize for Best Thesis in Geological Sciences  
Mary Tramble Memorial Award for Field Geology  
Reverend A.A. Johnston History Award for Diocesan History  
Dairy Farmers of Canada Award for Further Study in Dietetics/Nutrition  
Sir James Dunn Foundation Integrated Dietetic Internship Scholarship  
Nova Scotia Home Economics Book Award  
Nova Scotia Health Research Foundation Award  
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  
Craig McDonald Mooney Prize for Psychology  
History of Psychology Prize  
Kontak Prize in Public Policy  
John and Mary Fraser Memorial Prize for Senior Religious Studies  
Reverend Frank J. Miffen 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

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. Ginivan Prize for Mathematics  
Elizabeth Tobin McGivern Prize for Music  
Winston Jackson Prize in Nursing  
David Davis Prize for First-Year Physics  
David Davis Prize for Third-Year Physics  
Charles Jordan Memorial Prize for Second-Year Physics  
History of Psychology Prize  
Craig McDonald Mooney Prize for Psychology  
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 Including Intersession and Summer School Courses
- 3.3 Residence Requirements
- 3.4 Re-Admission to University
- 3.5 Directed Study Program
- 3.6 Student Classification
- 3.7 Special Student Status
- 3.8 Class Attendance and Withdrawal
- 3.9 Regulations on Plagiarism, Cheating, and Academic Dishonesty
- 3.10 Examinations
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- 3.12 Academic Penalties
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- 3.18 Continuing Education Program
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- 3.20 Dean's List
- 3.21 Distinction and First Class Honours
- 3.22 Official Correspondence from the Registrar's Office to the Student
- 3.23 Obligations of Students

#### 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.
- 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 grade average of at least 65 in the preceding year will be expected. 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 5) 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 INCLUDING INTERSESSION AND SUMMER SCHOOL COURSES

- a) Transfer credit will normally be given for all courses with passing grades for which credit has been earned, if the courses are applicable to the program the student is entering. All transfer credit grades and any average requirements as outlined for the programs in chapters 4 and 5 must be met.
- b) Students wishing to take a part-time course at StFX (e.g., in summer school, intercession), or at another university for transfer credit must be in good standing to register for part-time study. Students require a minimum average of 65 to take two courses concurrently.  
Normally credit will be granted for a maximum of 18 credits from May to August.  
Regulation 3.2b applies to students wishing to enroll in correspondence courses during the summer. No other summer school course may be taken while a student is enrolled in a correspondence course. To enroll in a correspondence course as an extra course during the academic year, students must obtain prior approval of the dean; regulation 3.1d applies.
- c) Restrictions may apply to the transfer of credit for business administration courses at the 300 and 400 level. See section 7.24 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 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 with a laboratory component. Correspondence courses may be used only as pairs or electives in degree pattern requirements.

### 3.3 RESIDENCE REQUIREMENTS

For the purpose of this section, residence is defined as being registered as a full-time student. As an exception to these residence requirements a student may, with the dean's permission, spend the junior year abroad. See section 3.19.

- a) Honours Programs:
  - i) Four years' university residence
  - ii) The junior and senior years in residence at StFX
- b) Advanced Major, Major, and Four-Year Programs:
  - i) Four years' university residence
  - ii) The junior and senior years in residence at StFX, unless the student is registered part-time in the Faculty of Arts
- c) All Programs:
  - i) A student who enrolls in an undergraduate degree program must normally complete the degree requirements within 10 years from the date of initial registration.
  - ii) A degree candidate must normally receive credit for at least 60 credits from StFX regardless of the number of transfer credits granted.

### 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 Committee on Studies.
- d) A student whose course of studies is interrupted must re-apply for admission. *See also regulation 3.12.*
- e) If a student previously suspended or dismissed from the university 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 2.3.10.

### 3.5 DIRECTED STUDY and SPECIAL 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 normally 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 academic dean, departments may offer selected topics courses in their discipline. A selected topic course may be offered twice before the department must seek regular course approval through the appropriate committee on studies and the University Senate.

### 3.6 STUDENT CLASSIFICATION

Students entering a four-year degree program or diploma program are classified as first year.

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.

Registration as a senior does not guarantee that a degree will be awarded in that academic year; all requirements for the degree must be fulfilled.

Students wishing to change degree programs must obtain permission from the dean.

### 3.7 SPECIAL STUDENT STATUS

Students with a baccalaureate degree who wish to attend StFX to continue their education, but who are not pursuing a second degree, are encouraged to do so on either a part-time or a full-time basis. Students applying for a full-time program are expected to develop an educational plan with the appropriate academic dean. Letters of recommendation and/or an interview may be required. The admission process must be completed before August 15, and students are expected to perform satisfactorily on December examinations to be eligible to register for the second term.

### 3.8 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. Students

## 14 Academic Regulations

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who miss more than this number of class hours in a course without reasonable cause may, after a warning letter has been sent by the dean's office, be dismissed from the course.

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 academic dean in person or in writing. Formal notice of withdrawal is required for tuition refunds. *See 2.1.2.* Other departments and offices will receive a copy of the withdrawal: 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, during December examinations or 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.

### 3.9 REGULATIONS ON PLAGIARISM, CHEATING, AND ACADEMIC DISHONESTY

a) Plagiarism is "the act of appropriating the ... composition of another, or parts or passages of his [or her] writings, or the ideas or language of the same, and passing them off as the product of one's own mind" (*Black's Law Dictionary*).

A student found to have plagiarized will receive zero for the work concerned.

- b) Cheating may be defined as, but not limited to, employing crib sheets, copying, consulting concealed material during an examination, and having information stored in a calculator that is not available to all members of the class.
- c) The following procedures govern suspected cases of cheating or plagiarism:
- The instructor or invigilator will report the case to the department chair.
  - The department chair will report to the appropriate dean who will ensure that an impartial assessment is made by an independent member of the faculty.
  - Candidates who cheat on an examination, or assignment, or who are found to have plagiarized, will receive zero for the work concerned. Upon conviction for a second offence, they will be dismissed immediately, and will not be permitted to re-enter the university for a minimum period of one year. Collaborators shown to be culpable will be subject to the same penalties.
- d) The following rules govern the treatment of candidates found guilty of attempting to obtain academic credit dishonestly:
- For an imposter writing an examination in place of a candidate, if both the candidate and imposter are StFX students, the candidate will have zero entered on his/her record for the course concerned, and both will be dismissed immediately from the university for a minimum period of one year.
  - If the imposter is not a member of StFX, the university may take what legal action is open to it.
- e) Students disciplined under these regulations may appeal their cases under sections 3.13 and 3.14.
- f) These regulations and sanctions are currently under review. Any changes adopted by the University Senate will come into effect immediately.

### 3.10 EXAMINATIONS

Examinations are written during the examination periods listed 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 the time listed must have a doctor's certification of illness and must notify the dean's office prior to the examination.

Students who miss an examination will normally write on the date for supplementary exams as indicated in the calendar of events.

#### 3.10.1 Supplementary Examinations

To be eligible to write a supplementary examination in a course, students must apply by the date listed in the calendar of events, and must have:

- a grade of at least 40 in that course;
- an average in all courses of at least 55; the average will include the grades in all failed courses;
- permission from the professor; professors will normally give permission when the supplementary exam could result in a passing grade in the course.

Since a supplementary examination replaces the final written examination, supplementaries are granted only in courses with final written examinations. Supplementary examinations for first-term courses must be written in January of the academic year in which the course was failed; for other courses the examination must be written on the date indicated in the calendar of events.

The supplementary examination grade will not be used to recalculate the student's average.

No more than four courses (regardless of the credit value of the courses) passed by supplementary examination may be used to satisfy degree or diploma requirements. Senior students may write only one supplementary examination; other students may write no more than two in any one term.

### 3.11 GRADING SYSTEM FOR UNDERGRADUATE PROGRAMS

- The passing grade is 50.
- The student's average is a weighted calculation. A six-credit course has a weighing factor of one; a three-credit course has a weighing factor of one-half. Grades in supplementary examinations are not used in average calculations. The average is based on the final grades in all courses carried.
- An average of 55 is required each academic year, intersession or summer session; the number of credits for which the average is calculated may be as small as three. If this average is not maintained for the academic year, intersession or summer session, academic penalties may be incurred. *See section 3.12.* Unless otherwise specified, students must maintain an overall average of 55 during their final three years.

Full-time senior students applying for a degree, no matter how many credits they require for their course pattern, must have an average of at least 55 and credit for 18 credits in their senior year to be granted a degree.
- The grade and average requirements for major, advanced major and honours degrees are stated in chapter 4 for arts degrees, and chapter 5 for science degrees.
- 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.
- 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.

### 3.12 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 to be earned for this second requirement.

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 given in 3.13.

Any student incurring probation will be allowed to register at the university only if the student enrolls in the APEX program (see section 2.3.10) unless, upon application by the student, the committee of studies of the appropriate faculty excuses the student on the grounds that the student would not benefit in a meaningful way from the program.

Students on probation may write supplementary examinations provided all other conditions are met. However, a passing grade in a supplementary exam will not alter the probationary status.

Students who are suspended from the university may apply to the registrar for re-admission after a period of one year. See section 3.4. No transfer credit will be granted for work completed elsewhere while a suspension or dismissal is in effect.

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

*Attention is drawn to the following regulations: 3.1, 3.8 and 3.9.*

### 3.13 APPEAL OF AN ACADEMIC REGULATION

Decisions resulting from the application of academic regulations 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. When the decision is mailed to a student, notification will be deemed to have occurred on the seventh day after the letter is mailed. In cases where a verbal decision is made or a written decision is handed to a student, notification will be deemed to have occurred on that day. The decisions of the committee on studies are final.

### 3.14 GRADE APPEAL PROCEDURE

- a) Only final grades may be appealed.
- b) All appeals must be made in writing through the dean's office. The letter must state why an appeal is being made. The student pays a fee of \$10 for each grade appealed. This fee is credited to the student's account if the appeal results in a change of grade.
- c) 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.
- d) 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.
- e) 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.
- f) The student pays a fee of \$25 if an appeal committee is established; this fee is credited to the student's account if the committee decides in his or her favor.
- g) Supplementary examinations may be appealed in the same way:
  - i) within six weeks of the examination; and
  - ii) if the original grade was not appealed to an appeal committee.

### 3.15 APPLICATION FOR DEGREES AND DIPLOMAS

Candidates in their graduating year must apply to the registrar to be admitted to the degree or to be awarded the diploma for which they are registered. 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.

### 3.16 ACADEMIC RECORDS

#### 3.16.1 Release of Student Academic Records

##### Disclosure to students of their own records

- a) Students have the right to inspect their academic records and to challenge contents they believe to be inaccurate. A member of the registrar's staff will be present during the inspection. In the event of a dispute, the academic vice-president will act as arbiter.
- b) Students will, on submission of a signed request, have the right to receive transcripts of their own marks. These transcripts will be marked *Issued to Student*. This right will not apply to students in debt to the university, but they will still have the right to inspect and review their academic records. Information on a student's record will not be given over the phone.
- c) No partial transcripts will be issued.
- d) 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 deemed to have a legitimate educational interest. Students' personal and academic information is stored securely and used solely for the university's normal course of business.



### Disclosure to Third Parties

- a) The following information is considered public and may be released at the discretion of the registrar without restriction:
  - i) Name; hometown if in convocation program;
  - ii) Certificates, diplomas, and degrees awarded;
  - iii) Date of conferral.
- b) 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.
- c) 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.
- d) StFX is required to abide by the Freedom of Information and Protection of Privacy legislation of the provincial government, the federal Privacy Act and 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 labor force activity. Further information is available at <<http://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:  
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. - 4:00 P.M. EST/EDST
- e) Other than in the above situations, information on a student 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). This restriction applies to requests from parents, spouses, credit bureaus, and police.

### 3.16.2 Transcript Requests

Requests for transcripts must be made in writing by students and accompanied by the required fee. Requests by phone are not accepted. Where possible, requests are to be made on the appropriate form obtainable from the registrar. Transcript requests are processed in the order in which they are received. Although the normal processing time is three days, additional time may be needed at certain periods of the year. Transcripts include the following information, where appropriate:

- a) The student's program
- b) Courses and grades (failed as well as passed) for all academic work attempted or completed at StFX
- c) 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 3.11. Supplementary grades are not included in the average calculation.
- d) Transfer credits granted; grades for transfer credits are not shown
- e) Degrees and diplomas awarded and date conferred
- f) Academic penalties
- g) Distinctions, including placement on the Dean's List

Official transcripts are only those forwarded directly from the registrar's office to an official third party.

### 3.17 REGULATIONS FOR A SECOND DEGREE

- a) A graduate of the university may be a candidate for a second degree. The candidate must complete at least 30 credits in full-time attendance at the university and must comply with all the course requirements of the second degree.
- b) If the second degree sought is a BA, the pattern of the four-year BA must be followed.
- c) 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 full-time study.

### 3.18 CONTINUING & DISTANCE EDUCATION PROGRAM

The continuing education program offers degree and non-degree learning opportunities for those who wish to study part time.

For degree-credit courses, see section 4.5 for information on the part-time BA and BBA programs; section 7.26 for information on the part-time B.Sc.N. program; and chapter 6 for programs leading to master's degrees in education.

Non-degree courses in the continuing education program are normally concentrated in the two areas of general interest and professional development. General interest courses (e.g., courses in computer literacy) are open to the public. Professional development courses cater to the learning needs of specific groups (e.g., health professionals, business managers, real estate assessors, religious education instructors, adult educators). Several programs are available by distance education. Current listings may be obtained from the continuing education department; call 902-867-3906 or toll-free 1-877-867-3906 in Nova Scotia.

### 3.19 STUDY ABROAD

StFX has an exchange agreement with the following colleges and universities for the junior year abroad unless otherwise indicated. Some restrictions apply. Students may propose to attend any accredited university. See section 7.22 for additional information or contact the study abroad/exchange co-ordinator at 902-867-3905 or via e-mail: [exchange@stfx.ca](mailto:exchange@stfx.ca)

Aalborg University, Denmark  
Charles University, Czech Republic  
Crichton Campus, University of Glasgow, Scotland  
Edinboro University, PA  
Florida International University, FL  
Hanken, Finland  
Institut d'Etudes Politiques de Lille, France  
Pontificia Universidad Catolica, Peru  
St. Mary's College, University of Surrey, England  
Universidad de Colima, Mexico  
Universidad de Guanajuato, Guanajuato, Mexico  
Universidad de Veracruzana, Mexico  
Universidad del Salvador, Argentina  
Universidad Iberoamericana, Mexico  
Universitat Koblenz-Landau, Germany  
l'Université Catholique de Lille, France  
l'Université Catholique de Lyon, France  
l'Université Catholique de l'Ouest, Angers, France  
Université de Moncton, NB  
University of Central Arkansas, AR  
University of Southern Denmark, Denmark

### New England/Nova Scotia Student Exchange Program

Eastern Connecticut State University, CT  
Quinnipiac University, CT  
St. Joseph's College, ME  
University of Maine at Fort Kent, ME

University of Maine at Presque Isle, ME  
 University of New England, Westbrook Campus, ME  
 University of Southern Maine, ME  
 Anna Maria College, MA  
 Bridgewater State College, MA  
 Fitchburg State College, MA  
 Framingham State College, MA  
 Gordon College, MA  
 Massachusetts College of Liberal Arts, MA  
 Nichols College, MA  
 Colby-Sawyer College, NH  
 University of New Hampshire, NH  
 University of Rhode Island, RI  
 Lyndon State College, VT

StFX students have studied at the following universities even though there is no formal exchange agreement:

Arizona International College of the University of Arizona,  
 Tucson, AZ  
 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 Catholique de l'Ouest in Angers, France  
 Université Canadienne en France  
 University of Arizona, AR  
 University of London, England  
 University of Durham, England  
 University of Haifa, Israel  
 University of Northern British Columbia, Prince George, BC  
 University of Stuttgart, Germany  
 University of St. Andrews, Scotland

A student who wishes to spend the junior year abroad must:

- a) be enrolled in a four-year program;
- b) normally earn an average of at least 70 at the end of the sophomore year;
- c) apply in writing to the dean at least one month prior to registration, giving the name of the university and descriptions of courses to be taken, dates, credit value, and other pertinent information. 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 sent to the dean.

### 3.20 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<sup>1</sup>/<sub>3</sub>% in the junior or senior year.

### 3.21 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; where the program is 96 credits, the average will be calculated on the best 51 credits from StFX. The requirement of no grade below 75 in any course completed at StFX or elsewhere also applies.

### 3.22 OFFICIAL CORRESPONDENCE FROM THE REGISTRAR'S OFFICE TO THE STUDENT

Upon registration at StFX, all official correspondence from the registrar's office 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.

### 3.23 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 the

- i) StFX Academic Calendar available at <[www.stfx.ca/calendar/](http://www.stfx.ca/calendar/)> or from the registrar's office;
- ii) the StFX Community Code, available at <[www.stfx.ca/campus/stu-serv/dean-stu/#community](http://www.stfx.ca/campus/stu-serv/dean-stu/#community)> or from the dean of students' office; and
- iii) the Residence Handbook, available at <[www.stfx.ca/campus/stu-serv/residence/](http://www.stfx.ca/campus/stu-serv/residence/)> or the from the residence office.

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

## 4. FACULTY OF ARTS REGULATIONS

- 4.1 General Regulations
  - 4.1.1 Degrees Offered
  - 4.1.2 Subjects Available
  - 4.1.3 Degree Patterns
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- 4.4 Diploma in Ministry
- 4.5 Part-time BA and BBA Programs
- ▷ Coady International Institute

### 4.1 GENERAL REGULATIONS

Students wishing to complete a BA degree must choose the BA with Honours, BA with Advanced Major, or BA with Major. All three BA degrees are four-year programs. Students wishing to follow the honours or advanced major in a subject are advised to consult with the department chair as early as possible. Candidates for the BA programs must include at least 36 credits at the 300 or 400 level.

#### 4.1.1 Degrees Offered

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

*Under the arts heading there are seven degrees:*

- Bachelor of Arts with Major: in one of 17 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 Advanced Major (Liberal Arts Option): offers students a broad experience of the humanities, social sciences, fine arts, and sciences; requires superior achievement in grades and average; includes the integrating course IDS 400: Arts IV described in section 7.22
- 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 15 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 social and public policy and a major in aquatic resources

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

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

*For business and information systems, the following are offered:*

- 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 Joint Honours in Business Administration and Economics
- Bachelor of Business Administration with Aquatic Resources Major
- Bachelor of Information Systems General Degree
- Bachelor of Information Systems with Major in enterprise resource planning, e-business, or management information systems
- Bachelor of Information Systems with Honours in enterprise resource planning, e-business, or management information systems

*The human kinetics degrees are:*

- Bachelor of Arts in Human Kinetics with Major in kinesiology or pre-education
- Bachelor of Arts in Human Kinetics with Advanced Major in kinesiology or pre-education
- Bachelor of Arts in Human Kinetics with Honours in kinesiology or pre-education

## Gerald Schwartz School of Business and Information Systems

The Gerald Schwartz School of Business and Information Systems was formed in September 1999 to provide 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, a leading Canadian business. 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.

In addition to primarily classroom-based degrees, 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 a 70 average. For further details consult the StFX website or contact the appropriate department chair.

The Schwartz School's BBA program is described in section 7.5 and its BIS program is described in section 7.21. Students will find up-to-date information about the Schwartz School at <<http://www.stfx.ca/tresearch>>.



### 4.1.2 Subjects Available

The following table lists the subjects available for study in the seven arts degrees within the Faculty of Arts and where these subjects can be a major, minor, pair or elective course, or a subsidiary subject.

### The legend for the table is:

M1 = Major 1; M2= Major 2; Mi = Minor; P = Pair; E = Elective; S = Subsidiary.

The codes in each cell apply to all of the subjects listed in that cell's row, i.e., to the subjects in the cell on the extreme left.

Reference is also made to more information in sections of chapter 7.

Subject	BA Major	BA Joint Major	BA Advanced Major	BA Joint Advanced Major	BA Honours	BA Honours with Subsidiary	BA AQUA
CELT Celtic Studies, see 7.8	M1, Mi, P, E	M1, M2, P, E	M1, Mi, P, E	M1, M2, P, E	M1, P	M1, S, P, E	-
CSCI Computer Science, see 7.11	"	"	"	"	"	"	-
ECON Economics, see 7.14	"	"	"	"	"	"	-
ENGL English, see 7.17	"	"	"	"	"	"	-
FREN French, see 7.24	"	"	"	"	"	"	-
HIST History, see 7.18	"	"	"	"	"	"	-
MATH/STAT Mathematics and Statistics, see 7.23	"	"	"	"	"	"	-
PHIL Philosophy, see 7.27	"	"	"	"	"	"	-
PSCI Political Science, see 7.29	"	"	"	"	"	"	-
PSYC Psychology, see 7.30	"	"	"	"	"	"	-
RELS Religious Studies, see 7.31	"	"	"	"	"	"	-
SOC/ANTH Sociology and Anthropology, see 7.32	"	"	"	"	"	"	-
CATH Catholic Studies, see 7.7	M1, Mi, P, E	M1, M2, P, E	M1, Mi, P, E	M1, M2, P, E	P, E	S, P, E	-
MUSI Music, see 7.25	"	"	"	"	"	"	-
WMNS Women's Studies, see 7.33	"	"	"	"	"	"	-
SPAN Spanish, see 7.24	M1, Mi, P, E	M1, M2, P, E	Mi, P, E	P, E	P, E	P, E	-
DEVS Development Studies, see 7.12	Mi, P, E	M1, M2, P, E	Mi, P, E	M1, M2, P, E	P, E	S, P, E	-
ART Art, see 7.3	Mi, P, E	P, E	Mi, P, E	P, E	P, E	P, E	-
BIOL Biology, see 7.4	"	"	"	"	"	"	-
CHEM Chemistry, see 7.9	"	"	"	"	"	"	-
CLAS Classical Studies, see 7.10	"	"	"	"	"	"	-
ESCI Earth Sciences, see 7.13	"	"	"	"	"	"	-
PHYS Physics, see 7.28	"	"	"	"	"	"	-
CDNS Canadian Studies, see 7.6	Mi, P	-	Mi, P	P	P	P	-
GERM German, see 7.24	P, E	P, E	P, E	P, E	P, E	P, E	-
INFO Information Systems, see 7.21 see Note 1	"	"	"	"	"	"	-
AQUA Aquatic Resources, see 7.2	-	-	-	-	-	-	M2 see Note 5
BSAD Business Administration, see 7.5 see Note 2	E	E	E	E	E	E	-
COML Comparative Literature, see 7.24	"	"	"	"	"	"	-
ENGR Engineering, see 7.16 see Note 3	"	"	"	"	"	"	-
HKIN Human Kinetics, see 7.19 see Note 4	"	"	"	"	"	"	-
HNU Human Nutrition, see 7.20 see Note 4	"	"	"	"	"	"	-
IDS Interdisciplinary Studies, see 7.22	"	"	"	"	"	"	-
THEA Theatre, see 7.22	"	"	"	"	"	"	-

A student in a BA program, including those who have transferred from another program, may count a maximum of 18 credits in courses taken in professional programs towards a degree. The following regulations, in notes 1-4, apply.

Note 1 May complete a maximum of 12 credits in INFO, which may count as a pair

Note 2 Students may complete a maximum of 12 credits in BSAD but only students who transfer out of BBA or BIS programs may count these as a pair

Note 3 Students who transfer out of the engineering program may count a maximum of 6 credits in ENGR

Note 4 A maximum of 6 credits in HKIN or HNU may be used as open electives; require the permission of the chair and professor; may not be taken in the first year

Note 5 Degree is the BA Major in Economics or Public Policy and Social Research, and Major in Aquatic Resources

## 20 Faculty of Arts Regulations

### 4.1.3 Degree Patterns

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-term) 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	Economics, political science, psychology, sociology/anthropology, 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 human nutrition, human kinetics or information systems)
Open electives	6 credits

#### The legend for the table is:

Req = Required, Elec = Electives, and 2 x 12 means two distinct subjects with 12 credits in each (sometimes called two pairs).

#### Pattern and Credits Required in Each Degree or Diploma

Arts	Major 1	Major 2	Minor	Pair	Elective	-	-	-
BA Major	36 credits	n/a	24 credits	3 x 12 credits	24 credits	-	-	-
BA Joint Major	36	36 credits	n/a	2 x 12	24	-	-	-
BA Advanced Major	36	n/a	24	3 x 12	24	-	-	-
BA Advanced Major (Liberal Arts option)	36	n/a	24	2 x 12	36 See note 2	-	-	-
BA Joint Advanced Major	36	36	n/a	2 x 12	24	-	-	-
BA Honours	60	n/a	n/a	2 x 12	36	-	-	-
BA Honours with Subsidiary	min 48	min 24	-	1 x 12	24 to 36	-	-	-
	M1 plus M2 up to	a total of 84 credits	-	-	-	-	-	-
<b>BUSINESS</b>	<b>BSAD Req</b>	<b>BSAD Elec</b>	<b>Other Req</b>	<b>Arts/Sci</b>	<b>Open</b>	-	-	-
Bachelor of Business Administration all degrees	27	33	18	(2 x 12) + 12	6	-	-	-
BBA with AQUA	36	24	24	AQUA 30	6	-	-	-
<b>INFORMATION SYSTEMS</b>	<b>INFO Req</b>	<b>INFO Elec</b>	<b>BSAD</b>	<b>CSCI</b>	<b>Other Req</b>	<b>Arts/Sci</b>	<b>Open</b>	-
Bachelor of Information Systems all degrees	33	12	21	6	12	(2 x 12) + 6	6	-
<b>Human Kinetics</b>	<b>HKIN Req</b>	<b>HKIN Elec</b>	<b>BIOL</b>	<b>Arts A</b>	<b>Arts B</b>	<b>Arts/Sci Elec</b>	<b>Approved</b>	<b>Open</b>
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 for both Kinesiology and Pre-Education	Same as Major with HKIN 491	-	-	-	-	-	-	-
BA HKIN Honours Kinesiology	36	18	6	24	12	12	6	6
BA HKIN Honours Pre-Education	54	-	6	24 See note 1	12	12	6	6
<b>Music</b>	<b>MUSI Req</b>	<b>Arts/Sci</b>	<b>Arts/Sci Total</b>	-	-	-	-	-
All degrees and Dip Jazz years 1 and 2	48	12	-	-	-	-	-	-
Additional courses years 3 and 4	-	-	-	-	-	-	-	-
BA Music	24	36	(3 x 12) + 12	-	-	-	-	-
B Music	48	12	2 x 12	-	-	-	-	-
BA Major in Music	Same as BA Major above	-	-	-	-	-	-	-

Note 1 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 Included in the pairs or electives must be a fine arts course (e.g., six credits in the history of art or history of music); a science course or PHIL 210: Philosophy of Science; and IDS 400: Arts IV.

### BA with Advanced Major (Liberal Arts Option) Pattern

The 36 credits in the major subject may be chosen from one of the departments listed below:

Group I	Celtic studies, English, history, French, music, philosophy, religious studies
Group II	Economics, mathematics, statistics, and computer science, political science, psychology, sociology/anthropology, women's studies

When the major subject is chosen from group I, the minor subject may also be from group I, or from group II or from science. If both the major and minor are chosen from group I, then the balance of the program must include a minimum of 24 credits from group II and/or science.

When the major subject is chosen from group II, the minor subject may also be from group II, or from group I, or from science. If both the major and minor are chosen from group II, then the balance of the program must include a minimum of 24 credits from group I and/or art and/or Spanish.

### 4.1.4 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.

#### 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 over final three years
BA Advanced Major	average 60 in each of first and second year; grades 60 in the major and minor subjects; no failures in the second year	average 65; average 65 in the major as well as the minor subject	average 65; average 65 in the major as well as the minor subject in the fourth year
BA Joint Advanced Major	average 60 in each of first and second year; grades 60 in both majors; no failures in the second year	average 65; average 65 in each major	average 65; average 65 in each major in the fourth year
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 in all courses completed during the first three years; grades 70 in each course in the honours subject; average 70 in all courses taken in the honours subject	average 70 in all courses completed over the program; grades of 70 in each course in the honours subject; average 70 in all courses taken in the honours subject in the fourth year
BA Honours with Subsidiary	same as above for the single honours and applied to both subjects	same as above for the single honours and applied to both subjects	same as above for the single honours and applied to both subjects
BBA General and BBA with Aquatic Resources Major	average 55 in each of first two years; average 60 in all required BSAD, ECON, INFO, MATH and STAT courses	average 55	average 55 over final three years
BBA with Major	average 60 over the first two years; combined average 65 in the required BSAD, ECON, MATH, STAT, and INFO courses taken in the first two years	average 65 in third year; combined average 65 in all BSAD and all required ECON and INFO courses taken in year three; grades 60 in all BSAD and INFO courses taken in the third year or be in the top 25% of the third-year class	average 65 in fourth year; combined average 65 in all BSAD and all required ECON and INFO courses taken in years three and four
BBA with Honours and BBA with Joint Honours in Business and Economics	average 70 in courses taken in the first two years; a combined average 70 in the required BSAD, ECON, MATH, INFO courses taken in the first two years	average 70 in third year; normally grades, 70 in each BSAD course in third year	average 70 in fourth year; grades of 70 in each BSAD course in fourth year; grade of 70 on the honours thesis
BIS General	average 60 in each year; no grades less than 60 in any INFO or ECON courses; an average 60 in MATH 205 and STAT 201; and an average 60 or higher in BSAD 101, 102, 221, 223 and 231	average 55	average 55 over final three years
BIS with Major	average 60 in each year; no grades less than 60 in any INFO or ECON courses; an average 60 in MATH 205 and STAT 201; and an average 60 or higher in BSAD 101, 102, 221, 223 and 231	average 65 in the third year	average 65 in fourth year; combined average 65 in all INFO, CSCI, and BSAD courses taken in years three and four
BIS with Honours	average 70 in each of the first two years; and an average 70 in the required courses in INFO, BSAD, ECON, MATH, and STAT	average 70 in the third year	average 70 in the fourth year; combined average 70 in all INFO courses taken in years three and four; and a grade of 70 or higher in INFO 498
Bachelor of Arts in Music with Advanced Major	average 60 in each of first and second year; individual grades 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 in the fourth year
Bachelor of Arts in Music with Honours	average 70 on 60 credits completed in the first two years; individual grades 70 in each MUSI course at the 100 and 200 level; first class honours pass in Level 1	average 70 in all courses completed during the first three years; grades, 70 in each MUSI course; average 70 in MUSI courses	average 70 in all courses completed during the four years of the program; grades of 70 in MUSI courses; average 70 in all MUSI courses in the fourth year
Bachelor of Music with Honours	average 70 on 60 credits completed in the first two years; individual grades 70 in each MUSI course at the 100 and 200 level; first class honours pass in Level 1	average 70 in all courses completed during the first three years; grades 70 in each MUSI course; average 70 in all MUSI courses; submit a thesis in the third year	average 70 in all courses completed during the four years of the program; grades of 70 in MUSI courses; average 70 in all MUSI courses in the fourth year
Diploma in Jazz	average 55 each year	-	average 55 each year
BA Human Kinetics	average 55	-	average 55 over final three years
BA Human Kinetics with Advanced Major	average 60 in each of first and second years; grades 60 in the HKIN, 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 and second years; grades 70 in the HKIN courses	average 70; average 70 in HKIN courses	average 70; average 70 in HKIN courses

### 4.2 BACHELOR OF EDUCATION

#### 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.

#### Admission Process

At the present time, admission to the B.Ed. program is limited to approximately 100 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.

#### 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.

#### 4.2.1 Elementary Education (P-8) Requirements

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

- a) Major Concentration  
A concentration of at least 18 credits in one recognized subject field taught in Nova Scotia elementary schools is required. Recognized subject fields include English, French, languages (Gaelic, Mi'kmaq); social studies (including history, geography, political science, sociology, economics, law, classics, African-

Canadian studies, Mi'kmaq studies, and anthropology); mathematics, science (including biology, chemistry, physics, geology/earth sciences, oceanography, environmental studies), physical education/health education; and fine arts (including visual arts and music).

- b) 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, African Canadian studies, Mi'kmaq studies, and/or philosophy,
- c) Mathematics  
Six credits are required in the subject field of mathematics. Studies must include the investigation of fundamental concepts and ideas.
- d) 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.
- e) 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.
- f) 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 a course 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.

#### 4.2.2 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, 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 4.2.3.

**Secondary Education Requirements**

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

**a) Major Subject Field**

A minimum of 30 credits in the applicant's first degree must be in one of the recognized subject fields with at least 24 credits in one related discipline within the subject field and the remaining six credits in one other related discipline within the same subject field.

**b) Minor Subject Field**

A minimum of 18 credits in the applicant's first degree must be in a second recognized subject field with at least 12 credits in one related discipline within the subject field and the remaining six credits in one other related discipline within the same subject field. Music and physical education normally require 30 credits for a minor subject field.

**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, 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.

**4.2.3 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.

**4.2.4 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.

**4.2.5 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:

- i) three of the four academic courses, and
- ii) 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 3.13. 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 3.12 may apply.

**4.2.6 Professional Conduct**

Students are expected to practice behavior 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.

**4.2.7 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.

**4.3 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:

	<i>Credits</i>
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.

**4.4 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.

<i>Course</i>	<i>Offered</i>	<i>Credits</i>
MNST110 Ministry in the Christian Community*	Sept. and Jan.	2
MNST120 Adult Religious Education*	January	2
MNST130 Biblical Foundations	September	2
MNST140 God and the Christian Tradition	January	2



MNST150	Contemporary Catholic Issues	September	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.

### 4.5 PART-TIME BA AND BBA PROGRAMS

The university offers the BA and the BBA degree for students who wish to study on a part-time basis. With certain exceptions (see below), the regulations and requirements for part-time students are the same as for full-time students. *See previous sections of this chapter.*

New students, mature students, and transfer students who wish to enter the BA or BBA program part time must fulfill the entrance requirements and apply to the admissions office; see section 1.1.

To facilitate the earning of a BA or BBA degree, the university offers a limited number of courses in Pictou County and through distance learning. However, the university cannot guarantee that all courses required to earn a BA or a BBA will be offered off campus or by distance. Students may have to register in courses on the StFX campus to fulfill degree requirements. StFX offers a number of courses in the late afternoon and evening in Antigonish. Information concerning courses may be obtained from the registrar's office (902-867-2160), or the continuing education office (902-867-3906 or toll-free 1-877-867-3906).

Academic advising for part-time students is carried out by the office of the dean of arts.

#### Regulations for Part-Time Studies

- a) The course requirements for the BA and BBA are the same for part-time and full-time students.
- b) Of the number of courses required for graduation, a minimum of 60 credits must be obtained from StFX.
- c) Of the credits in BSAD required for the BBA degree, at least 36 must be obtained from StFX.
- d) Normally credit is granted for a maximum of 18 credits from May to August.
- e) Normally all students must complete degree requirements within a period of 10 years after admission to the program.
- f) To maintain a satisfactory academic standing, students must maintain an average of 55 in all courses taken for credit toward their degree. If their average falls below 55, students are placed on probation. Failure to increase the average to 55 after completion of a further 12 credits will result in dismissal from the university. Students may appeal probation or dismissal to the committee on studies; see section 3.13.
- g) Part-time students in satisfactory academic standing may write supplementary examinations, subject to *regulation 3.10.1*.
- h) Part-time students may appeal a grade, subject to regulation 3.14.
- i) Students in the BA program must complete the requirements of the BA with Major as outlined in chapter 4. Students wishing to pursue the BA with Advanced Major or with Honours, as described earlier in this chapter, should apply to the dean of arts for acceptance into these programs. Students who are accepted into the advanced major or honours programs must transfer to the full-time program for their final year of study.



**COADY**  
INTERNATIONAL  
INSTITUTE  
St. Francis Xavier University

### EDUCATION, INNOVATION, ACTION

Named in honour of Rev. Dr. Moses Coady, the Coady International Institute represents St. Francis Xavier University's commitment to social justice in action. Unique in North America, the Coady Institute has been educating and training development professionals from around the world since 1959. Over 4,000 men and women from more than 130 countries have graduated from the Coady's campus-based programs. They come to the Coady to share experiences and learn innovative and practical ways of working with their own communities to improve their social and economic well being through active citizenship and co-operation.

Their work in areas such as health, education, environment, micro-enterprise, and human rights is helping millions of people to build brighter futures for themselves. In addition to our campus-based educational programs for development professionals, members of the Coady staff collaborate with the Faculty of Arts to offer the undergraduate program in development studies. Courses are also cross-listed to provide opportunities for undergraduates to learn with international leaders participating in the Coady's Diploma in Community-Based Development.

Through our Global Partnerships Program, the Coady is also working on the ground with development organizations around the world to help them strengthen their ability to educate and train local development workers. The community leaders who attend the Coady's diploma and certificate programs on campus add much to the multicultural atmosphere at StFX and provide a rich resource for students interested in international issues. StFX students are welcome to visit the Coady Institute to meet with international community leaders and to use the institute's Marie Michael Library, which houses a special collection on international development.

StFX graduates can experience living and working overseas through the Coady's youth internship program. Since 1997, the Coady has provided over 100 university and college graduates from across Canada with the opportunity to participate in a six-month work internship with global partners in Asia, Africa, the Caribbean, and South America. Not only does the internship experience improve graduates' job prospects when they return to Canada, but it also gives them an opportunity to understand their role as global citizens by putting their learning into practice and helping others.



## 5. FACULTY OF SCIENCE REGULATIONS

- 5.1 General Regulations
  - 5.1.1 Degrees Offered
  - 5.1.2 Subjects Available
  - 5.1.3 Degree Patterns
  - 5.1.4 Declaration of Major, Advanced Major, or Honours
  - 5.1.5 Advancement & Graduation Requirements by Degree

- 5.2 Bachelor of Science with Joint Advanced Major
- 5.3 Bachelor of Science with Joint Honours
- 5.4 Engineering
- 5.5 Architectural Studies
- 5.6 Pre-Medical and Pre-Dental Studies
- 5.7 Pre-Veterinary Medicine

### 5.1 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 129 credits plus a non-credit course in pharmacology, the accelerated option for post-degree students is 66 credits plus pharmacology, the option for LPNs is 111 credits, and the option for RNs requires 75 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.

#### 5.1.1 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 six degrees:*

- Bachelor of Science with Major: in one of eight majors listed below
- Bachelor of Science with Advanced Major: in one of nine majors listed below; requires high academic achievement
- Bachelor of Science with Joint Advanced Major: combines the study of two science subjects; see table 5.2 for combinations
- Bachelor of Science with Advanced Major in a Science and Business Administration: for students with an interest in science who desire some exposure to business
- 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 5.3 for combinations

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

- Bachelor of Science in Human Kinetics with Major
- 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 7.19.

*Under the human nutrition heading there are three degrees:*

- Bachelor of Science in Human Nutrition with Major
- 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, post-degree students, and LPNs; see sections 1.3f 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

#### 5.1.2 Subjects Available

The following table lists the subjects available for study in the six science degrees within the Faculty of Science and where these subjects can be a major, pair or elective course.

The codes in each cell apply to all subjects listed in that cell's row, i.e., to the subjects in the cell on the extreme left.

Subject	B.Sc. Major	B.Sc. Advanced Major	B.Sc. Joint Advanced Major	B.Sc. Advanced Major Science and Business	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
CHEM Chemistry	"	"	"	"	"	"
CSCI Computer Science	"	"	"	"	"	"
ESCI Earth Science	"	"	"	"	"	"
MATH/STAT Mathematics and Statistics	"	"	"	"	"	"
PHYS Physics	"	"	"	"	"	"
AQUA Aquatic Resources	A	-	-	-	-	-
ECON Economics	-	A, E	-	-	A, E	-
PSYC Psychology	-	A, E	See Table 5.2	-	A, E	See Table 5.3

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### The legend for the table is:

A = Science A; B = Science B; C = Science C; E = Elective

### 5.1.3 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, which requires 129, the B.Sc. in Nursing for RNs, which requires 75, and the B.Sc. in Nursing for LPNs requires 111. The Diploma in

Engineering requires 69 credits.

In science, the acceptable arts subjects are art, Canadian studies, Catholic studies, Celtic studies, classical studies, comparative literature, development studies, economics, English, French, German, history, interdisciplinary studies, music, philosophy, political science, psychology, religious studies, sociology/anthropology, Spanish, theatre, and women's studies. Certain restrictions apply and are

### The legend for the table is:

Req = Required, Elec = Electives

Pattern and Credits Required in Each Degree or Diploma									
See Notes 1-5	Science A	Science B	Science C	Science Elec	Arts X	Arts Y	Arts Z	Approved Elec	Open Elec
B.Sc. Major	36 credits	12 credits	6 credits	6 credits	12 credits	12 credits	6 credits	-	30
B.Sc. Advanced Major	42	12	6	-	12	6	-	18	24
B.Sc. Joint Advanced Major	42	36	6	-	12	6	-	12	6
B.Sc. Advanced Major Science and Business	36, BSAD 30, CSCI 3	12	6	-	12	6	ECON 6	9	-
B.Sc. Honours	60	12	6	-	12	6	-	18	6
B.Sc. Joint Honours	Total of 84 in A and B; up to 12 may be from other sciences		6	-	12	6	-	12	-
Human Kinetics	HK Req	HK Elec	Biology	Science A	Science B	Arts X	Art Y	Approved Elec	Open 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 6	6	12	6	6	6
B.Sc. HKIN Advanced Major for both Kinesiology and Pre-Education	Same as Major with HKIN 491		-	-	-	-	-	-	-
B.Sc. HKIN Honours Kinesiology	36	18	6	24	6	12	6	6	6
B.Sc. HKIN Honours Pre-Education	51	3	6	24 see Note 6	6	12	6	6	6
Human Nutrition	HN Req	HN Elec	BIOL	BSAD	CHEM	MATH	Humanities	Social Science	Open
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 with HNU 491, 493	12	12	6	12	3	12	6	12
Nursing	NURS Req	NURS Elec	BIOL	CHEM	HNU	PSYC	RELS	Arts/Sci Elec	Open Elec
B.Sc. Nursing, including Fast Track	72	-	12	6	6	6	6	12	9
B.Sc. Nursing Advanced Major	75 with NURS 499	-	12	6	6	6	6	9	9
B.Sc. Nursing Honours	78 with NURS 496, 499	-	12	6	6	6	6	9	6
B.Sc. Nursing for RNs	33	12	12	6	-	-	-	6	6
B.Sc. Nursing, Post-Degree option	66	-	-	-	-	-	-	-	-
B.Sc. Nursing for LPNs	60	-	12	6	6	-	6	12	9
Engineering	ENGR Req	ENGR Elec	CHEM	PHYS	-	Arts Elec			
Diploma in Engineering	27	Up to 21	6	6	-	Up to 12			

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 and Business, either science A or B must be MATH and must include six credits of calculus.

Note 2 Six credits of arts X, Y or Z must be one of the humanities, and the other six credits must be a social science. See the glossary at the end of this calendar for definitions of what subjects constitute the humanities and social sciences.

Note 3 The major department may specify up to a certain number of credits in the science A courses. In other words, with permission of the major department, for the major, up to six of the 36 may be from another science department, up to 12 of the 42 for the advanced major, up to 12 of the 78 for the joint advanced major, and up to 18 of the 60 in honours may be from another science department.

Note 4 As an exception to regulation 3.1 f, students in B.Sc. major, advanced major or honours programs may take six credits, ENGR, HKIN or HNU with the approval of the chair of the professional department and the chair of the major, advanced major or honours department. The six credits will be counted as an open elective in the B.Sc. major program, or as an approved elective in the advanced major, honours, joint advanced major or joint honours program.

Note 5 BSAD is not accepted as an arts elective subject in science. Students in the B.Sc. with Major may take up to 12 credits in BSAD as open electives. 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 electives. Students in joint advanced major or joint honours programs may take up to 12 credits as approved electives.

Note 6 For students pursuing the elementary teaching stream option, a minimum of 24 credits must be in one of the subject fields taught in Nova Scotia schools. Science A then becomes 18 credits and the approved electives become 12 credits.

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.

#### 5.1.4 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.

#### 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, 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.

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 over final three years
B.Sc. Advanced Major	average 60 in each of the first and second years; grades 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 the first and second years; grades 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 the first and second years; grades 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. Honours	average 70 in each of the first and second years; grades of 70 in each course in Science A	average 70, grades of 70 in Science A, average 70 in Science A	average 70, grades of 70 in Science A, average 70 in Science A
B.Sc. Joint Honours	average 70 in each of the first and second years; grades of 70 in each course in Science A and B	average 70, grades of 70 in Science A and B, average 70 in Science A and B	average 70, grades of 70 in Science A and B, average 70 in Science A and B
B.Sc. Human Kinetics	average 55		average 55 over final three years
B.Sc. Human Kinetics with Advanced Major	average 60 in each of the first and second years; grades of 60 in each HKIN course; average 60 in Science A in first two years	average 65, average 65 in HKIN courses, average 65 in Science A	average 65, average 65 in HKIN courses, average 65 in Science A
B.Sc. Human Kinetics with Honours	average 70 in each of the first and second years; grades of 70 in each HKIN course	average 70, grades of 70 in HKIN courses	average 70, grades of 70 in HKIN courses
B.Sc. Human Nutrition	average 55 in each of the first and second 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 over final three years, average 60 in HNU courses
B.Sc. Human Nutrition with Advanced Major	average 60 in each of the first and second 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 the first and second years; combined average 70 in HNU and science courses in first year; average 70 in HNU courses in first two years	average 70, grades of 70 in each HNU course	average 70, grades of 70 in each HNU course
B.Sc. Nursing, all program options see Note 1	average 55 in first year, grades of 60 in each NURS course, average 55 on all NURS and science courses in first year or level, average 60 and average 60 in NURS and science courses in first two years or levels	average 55, grades of 60 in each NURS course	average 55 over final three years or levels, grades of 60 in each NURS course
B.Sc. Nursing with Advanced Major	average 60 in each of first and second year, grades of 65 in each NURS course, no nursing alert in second year	average 70, grades of 70 in each NURS course, no nursing alert	average 70, grades of 70 in each NURS course, no nursing alert
B.Sc. Nursing with Honours	average 70 in each of first and second year, grades of 70 in each NURS course, no nursing alert in second year	average 70, grades of 70 in each NURS course no nursing alert	average 70, grades of 70 in each NURS course, no nursing alert
B.Sc. Nursing for Registered Nurses	average 55, grades of 60 in each NURS course		average 55 over whole program, grades 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.

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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.

<i>with</i>	BIOL	CHEM	CSCI	ESCI	HKIN	MATH	PHYS	PSYC
<b>BIOL</b>	-	Y	Y	Y	Y	Y	Y	Y
<b>CHEM</b>	Y	-	Y	Y	-	Y	Y	-
<b>CSCI</b>	Y	Y	-	Y	-	-	Y	-
<b>ESCI</b>	Y	Y	Y	-	-	Y	Y	-
<b>HKIN</b>	Y	-	-	-	-	-	-	-
<b>MATH</b>	Y	Y	-	Y	-	-	Y	-
<b>PHYS</b>	Y	Y	Y	Y	-	Y	-	-
<b>PSYC</b>	Y	-	-	-	-	-	-	-

### ADVANCED MAJOR

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

### 5.3 BACHELOR OF SCIENCE WITH JOINT

<i>with</i>	BIOL	CHEM	CSCI	ESCI	MATH	PHYS	PSYC
<b>BIOL</b>	-	Y	Y	Y	Y	Y	Y
<b>CHEM</b>	Y	-	Y	Y	Y	Y	-
<b>CSCI</b>	Y	Y	-	Y	-	Y	-
<b>ESCI</b>	Y	Y	Y	-	Y	Y	-
<b>MATH</b>	Y	Y	-	Y	-	Y	-
<b>PHYS</b>	Y	Y	Y	Y	Y	-	-
<b>PSYC</b>	Y	-	-	-	-	-	-

### HONOURS

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

### 5.4 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 disciplines at Dalhousie University: biological, civil, electrical, mechanical, industrial, chemical, mining, or metallurgical engineering. Conditional acceptance into a department allows the student to choose the appropriate courses to take in the second year of the diploma program.

As Dalhousie and the associated universities form a unified system of engineering education, all diploma graduates from the associated institutions are guaranteed admission to Dalhousie University. It is not possible, however, for Dalhousie to guarantee that students will gain entry to the department of their choice, since all departments 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 departments, in preferential order, and at a predetermined date (typically about May or June), departments at Dalhousie will notify the chair of the engineering department of the students to whom they have offered conditional admission, based on academic performance. Students who do not gain entrance to their preferred discipline or do not wish to continue their studies at Dalhousie University may apply to a B.Eng. program at any other institution.

Students who transfer to this program from other universities must obtain credit for at least 39 credits taken at StFX in order to

receive a diploma from StFX.

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

### 5.5 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.

### 5.6 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.

Dalhousie University Faculty of Dentistry requires the courses above except that English may be replaced by any humanities or social science course with a strong writing component. Also required are biochemistry, vertebrate physiology, and microbiology (i.e., CHEM 255, BIOL 304 and 315).

### 5.7 PRE-VETERINARY MEDICINE

The Atlantic Veterinary College is located at the University of Prince Edward Island. The academic requirement for admission is 60 credits:

a total of six MATH credits including any STAT; BIOL 111, 112 (101,102), 204, 315; CHEM 100 and 221; PHYS 100; ENGL 100; nine credits of humanities and social sciences; and 12 credits of arts/science electives. Veterinary-related experience is also required.

## 6. GRADUATE STUDIES

- 6.1 Admission Procedures and Requirements
- 6.2 Full-Time and Part-Time Studies
- 6.3 General Information
- 6.4 Program Requirements
- 6.5 Thesis Regulations

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 Arts in Teaching
- Master of Education

### 6.1 ADMISSION PROCEDURES AND REQUIREMENTS

For all master's programs except the M.Ad.Ed. (discussed in 6.1.2) and the M.Ed. (discussed in 6.1.4), the following rules apply.

Deadlines for application are October 15 for entry in January or March and April 15 for entry in July or September. Students will not be admitted to any graduate course unless, on the first day of class, they present a course registration form signed by the chair of the committee on graduate studies.

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

#### 6.1.1 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, earth sciences, and physics. Minimum admission requirements for these degree programs are:

- a) a bachelor's degree with the equivalent of an undergraduate major (30 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.

#### 6.1.2 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 admissions office. Upon acceptance to the M.Ad.Ed. program, candidates are assigned to begin their studies in one of the orientation workshops which are held in the fall, winter, and spring.

#### 6.1.3 Master of Arts in Teaching

For admission to the MAT program, applicants must:

- a) hold a B.Ed. degree (or its equivalent);
- b) have completed a bachelor's degree with major (or its equivalent)

in the field of graduate study;

- c) have completed one year of successful teaching.

Normally, an average of 70 in the last 30 undergraduate credits is required. Before the degree is granted, candidates must complete two years of successful teaching.

#### 6.1.4 Master of Education:

##### Eligibility to Enroll in M.Ed. Courses

The deadline for application to the M.Ed. program is April 15 of each year, with courses beginning in July or September 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 to the continuing and distance education office with a letter of permission from the student's degree-granting institution.

For regular admission to the M.Ed. program, candidates will normally have:

- a) completed a B.Ed. or its equivalent;
- b) earned an average of 80 in the B.Ed. program or placed in the top 25% of the B.Ed. graduating class; and
- c) completed at least two years of teaching before enrolling in the first graduate course.

Considerable weight will also be given to the references supplied by the applicant and to successful teaching experience. Candidates will be asked to indicate their research interests and provide a writing sample. Interviews may be required.

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.

Admission to the M.Ed. is highly competitive. Meeting the minimum admission requirements does not ensure acceptance into the program. Decisions of the admissions committee are final.

## 6.2 FULL-TIME AND PART-TIME STUDIES

### 6.2.1 Full-Time Study

The university may admit suitable candidates for full-time study during the regular academic year in the MA 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.

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

### 6.2.2 Part-Time Study

The university may admit suitable candidates for part-time study for the MAT and the M.Ed.

Part-time students may register for only six graduate credits during any term or summer session.

Students may be granted credit for six credits from another university if approval is obtained before registration in the course.

Candidates must complete the program so that the degree is awarded within six years of initial registration.

### 6.2.3 Master of Adult Education

The M.Ad.Ed. program is, with the exception of the orientation workshop, a distance-learning program.

Students may not use courses taken elsewhere towards the M.Ad.Ed. degree.

## 6.3 GENERAL INFORMATION

Students without previous admission to a degree program will be permitted to register in graduate courses provided they meet the program's entrance requirements.

A student who has registered in, or completed, courses in compliance with the previous paragraph, and who is later admitted to a degree program without condition, may be granted credit for a maximum of 12 credits provided they are acceptable as part of the program in which the student is enrolled.

## 6.4 PROGRAM REQUIREMENTS

### 6.4.1 General

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

Students in the part-time program 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 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.

Registration in a course for graduate credit must be approved by the chair of the committee on graduate studies.

### 6.4.2 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 department chair in consultation with the chair of the committee on graduate studies.
- 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.

### 6.4.3 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, 12 credits of which are course work.
- Candidates must satisfy course, seminar, and comprehensive examination requirements as determined by the department chair in consultation with the chair of the committee on graduate studies.

### 6.4.4 Master of Adult Education

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.

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;
- implement a professional development research project;
- evaluate the learning experience;
- complete an academic document (thesis) which demonstrates that the learning objectives of the program have been achieved.

The completed thesis must be submitted to the committee on graduate studies within five years of commencement of the program. Each academic year, exceptions to the five-year requirement may 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. Typically, the thesis must be received by the committee on graduate studies no later than March 31 for spring convocation or September 30 for fall convocation.

### 6.4.5 Graduate Programs for Teachers 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 elements of study 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. 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 in education are offered as fall, winter, spring, and summer school courses in locations around the province.

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 being accepted into the program. EDUC 505 is a prerequisite for EDUC 506, 507, 508. Normally EDUC 506, 507, 508 are taken after core courses are completed. EDUC 506 or 507 is required in the thesis route; EDUC 508 is required in the course-based route.

<i>Educational Administration and Policy Stream</i>		<i>Credits</i>
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.

<i>Curriculum and Instruction Stream</i>		<i>Credits</i>
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.

Graduate courses which may be taken for credit towards an M.Ed. are listed in section 7.15.

### **Master of Arts in Teaching**

The MAT program provides specialist training in subjects in the high school curriculum. The program may be offered in English, history, mathematics or science.

The MAT program fulfills the requirements of the Nova Scotia Department of Education for an increase in level of teacher certification.

Candidates must earn a total of 30 credits of graduate work:

- a) at least 24 credits must be in the field of concentration; in science, 12 credits must be in one science subject;
- b) the thesis may count for six credits; and
- c) at least six credits should be in curriculum theory or program development.

The program is normally offered during academic sessions over a period of four years, but in certain departments it may be offered during a 12-month period.

Secondary school teachers with three or more years of teaching experience who wish to pursue an MAT in the discipline they teach, but who lack the major or its equivalent required for admission to the degree program, have the following option: they are permitted to challenge for admission to the program by sitting for examinations in up to 12 undergraduate credits in that discipline on the basis of knowledge or experience gained outside the formal educational context.

## **6.5 THESIS REGULATIONS**

This section does not apply to M.Ad.Ed. students who are required to prepare a thesis based on original research under the guidance of the chair or faculty advisor. Theses must be approved by two

members of the faculty of the department of adult education and the committee on graduate studies.

Candidates who are interested in the thesis option in any graduate program must consult with the department chair who will arrange for the appointment of a thesis supervision committee.

Candidates who register for this option 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. After presentation of the proposal, and on the recommendation of the candidate's thesis supervisory committee and the department chair, the candidate is permitted to register the thesis topic with the committee on graduate studies.

Part-time students in the M.Ed. and MAT programs must complete 12 credits of graduate work before they present a thesis proposal.

Full-time graduate students normally complete six credits (or the equivalent) of graduate work before they present a thesis proposal.

The thesis for a master's degree is considered the equivalent of at least six credits.

The thesis is read by two faculty members designated by the department chair; they are not normally members of the supervisory committee. The completed thesis is submitted to the candidate's supervisory committee for approval. The thesis is also read by an external examiner chosen by the supervisory committee. The external examiner must submit a report on the thesis to the chair of the committee on graduate studies. A public defence of the thesis is presented by the candidate after receipt of the external examiner's report. An *in-camera* examination of the candidate, open to members of the supervisory committee and members of the committee on graduate studies, is held immediately after the public defence.

A bound copy of the thesis must be submitted to the chair of the



committee on graduate studies for approval at least four weeks prior to the date of the convocation at which the candidate expects to graduate.

## 7. DEPARTMENT AND PROGRAM INFORMATION

- 7.1 Adult Education
  - ▷ Anthropology (see Sociology and Anthropology 7.32)
- 7.2 Aquatic Resources
- 7.3 Art
- 7.4 Biology
- 7.5 Business Administration
- 7.6 Canadian Studies
- 7.7 Catholic Studies
- 7.8 Celtic Studies
- 7.9 Chemistry
- 7.10 Classical Studies
  - ▷ Comparative Literature (see Modern Languages 7.24)
- 7.11 Computer Science
- 7.12 Development Studies
- 7.13 Earth Sciences
- 7.14 Economics
- 7.15 Education
- 7.16 Engineering
- 7.17 English
  - ▷ French (see Modern Languages 7.24)
  - ▷ German (see Modern Languages 7.24)
  - ▷ Graduate Studies (see section 6)
- 7.18 History
- 7.19 Human Kinetics
- 7.20 Human Nutrition
- 7.21 Information Systems
- 7.22 Interdisciplinary Studies
- 7.23 Mathematics, Statistics, and Computer Science
  - ▷ Mi'kmaq (see Modern Languages 7.24)
- 7.24 Modern Languages
- 7.25 Music
- 7.26 Nursing
- 7.27 Philosophy
- 7.28 Physics
- 7.29 Political Science
- 7.30 Psychology
- 7.31 Religious Studies
  - ▷ Service Learning (see Interdisciplinary Studies 7.22)
- 7.32 Sociology and Anthropology
  - ▷ Spanish (see Modern Languages 7.24)
  - ▷ Theatre (see Interdisciplinary Studies 7.22)
- 7.33 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

A maximum of six credits may be earned from: STAT 201, 231, 331 (232), PSYC 290, SOCI 305 (255) and 300. Normally, STAT 201 and PSYC 290 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 170 and

A	B	A	B
ART 141	ART 341	HNU 200	HNU 261, 262, 263
ART 142	ART 342	INFO 135	INFO 315
BIOL 111	BIOL 102	INFO 151,152 (150)	CSCI 160
BIOL 112	BIOL 101	INFO 275	INFO 475
BIOL 115	BIOL 315	INFO 375	INFO 476
BIOL 304	BIOL 252	MATH 221	MATH 367
BSAD 319	BSAD 419	MATH 222	MATH 267
BSAD 363	BSAD 463	MATH 223	MATH 253
CHEM 100	CHEM 120	MATH 224	STAT 201, 231
CSCI 100	CSCI 235, INFO 131	NURS 275	NURS 425
CSCI 125	CSCI 160, 161	NURS 300	NURS 310
CSCI 235	CHEM 375, INFO 131	PHIL 330	PHIL 331, 332, 334
CSCI 254	CSCI 255	PHYS 100	PHYS 120
ECON 300	ECON 305, 306	PSYC 290	STAT 201, 231, 331
ENGL 209	ENGL 306	RELS 250	RELS 253, 255
ENGL 231	ENGL 333	RELS 360	RELS 363, 365
ENGL 431	ENGL 433	RELS 460	RELS 383, 385
ESCI 100	ESCI 170	SOCI or ANTH 202	SOCI 305 or NUR 310
HKIN 385	HKIN 395	STAT 201	STAT 231

ESCI 171 or 172.

Credit may not be earned for both courses that are cross-listed. In all arts and science programs, credit may be earned for either the course in column A or the course in column B in the following table.

### 7.1 ADULT EDUCATION

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

#### Master of Adult Education

J. Dawson, Ph.D.  
L. English, Ed.D.  
D. Lander, Ph.D. (sabbatical 2004-2005)  
A. Quigley, Ed.D.  
P. Cranton, Ph.D.

#### Diploma in Adult Education

See chapter 4 for the Diploma in Adult Education.

### Graduate Program

The admission procedures and requirements for the M.Ad.Ed. degree are given in chapter 6. Students have five years to complete this part-time program. Further details can be found on the department's web page: <[www.stfx.ca/academic/adulted/](http://www.stfx.ca/academic/adulted/)>.

### Orientation

This is an intensive three-week residential orientation during which students become familiar with the foundations of, and requirements for, this five-year, self-directed 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. 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. At the end of this phase, the student submits a project 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 510. The report is a reflective portfolio evaluating knowledge gained and changes in practice, and is accompanied by a narrative. Six credits.

**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.

▷ **ANTHROPOLOGY**

*See Sociology and Anthropology in 7.32*

**7.2 AQUATIC RESOURCES**

P. Clancy, Ph.D., ISAR Coordinator  
L. Patterson, M.Sc., ISAR Program Officer

<i>ISAR Steering Committee</i>	<i>Department</i>
J. Apaloo, Ph.D.	Mathematics
M.E. DeMont, Ph.D.	Biology
S. Holloway, Ph.D.	Political Science
T.W. Hynes, Ph.D.	Business Administration
D. MacInnes, Ph.D.	Sociology/Anthropology
R. Martinez-Espineira, Ph.D.	Economics
M. Melchin, Ph.D.	Earth Sciences

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

ISAR prepares students for careers in natural resource management, government or private sector research, 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 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; political science; sociology/anthropology. ISAR students must participate in an internship (AQUA 400) and in the senior seminar (AQUA 450).

**Major Program**

Major candidates are required to complete:

- i) a core ISAR major program of AQUA 100, 400, 450; ESCI 171; BIOL 112; ECON 100; plus BSAD 101, 102;
- ii) 36 credits in the second major discipline, including at least 18 credits of AR-designated courses from that discipline;
- iii) at least 6 credits of AR-designated courses in each of three of the participating academic departments other than the major.

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

**Progression Requirements**

All full-time ISAR major students completing the first-year required courses (AQUA 100; ECON 100; 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.

All ISAR students must receive academic advising from the program co-ordinator or program officer, in conjunction with the following normal sequences of the six AR streams:

**BA Major in Economics and Major in Aquatic Resources**

- Year 1 AQUA 100; ECON 100; BIOL 112; ESCI 171; INFO 131, 135; 6 credits arts electives
- Year 2 ECON 221, 251, 252, 281; BSAD 101, 102; 12 credits arts/science electives
- Year 3 ECON 341, 342, 381; STAT 201; MATH 205; 15 credits arts/science electives
- Year 4 AQUA 400, 450; 9 credits ECON; 15 credits arts/science electives

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

- Year 1 AQUA 100; ECON 100; BIOL 112; ESCI 171; BSAD 101, 102; one of SOCI/ANTH 110 or PSCI 100
- Year 2 PSCI 240; SOCI/ANTH 201, 202; 18 credits arts/science electives
- Year 3 PSCI 341, 342; ANTH 316; 3 credits SOCI/ANTH methods or theory at the 300 level; 18 credits arts/science electives
- Year 4 AQUA 400, 450; 24 credits arts/science electives

**BBA with Aquatic Resources Major**

- Year 1 AQUA 100; BIOL 112; BSAD 101, 102; ECON 100; ESCI 171; 6 credits arts/science electives
- Year 2 BSAD 231, 261; INFO 131, 135; MATH 205; STAT 201; 6 credits AR-designated courses; 6 credits BSAD electives
- Year 3 BSAD 221, 223, 331, 341, 332; 9 credits BSAD electives; 6 credits AR-designated courses
- Year 4 AQUA 400, 450; BSAD 471, 456, 472; 6 credits BSAD electives; 3 credits BSAD tech-designated course; 6 credits AR-designated courses

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

- Year 1 AQUA 100; BIOL 112; ECON 100; ESCI 171; CHEM 100; MATH 111, 112
- Year 2 BIOL 111, 201, 202, 203, 204; CSCI 235; STAT

## 34 Aquatic Resources

	231; 3 credits science elective; 6 credits arts electives
Year 3	12 credits of BIOL 307, 311, 312, 321, 322; BSAD 101, 102; 12 credits arts electives
Year 4	AQUA 400, 450; 6 credits BIOL (3 at the 400 level); 18 credits arts or science electives

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

Year 1	AQUA 100; ESCI 171; ECON 100; BIOL 112; CHEM 100; MATH 111, 112
Year 2	ESCI 201, 202 or 246, 215, 216, 271, 275 or 276; 6 credits MATH or CHEM at the 200 or 300 level; 9 credits arts/science electives
Year 3	ESCI 305, 366, 386, 465; BSAD 101, 102; 12 credits arts electives
Year 4	AQUA 400, 450; ESCI 387, 406; 18 credits arts/science electives

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

Year 1	AQUA 100; ESCI 171; BIOL 112; ECON 100; MATH 111, 112; BSAD 101, 102
Year 2	MATH 253, 277, 267, 287; CSCI 125, 235; STAT 231; 9 credits arts/science electives
Year 3	STAT 331, 333; 12 credits arts electives; 12 credits science electives
Year 4	AQUA 400, 450; MATH 367, 387; 18 credits arts/science electives

### **Aquatic Resources Courses:**

#### **100 Introduction to Aquatic Resources**

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 sociological, economic, political, and business dimensions of aquatic resource use, while field trips and laboratory exercises introduce the methodologies used to study these ecosystems. Restricted to students majoring in aquatic resources. Lab, field trips. Six credits.

#### **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 internship provider and academic advisor. Restricted to students majoring in aquatic resources. 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. Restricted to students majoring in aquatic resources. Three credits.

### **AR-Designated Courses, by Department**

<i>Biological</i>		<i>Credits</i>
BIOL 201	Animal Biology	3
BIOL 202	Plant Biology	3
BIOL 203	Introductory Ecology	3
BIOL 207	Introduction to Natural History	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 322	Marine Pollution	3
BIOL 472	Freshwater Ecology	3

### **Business Administration**

		<i>Credits</i>
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**

See MATH, STAT, CSCI

### **Earth Sciences**

		<i>Credits</i>
ESCI 271	Environmental Earth Science	3
ESCI 272	Global Change & 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 472	Ocean-Atmosphere Interactions	3

### **Economics**

		<i>Credits</i>
ECON 241	Canadian Economic Policy & Problems	3
ECON 251	Intermediate Microeconomic Theory I	3
ECON 252	Intermediate Microeconomic Theory II	3
ECON 281	Environmental Economics	3
ECON 341	Regional Economics	3
ECON 342	Maritime Economy	3
ECON 370	Econometric Methods	6
ECON 381	Natural Resource Economics	3

### **Mathematics, Statistics, and Computer Science**

		<i>Credits</i>
STAT 201	Elementary Statistics	3
STAT 231	Statistics for Students in the Sciences	3
STAT 331	Statistical Methods	3
MATH 287	Natural Resource Modelling	3
MATH 367	Differential Equations	3
MATH 387	Mathematical Modelling	3
CSCI 125	Computer Programming in C	3
CSCI 235	Micro-computers in Science	3
CSCI 335	Operations Research	3

### **Political Science**

		<i>Credits</i>
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 351	Canadian Foreign Policy	3

### **Sociology and Anthropology**

		<i>Credits</i>
SOCI/ANTH 202	Research Principles and Practices	3
SOCI 305	Applied Methods in Social Research	6
ANTH 316	Rural Communities	3
SOCI 321	Sociology of Atlantic Canada	3

SOCI 323	Environment and Society I: Introduction	3
SOCI 360	Social Policy	6
SOCI 423	Environment and Society II: Paradigms and Politics	3

### 7.3 ART

I.M. Delgado, MFA

#### *Part Time*

K. Brown, BFA

D. Burge, Dip.

B. Campbell, MFA

G. Hills

S. Gregory, Ph.D.

R. Greenlaw, BFA

S. Jan, BA

T. Kellman, MA, Ph.D.

M. MacFarlane, BFA

G. McCulloch

M. Nicholson, BA, B.Arch., BEDS

L. Quigley, BA

F. Redgrave, BFA, B.Ed.

J. Redgrave, F.A.Dip.

B. Segal, MGDC

B. Sparks, BFA, MA

A. Syperok, BFA

O. Tetu

R. Young, B.D.Vis.Com., M.Ad.Ed.

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

#### **Minors in Studio Art**

ART 100, 141, 142, and 12 additional credits in studio courses

#### **Minors in Art History**

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

#### **Art 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**

This course provides students with a working knowledge of design elements and principles used in art and design. 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 from prehistoric Europe to the late gothic period. Three credits.

##### **142 History of Art II**

A survey of the visual arts from the early Renaissance to modern times. Prerequisite: ART 141. 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**

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.

##### **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. Not offered 2004-2005.

##### **222 Weaving Studio**

Tapestry, in contrast to pattern weaving, is a technique whereby threads or yarns are interlaced to produce wall hangings or rugs. Students will learn how to thread looms and weave designs for tapestry. 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 (335) 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 2004-2005.

##### **236 (336) 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 335. Three credits. Not offered 2004-2005.

##### **240 Pastels**

Pastel is an expressive medium that combines the best qualities of drawing and painting. The first half of this class will explore the drawing and graphic possibilities of pastels. During the second term, students will paint, learning direct color mixing and color theory, composition and problem solving, while experimenting with the many types of pastel, from very soft to very hard, in conte, chalk and oil (as well as some mixed media) on different paper surfaces. Prerequisite: ART 100. Three credits.

##### **255 Landscapes and Floral Painting in Watercolor**

This course introduces students to the medium of watercolor. Color mixing and watercolor techniques will be explored and students will complete a number of landscape and floral paintings. Prerequisite: ART 100 or portfolio demonstrating drawing skills. Three credits.

##### **258 (358) 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. Three credits. Not offered 2004-2005.

##### **260 (360) 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 (361) 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. Not offered 2004-2005.

### **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**

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 PSCI 312. Three credits.

### **320 Painting**

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.

### **350 (351/352) 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.

### **370 Italian Renaissance Art**

A survey of the visual arts in Italy from the late 13th through the mid-16th century, from the late Gothic through the High Renaissance and Mannerism. This course will consider works of art from the point of view of artistic style and technique, and will also examine how art functions in its social and cultural context. Replaces ART 371 and 372. Prerequisites: Art 141, 142 or permission of the instructor. Six credits.

### **385 Selected Topics I**

The topic for 2004-2005 is Advanced Drawing II. A continuation of Art 100, this course covers the direct observation of still life, figure drawing, composition, expression, and critical analysis. A variety of drawing media, both colour and black and white, will be used. Projects to be done outside of class will be assigned on a regular basis. Prerequisite: ART 100 or portfolio approved by the instructor. Three credits

### **386 Selected Topics II**

The topic for 2004-2005 is Advanced Drawing III. This course will concentrate on the development of individual expression. There will be greater emphasis on the expressive potential of the figure. Projects to be completed outside class will be assigned on a regular basis. Prerequisite: ART 100 or 350 (351 and 352) 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.

### **441 Issues in Canadian Art Through World War II**

A study of Canadian art through World War II, this course covers

changing pictorial and sculptural space; painting and photography; traditional aboriginal art; the revision of landscape by the Group of Seven to serve nationalist aspirations and visionary purposes; Quebec artists' use of abstract art to foster social change; connections between European-influenced art and church ritual; and the visions of myth-makers and romantics. Prerequisites: ART 141, 142. Three credits.

### **442 Issues in Contemporary Canadian Art**

Covers the rise of abstraction in Canada, and examines how contemporary art shifted to questions of representation, in particular the problem of understanding reality as representation in a society of mass consumption. Students will explore the practice of art and the use of images in globalizing culture, through such previously marginalized perspectives as feminism, gender, post-colonialism, psychoanalysis, linguistics, and environmentalism. Prerequisites: ART 141, 142. Three credits.

### **499 Directed Study**

See section 3.5. Three or six credits.

## **7.4 BIOLOGY**

J.A. Buckland-Nicks, 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.  
A.G. Miller, Ph.D.  
A.V. Newsome, M.Sc.  
M. Pulsifer, M.Sc.  
R. Rasmussen, Ph.D.  
N.R. Seymour, Ph.D.  
B.R. Taylor, Ph.D.  
P.J. Williams, Ph.D.

Biology is the science of living organisms. Humans are organisms and many biology courses deal with the human condition. By investigating the living world around us, we learn more about ourselves. Biology can provide a background in natural history, and the basis for understanding environmental issues on the global scale. 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 animal biology, cell and molecular biology, ecology and evolution, and plant biology.

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.

### **Department Requirements**

CHEM 100 is a prerequisite for all BIOL courses, except 111, 112, 251, 252. BIOL 111 and 112 are required for all students continuing in biology major, advanced major, and honours programs.

*Note: Unless otherwise indicated BIOL 111 and 112, 201, 202, 203, 204 are prerequisites for all third- and fourth-year courses.*

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

BIOL 105 is a three-credit course restricted to students in nursing. A passing grade in and credit for BIOL 105, and CHEM 100 or 150

taken concurrently, will permit these students to enroll in BIOL 115.

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

Advanced major and honours students normally take CHEM 221, 255 and STAT 231 in their second year. Students interested in the health professions should take CHEM 220 in their second year.

The biology department provides guidelines for students wishing to explore a specific area of biology, and joint programs are available for those interested in studying two scientific areas; students should consult the department academic advisors or chair.

#### **Major Program**

Program requirements are given in chapter 5. Students in the major program must take BIOL 111, 112, 201, 202, 203, 204, and 18 additional BIOL credits 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 255; 21 additional BIOL credits (at least three credits must be BIOL at the 400 level, other than BIOL 491); CHEM 100, 221; MATH 111, 112; STAT 231; 18 credits arts electives: to include one pair; 15 credits approved electives (PHYS 100 or 120 recommended); 24 credits open electives.

#### **Honours Program**

Students must take BIOL 111, 112, 201, 202, 203, 204, 491, 493; CHEM 255; PHYS 100 or 120; 30 credits of BIOL or other approved science courses (at least 3 credits must be BIOL at the 400 level, other than BIOL 491 or 493); CHEM 100, 221; CSCI 235; MATH 111, 112; STAT 231; 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 5.2 and 5.3. Students considering a joint honours or advanced major should consult with the relevant department chairs as early as possible.

#### **[AR] Indicates Designated Course in Aquatic Resources**

#### **105 Basic Cell Biology**

Covers basic cell biology and genetics with a human orientation. Restricted to nursing students. Three credits and tutorial.

#### **111 (102) 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 (101) Diversity of Life**

This course emphasizes the interrelationships of living systems and their roles in global ecology, exploring organismic diversity, functional morphology, embryogenesis, and ecology from an evolutionary perspective. Required for 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; CHEM 150, completed or concurrent. 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.

#### **207 Introduction to Natural History [AR]**

Lectures and field trips provide an introduction to local natural history and a foundation for topics such as ecology, biodiversity, conservation, and land use planning. Students observe organisms in their natural environment and are exposed to plant and animal communities in the context of historical and recent human impact. Restricted to students in at least their second full year of study. Not available for credit as science A. Three credits and lab.

#### **220 Current Topics in Biology (for Arts Students)**

Topics include: life in its relationship to the physical world; heredity and evolution, with emphasis on the human organism; natural history; ecological problems posed by pollution, over-population and the depletion of natural resources; human social behavior from a biological perspective. Restricted to arts students in their third or fourth year or with permission of the instructor. Students applying for a B.Ed. program must complete a three-hour lab every other week. Six credits.

#### **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. Restricted 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. Restricted 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.

#### **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. Prerequisite: 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. Prerequisite: 18 credits BIOL. Three credits and evening tutorial. Not offered 2004-2005.

**304 Vertebrate Physiology**

This course provides integrated information on how organs work, embellished with examples from 'primitive' and 'advanced' vertebrates, including the human, with the overarching theme of the functional evolution of vertebrates. Systems covered include neural, cardiovascular, respiratory, renal, acid-base, reproductive, and endocrine. Credit may be awarded for only one of BIOL 304 and 252. 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 May, 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. Three credits and lab.

**311 Marine Biology I [AR]**

This introductory course in marine biology covers photosynthetic organisms in an ecological context and explores the structuring of marine communities and humanity's impact on the ocean. Lectures introduce oceanographic principles but emphasize the ecological and functional roles of primary producers in marine communities such as plankton, kelp forests, intertidal zones, and salt marshes. Three credits and lab.

**312 Marine Biology II [AR]**

Focuses on animal life in the marine environment. Lectures emphasize the ecological and functional relationships among organisms in selected marine ecosystems such as coral reefs, intertidal zones and deep seas. Human use of and impact on marine resources is also discussed. Three credits and lab.

**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. Open to human nutrition students upon completion of BIOL 111, CHEM 221, 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 315; CHEM 220 or 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. Prerequisite: BIOL 395. Three credits and tutorial.

**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 usual BIOL prerequisites. Three credits.

**322 Marine Pollution [AR]**

An examination of the sources, types, and ecological effects of pollution that enters the marine environment. Lectures will be augmented with examples drawn from Atlantic Canada, with emphasis on the pulp and paper industry and on offshore hydrocarbon exploration and development. Laboratories will cover the detection of pollutants, toxicity testing, regulatory issues, and effluent treatment. Prerequisites: AQUA 100 and BIOL 203; or the usual BIOL prerequisites. Three credits.

**325 Physiological Ecology**

An introduction to the physiological adaptation of plants and animals to their environments and the methods by which both physiological and environmental factors can be measured. Three credits and lab, including fieldwork.

**331 Biostatistics**

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. Three credits and lab.

**342 Invertebrate Zoology**

A comparative study of the morphology, taxonomy, physiology and ecology of the invertebrate animals with emphasis on phylogeny. A collection of 25 invertebrate specimens emphasizing diversity is a partial requirement for this course; instructions and material are provided by the instructor. Three credits and lab.

**343 Comparative Anatomy of Vertebrates**

A comparative study of the anatomy of chordate animals with emphasis on vertebrate phylogeny. Three credits and lab.

**345 Communities and Ecosystems**

Lecture and seminar course outlining the theory of ecosystem ecology. Included are fundamental processes of mineral cycles, energy flow and internal regulation of communities. Concepts of succession, food webs and biodiversity are illustrated with comparative examples drawn from aquatic and terrestrial ecosystems. Acid rain, climate change and loss of species are examined as pragmatic examples of how ecosystems respond to stress. Three credits and tutorial.

**375 Human Biomechanics**

This course provides a mechanical analysis of body-motion, including everyday activities from walking to athletic events such as cycling. Laboratories introduce the basic physical principles, and the use of high-speed video in the analysis of physical performance. Cross-listed as HKIN 376. Three credits and lab.

**385 Animal Behavior**

An introduction to the principles of behavioral ecology using illustrations from the animal kingdom with emphasis on vertebrates. Students learn the physiological and ecological bases of behavior, and explore topics in communications, mating systems, and sociobiology. Three credits and lab.

**390 Plant Physiology**

An introduction to the physiology of vascular plants. Lectures will integrate the knowledge gained through experimentation at the various levels of plant organization, from the molecular to the organ level, into an overall concept of plant function. Prerequisites: CHEM 255, BIOL 202. Three credits and lab. Not offered 2004-2005.

**395 Cell Biology**

An introduction to the eukaryotic cell, including relationships between biochemical mechanisms and organelle functions, and techniques used to study cell function. Prerequisites: 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. Prerequisites: BIOL 304; MATH 111, 112; PHYS 100. Three credits and lab.

#### **402 Membrane Biology**

Molecular biology, physiology, and the biophysics of membranes in animal cells are studied in order to integrate single membrane function into the operation of tissues and organs. Emphasis is on transport channels, enzymes and their regulation in normal cells and in membrane disorders. Prerequisites: BIOL 304; PHYS 100 or 120; CHEM 255. Three credits and lab. Not offered 2004-2005.

#### **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. Not offered 2004-2005.

#### **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 2004-2005.

#### **417 Microbial Pathogenics**

This course provides a general overview of a 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. Prerequisite: BIOL 315. Three credits and tutorial.

#### **425 Advanced Cell Biology**

Discussion will focus on recent topics in eukaryotic cell biology and the benefits of using many different techniques to gain an understanding of cell structure and function. Prerequisite: BIOL 395. Three credits and lab.

#### **430 Genes and Development**

An examination of the molecular-genetic basis of development in multi-cellular organisms, this course highlights 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 includes the study of development in the fruit fly, *Drosophila* and the mustard cress, *Arabidopsis*. Prerequisites: BIOL 395 completed or concurrent; BIOL 335 is recommended. Three credits and lab.

#### **445 Experimental Phycology**

Covers the biology of marine algae. Seminars will examine research-oriented topics in algal development and cell biology, while in laboratory work, students will obtain training in fluorescence microscopy, photo-microscopy, and algal culturing. Prerequisite: permission of the instructor. Three credits and lab. Not offered 2004-2005.

#### **450 Behavioral Neuroscience**

Crosslisted as PSYC 430; see PSYC 430.

#### **465 Electron Microscopy**

An introduction to the theory and application of electron microscopy. Laboratories will emphasize the use of EM techniques to investigate current research problems as well as the basic photographic techniques required to prepare a manuscript for publication. Prerequisite: permission of the instructor. Three credits and lab.

#### **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 mine drainage. Labs examine microbial ecosystem development and diversity. Prerequisite: BIOL 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. Three credits and lab.

#### **473 Wildlife Ecology**

An introduction to the principles of wildlife ecology including factors that influence the distribution and abundance of populations. This field-oriented course will focus on vertebrate species, especially those that occupy habitats within the local aquatic and terrestrial ecosystems. Guest lecturers will discuss field techniques and current issues in applied wildlife ecology and management. Three credits and lab.

#### **474 Soil Ecology**

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 315. 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 student's interest or dissertation topic. Restricted to senior advanced majors and honours students. Students taking this course must take one other 400-level course, excluding BIOL 491. 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 Senior Dissertation (Honours)**

Three credits.

#### **GRADUATE COURSES**

501	Advanced Biomechanics
502	Advanced Topics in Membrane Biology
504	Topics in Vertebrate Physiology
515	Topics in Microbiology
517	Topics in Molecular Biology
525	Advanced Cell Biology
533	Advanced Topics in Biometrics
535	Topics in Electron Microscopy
551	Advanced Population Ecology
555	Topics in Vertebrate Morphology
571	Advanced Topics in Ecology
580	Seminars in Phycology
585	Topics in Avian Biology
590	Topics in Botany
595	Topics in Cell Biology



- 598 Thesis Research I  
599 Thesis Research II

Additional courses are available depending on the requirements and interests of the student and the availability of faculty.

## 7.5 BUSINESS ADMINISTRATION

D. Anthony, MBA  
W.J. Cormier, MBA, CMA  
M.C. Diochon, Ph.D.  
C.M. Duncan, Ph.D.  
C. Galea, Ph.D.  
L. Gallant, MBA, CFP, FCA  
B. Hiltz, MBA  
T.W. Hynes, Ph.D.  
B. Long, MBA  
K. MacAulay, Ph.D., CA  
R.F. Madden, MBA, FCA  
T. Mahaffey, Ph.D.  
N. Maltby, MBA  
S. Musselman, BBA, CA  
M. Oxner, CFA, CA  
G. Trites, CISA, FCA  
R.K. Young, Ph.D.

### *Part Time*

G. Anderson, MA, LL.M(Hon), CM  
M. Champoux, MBA, FCSI  
N. Loosen, CA

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, except the BBA with aquatic resources, 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 and Business Administration (see chapter 5); the BA with Major or Advanced Major in economics and a minor in business administration (see section 7.14); or the BIS program (see section 7.21).

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

- a) 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 chart 4.1.2.  
The following professional and applied subjects not permitted as arts/science electives are:
- |                   |                     |
|-------------------|---------------------|
| Adult education   | Human nutrition     |
| Aquatic resources | Information systems |
| Education         | (see below)         |
| Engineering       | Nursing             |
| Human kinetics    | Theatre             |
- b) Computer science 100 (CSCI 100) may not count toward the BBA degree since BBA students have credit for INFO 131. However, students may use other CSCI courses as arts/science electives or as a pair.
- c) Economics courses (ECON) may count as an arts pair except for BBA students enrolled in the joint honours in business administration and economics stream. All BBA students may count ECON courses as electives.
- d) 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.
- e) 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.
- f) 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.
- g) 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 the following nine information and communications technology electives:  
BSAD 319 Management of Information Technology  
BSAD 415 Electronic Business  
BSAD 416 Project Management and Practice  
BSAD 417 Enterprise Resources Planning: Implementation and Management  
BSAD 418 Topics in Information Systems  
BSAD 469 Technology and Change in Organizations  
INFO 345 Introduction to Enterprise Resource Planning (ERP)  
INFO 347 Implementation, Configuration and Use of ERP  
INFO 475 Database Management Systems
- h) 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.

- i) **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.
- j) **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 and 112 may use them to satisfy the MATH 205 requirement and three credits of arts/science elective in math.  
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.
- k) **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.
- l) **North American Mobility Option**  
The BBA program has partners in the US and Mexico offering educational exchange opportunities supported generously by the federal governments of the three NAFTA countries. Students interested in the North American Mobility program should consult the department chair. See section 3.19.
- m) 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.
- n) Transfer students should consult the department chair prior to registration to confirm their course selections.
- o) **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.

The normal course sequences for the 15 BBA streams are shown below.

**BBA General Degree**

Year 1	BSAD 101, 102; ECON 100; INFO 131, 135; 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 100; AQUA 100; ESCI 171; BIOL 112; 6 credits arts/science electives
Year 2	INFO 131, 135; 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 221, 251; 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 221, 251 are regarded as BSAD electives.*

*Information Systems*

Year 1	BSAD 101, 102; ECON 100; INFO 131, 135; 12 credits arts/science electives
Year 2	BSAD 221, 223, 231, 261; STAT 201; MATH 205; INFO 151, 152; 6 credits arts/science electives
Year 3	BSAD 319, 341, 361; INFO 345; 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, 465, 471, 492; 3 credits BSAD elective; 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 either take BSAD 494 or 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 205; ECON 221, 222, 251, 252; 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 490; 6 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 391 and 494 are replaced by 6 credits of BSAD electives.

[AR] Indicates Designated Course in Aquatic Resources

[Tech] Indicates Technology Elective

### **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.

#### **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.

### **343 Canadian Securities and Markets**

Examines the Canadian securities industry from the perspectives of investors and registered representatives. Topics include: Canadian capital markets and the financial services industry; financial statement analysis; investment products; financing and listing regulations; taxation of security transactions; and portfolio management. The curriculum will be based on the Canadian securities course offered by the Canadian Securities Institute. 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.

### **401 Co-op Work Term I**

Prerequisite: work-term preparation workshops. Cross-listed as INFO 401. One credit.

### **402 Co-op Work Term II**

Prerequisites: BSAD/INFO 401 and work-term preparation workshops. Cross-listed as INFO 402. One credit.

### **403 Co-op Work Term III**

Prerequisites: BSAD/INFO 402 and work-term preparation workshops. Cross-listed as INFO 403. One credit.

### **405 Co-op Work Term, 12- to 16-Month**

Prerequisite: work-term preparation workshops. Cross-listed as INFO 405. Three credits.

### **415 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 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.

### **417 Enterprise Resource Planning: Implementation Management**

A study of the management issues faced in the implementation of enterprise resource planning (ERP) systems. While the SAP system will be used as a reference point, comparisons will be drawn with

other ERP systems. 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.

### **421 Advanced Topics in Managerial Accounting**

A comprehensive examination of cost-accounting concepts and techniques. The course will relate cost accounting to the management system as well as to the new manufacturing environment. Topics include: job-order, process, standard, and direct costing; cost-volume-profit analysis and budgeting; linear programming; performance and productivity measurement; transfer pricing; cost allocation and estimation using regression and learning curves. Prerequisite: BSAD 322. 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 Community Enterprise Development**

This course explores the relationship between entrepreneurship, innovation, and community-based economic development in a rural context. The course uses a multidisciplinary perspective to examine the impact of socio-economic factors on a community's capacity for stimulating entrepreneurship and economic development. Students will gain practical experience in stimulating enterprise in response to negative economic circumstances. 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.

#### 465 The Executive Agenda

Considers the major challenges facing executives in today's hypercompetitive business environment, and develops an agenda for success in this environment. Students will consider issues such as changing an organization to a process focus, reducing boundaries, the necessity of both leading and managing; and the importance of trust and community. Prerequisite: BSAD 361 or permission of the instructor. 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.

#### 469 Technology and Change in Organizations [Tech]

Examines recent advances in communication and information technologies in the context of today's knowledge-intensive economy. The course emphasizes the strong CEO-CIO link needed to implement these technologies effectively (become e-enabled) and make the wide-ranging behavioral and cultural changes needed for business success. Students will learn how specific companies use IT to achieve a competitive advantage. Prerequisite: third- or 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.

#### 481 Senior Seminar on Contemporary Business Issues

The senior seminar affords a unique opportunity to discuss contemporary business topics with visiting executives. The initial session will acquaint students with 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 BBA or BIS standing. Cross-listed as INFO 481. 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 two terms.

## 7.6 CANADIAN STUDIES

M.B. McGillivray, 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. Interested students should note that the program will expand to accommodate majors, advanced majors, and honours degree requirements in the future.

<i>Art</i>		<i>Credits</i>
ART 300	A Cultural and Intellectual History of Canada	6
<i>Economics</i>		<i>Credits</i>
ECON 310	Canadian Economic History	6
ECON 312	Industrial Organization	3
ECON 321	Canadian Economic Problems	3
ECON 330	Money, Banking and Financial Markets	6
ECON 341	Regional Economics	3
ECON 342	Maritime Economy	3
ECON 361	Human Resources and Labor Economics	6
<i>English</i>		
ENGL 265	Canadian Poetry and Prose	6
ENGL 347	African-Canadian Literature	3
ENGL 367	The Canadian Novel	6
ENGL 368	Canadian Poetry	6
ENGL 467	Seminar on Canadian Poetry: The Poet in Atlantic Canada	6
<i>French</i>		<i>Credits</i>
FREN 356	French Canadian Literature: Origins to the Révolution tranquille	6
FREN 366	French Canadian Literature: Révolution tranquille to the Present	6
FREN 376	Acadian Literature	6
<i>History</i>		<i>Credits</i>
HIST 200	A History of Canada	6
HIST 202	Western Canada: The Prairies	3
HIST 204	Western Canada: British Columbia	3
HIST 209	The Maritime Provinces, 1500-1950	6
HIST 300	A Cultural and Intellectual History of Canada	6
HIST 305	Pre-Confederation Canada	6
HIST 306	Post-Confederation Canada	6
HIST 307	History of Quebec	6

HIST 308/WMNS 308	Canadian Women's History	6
HIST 309	The Working Class in Canadian Society	6
HIST 310	Canadian Immigration and Ethnic History	6
HIST 400	Seminar in Canadian History	6
HIST 440	A History of Canadian-American Relations	6

**Political Science**

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	The Politics of Citizenship and Identity	3
PSCI 351	Canadian Foreign Policy	3
PSCI 420	Canadian Politics (Seminar)	6

**Credits****Sociology**

SOCI 216	Canadian Society	3
SOCI 217	Race, Class, Gender, and Sex	3
SOCI 230	Sociology of Education	6
SOCI 290	Social Stratification	6
SOCI 318	First Nations	3
SOCI 321	Sociology of Atlantic Canada	3
SOCI 322	The Antigonish Movement as Change and Development	3
SOCI 327	Contemporary Canadian Families	3
SOCI 351	Criminal Justice and Corrections	3
SOCI 423	Environment and Society II: Paradigms and Politics	3
SOCI 424/WMNS 424	Women and Work	3

**Credits****7.7 CATHOLIC STUDIES**

S. Baldner, Ph.D., Co-ordinator

Advising Faculty	Department of
J. Cameron, Ph.D.	History
P. Hogan, Ph.D.	History
R. Kennedy, Ph.D.	Religious Studies
W. Sweet, D.Ph.	Philosophy

*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. Not offered 2004-2005.

**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. Not offered 2004-2005.

**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. Not offered 2004-2005.

**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. Not offered 2004-2005.

**320 Science and Christianity**

The course has four parts: creation and the philosophy of nature in the 13th century; Galileo and the Inquisition; the Bible and Providence; evolution; contemporary cosmology and theology. Six credits.

**330 Catholicism and the Arts**

Cross-listed as ART 330; see 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.

The following courses may be chosen as electives to complete the program in Catholic studies.

		<b>Credits</b>
<b>Art</b>		
ART 141	History of Art I	3
ART 412	History of Art II	3
<b>English</b>		
ENGL 207	World Masterpieces I: Classical Antiquity	3
ENGL 208	World Masterpieces II: Medieval and Renaissance	3
ENGL 312	17th-Century Literature	3
ENGL 392/CELT 392	Medieval Literature	3
<b>History</b>		
HIST 335	Thought and Art in the Middle Ages: Monks, Scholastics, Scientists and Artists	3
<b>Music</b>		
MUSI 115	History of Music I	3
<b>Philosophy</b>		
PHIL 240	Philosophy of Religion	6
PHIL 360	History of Medieval Philosophy	6
<b>Religious Studies</b>		
RELS 200	Conscience and Freedom	6
RELS 243	Religion, Freedom and Revolution	3
RELS 245	Religion and Modern Culture	3
RELS 250	Introduction to the Bible	6
RELS 265	Introduction to the Gospels	3
RELS 275	Introduction to Paul's Letters	3
RELS 300/NURS 330	Health Care Ethics	6
RELS 363	The First Christians	3

RELS 365	Spirituality in Medieval Christianity	3
RELS 385	Modern Christianity	3
RELS 400	Christian Approach to Sexuality	6
RELS 440	Jesus	6
RELS 470	Modern Theological Thought	6

## 7.8 CELTIC STUDIES

K.E. Nilsen, Ph.D.

C.N. Parsons, MA (Hons.), Dip.Ling.

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 three 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.

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 6.

### 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. Not offered 2004-2005.

### 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.

### 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.

### 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. Not offered 2004-2005.

### 273 Linguistics

An introduction to the study of human communication, attitudes towards language, and the phenomenon of linguistic change. Cross-listed as ENGL 273 and as the first half of ANTH 355. Three credits.

### 274 History of the English Language

Examines the history and development of the English language. Cross-listed as ENGL 274. Three credits.

### 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.

### 340 Scottish Gaelic Bardic 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. Not offered 2004-2005.

### 355 Scottish Traditional Culture

The purpose of this course is to increase the student's awareness of Scottish culture, both in Scotland and in North America. The course will focus upon the different cultural regions that make up Scotland and the material culture, customs, beliefs, and folklore of those regions. The cultures associated with the Highlands, Lowlands, Aberdeenshire, and Northern Isles will be examined both in a historical context and in the living traditions of today. The perpetuation of Scottish folk culture in North America will also be examined. Six credits.

### 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.

### 392 Medieval Literature

Examines the finest authors and works in Middle English, including Geoffrey Chaucer, *Sir Gawain and the Green Knight*, *Piers Plowman*, *The Pearl*, Sir Thomas Malory's *Le Morte D'Arthur*, and medieval ballads and lyrics. Cross-listed as ENGL 392. Six 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.

**430 Irish Bardic Poetry**

Explores the Bardic tradition in Ireland, ca. 1200-1600. The class will cover Bardic schools, metrics, religious poetry, nature poetry, and eulogy. Prerequisite: any CELT course or permission of the instructor. Six credits. Not offered 2004-2005.

**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 COURSE**

Master of Arts in Celtic Studies

Consult the department chair for a list of available courses.

**7.9 CHEMISTRY**

M.A.S. Aquino, Ph.D.

J.F. Beck, Ph.D.

J.F. Cormier, Ph.D.

D. Klapstein, Ph.D.

B.V. Liengme, Ph.D.

D.G. Marangoni, Ph.D.

R. Palepu, 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 5.*

**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. For the recommended course sequence, see the department's website at <[http://](http://www.stfx.ca/people/chemist)

[www.stfx.ca/people/chemist](http://www.stfx.ca/people/chemist)>.

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.

**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 informatics (375); 6 credits electives from 255, 321, 322, 330, 341, 342, 355, 360, 420, 450; 6 credits CHEM or other science; for a total of 36 credits; plus 391 and attend the department seminars (491); if 330 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, 360); 6 credits inorganic (245, 341); 6 credits organic (220); 6 credits physical (231, 232); 3 credits biochemistry (255); 6 credits electives which must include 330, 342, or 420; 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 375 (informatics), PHYS 120, and 6 credits must be from MATH 253, 254, 267, 367. 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, 360); 9 credits inorganic (245, 341, 342); 12 credits organic (220, 420); 12 credits physical (231, 232, 330); 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 120)
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 375 (informatics), PHYS 120, and 6 credits must be from MATH 253, 254, 267, 367. 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 (joint advanced major only). Interested students should consult the chair of the chemistry department.

### **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 6.* 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. Six credits and lab.

### **221 Organic Chemistry I**

The first term of CHEM 220; emphasis is on oxygenated compounds. Three 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.

### **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 concludes

with the chemical potential and its application to phase equilibria, ideal solutions (Raoult's and Henry's laws), and colligative properties. Prerequisites: CHEM 100 or 120; MATH 111 and 112 or 120. 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, chemical equilibrium, 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. Three credits and lab.

### **255 Introductory Biochemistry**

The structures and properties of common organic compounds of biological interest. Areas of study include: biochemical energetics, structures and mechanisms of action of some enzymes, chemical pathways of metabolism, mechanisms of action of certain drugs, and experimental techniques used by biochemists. Prerequisites: CHEM 221; CHEM 220 is recommended. Three credits and lab.

### **265 Basic Analytical 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. 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; carbohydrates, amino acids, proteins, lipids; dyes and dyeing; 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.

### **330 Physical Chemistry III**

Continued discussion of fundamental principles embracing statistical thermodynamics, atomic and molecular structure, spectroscopic methods, and reaction kinetics. Prerequisite: CHEM 232. Six credits and lab.

### **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**

Among the topics to be covered are the natural and lab synthesis of amino acids and peptides, nucleosides and nucleotides; general synthesis of lipids; and metabolic control. Prerequisites: CHEM

220, 255. Three credits and lab.

### 360 Instrumental Analytical Chemistry

Discussion of a variety of instrumental analytical procedures, including ultraviolet/visible, atomic, and infrared absorption methods, chromatography (HPLC, GC, IC), capillary electrophoresis, NMR, electrochemistry, and mass spectroscopy. Sample preparation, data handling, method optimization and radiochemical methods are also covered. Prerequisite: CHEM 265. Six credits and lab.

### 375 Chemical Informatics

Students will learn to use the Internet and the Scientific and Technical Information Network (STN) to find chemical information. They will then use computer applications such as Microsoft Excel (including Visual Basic) and chemistry-specific software to analyze data and produce reports. Required for, and restricted to students in, degree programs where chemistry is science A. Recommended for the first term of the junior year. Three credits and lab.

### 391 Chemistry Seminar I

Introduction to seminar techniques using topics in modern chemistry. Required for all junior honours and advanced major students, and major students in either their junior or senior year. No credit.

### 420 Physical Organic Chemistry and Organic Spectroscopy

Examines the application of kinetic, thermodynamic, spectral, and molecular modelling methods to correlate the data concerning the structure, properties, and chemical transformations of organic compounds into consistent patterns. The synergy between experiment and theory is demonstrated. Extensive use is made of computer-based modelling methods and spectroscopic investigations in assignments and experiments. Prerequisite: CHEM 220. Six credits and lab.

### 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. Offered in alternate years; not offered 2004-2005.

### 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. Offered in alternate years.

### 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. Offered in alternate years.

### 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. Offered in alternate years; not offered 2004-2005.

### 450 BioOrganic Chemistry

A discussion of isomerism and proisomerism is followed by an analysis of the reactions observed in the biosynthesis of amino acids and terpenoids. The dominant theme is a development of reaction mechanism possibilities. This 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 220. Six credits and lab. Offered in alternate years; not offered 2004-2005.

### 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 bioanalytic applications (enzymes, immunoglobulins, avidin/biotin, cyclodextrins), and a discussion of selected bioanalytic methods and their applications in sensors. A variety of instrumentation is used in the lab. Prerequisite: CHEM 360 completed or concurrent. Three credits and lab.

### 462 Topics in Analysis and Spectroscopy

Topics typically include NMR, fluorescence, FTIR, and a survey of methods used for surface analysis. Capillary electrophoresis, mass spectrometry and flow injection analysis may also be discussed. Applications in process analytical chemistry will be covered. Prerequisite: CHEM 360. Three credits and lab.

### 491 Chemistry Seminar II

Lectures by visitors, faculty and staff, and senior honours and advanced major students on aspects of chemical science. Attendance is mandatory for all junior, senior and graduate chemistry students. The senior essays of advanced major students, and the theses of honours students form the basis of their presentations. No formal credit is given for this course, but satisfactory completion of the senior essay and seminar presentation is a requirement 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.

## GRADUATE COURSES

	<i>Credits</i>
591 Advanced Instrumentation I: Bioanalysis	3
593 Advanced Instrumentation II: Capillary Electrophoresis and Ion Chromatography	3
595 Nucleic Acids	6
598 Advanced Instrumentation III: Electronics	3
599 Master's Thesis	12

Additional courses are available depending on the requirements and interests of the student and the availability of faculty.

## 7.10 CLASSICAL STUDIES

C. Byrne, Ph.D., Co-ordinator  
S. Baldner, Ph.D.

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. The four-year BA degree requires one 300-level course chosen from PHIL 350, RELS 340 or RELS 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. Not offered 2004-2005.

### 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. Six credits.

## ▷ COMPARATIVE LITERATURE

See modern languages in 7.24

## 7.11 COMPUTER SCIENCE

M. Lin, Ph.D.  
A. MacEachern, Ph.D.  
E. Schuegraf, Ph.D.  
M. van Bommel, Ph.D.  
L. Yang, Tek.Lic.

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. 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 section 7.23.*

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 160, 255, 365, 375; MATH 111, 112, 277.

### Major in Computer Science

In addition to the core requirements, students must take an additional 12 credits (in the case of a BA) or 18 credits (in the case of a B.Sc.), which may be chosen from CSCI, MATH, or STAT.

### Advanced Major in Computer Science

In addition to the core requirements, students must take CSCI 383, 465, 475, 491; MATH 253 and a STAT course. In the case of students in the BA program, the STAT course should be taken as an approved elective. B.Sc. students should take one additional three-credit CSCI course at the 300 or 400 level.

### Typical Advanced Major Pattern:

Year 1 CSCI 160; MATH 111, 112  
Year 2 CSCI 255; MATH 253, 277  
Year 3 CSCI 365, 375, 383; STAT 231; additional CSCI courses  
Year 4 CSCI 465, 475, 491; additional CSCI courses

### Honours in Computer Science

In addition to the core requirements, students must take CSCI 256,

383, 385, 465, 475, 485, 491, 493; MATH 253 and a STAT course, plus nine credits chosen from CSCI, MATH or STAT.

### Typical Honours Pattern:

Year 1 CSCI 160; MATH 111, 112  
Year 2 CSCI 255, 256; MATH 253, 277; STAT 231  
Year 3 CSCI 365, 375, 383; additional CSCI courses  
Year 4 CSCI 385, 465, 475, 485, 491, 493; additional CSCI courses

### Industrial Internship Program in Computer Science

This program is designed to give students an opportunity to use the expertise in computer science, which they have gained in their first three years of study. The program is similar to a traditional co-op internship, except that the work term is 12 or 16 consecutive months, rather than several four-month terms.

Application for admission must be made in the first term of the third year; admission is restricted to students in the BA with Honours in Computer Science and the B.Sc. with Honours in Computer Science. During their internship, students are registered at StFX and enrolled in CSCI 401, 402, 403, and, optionally, 404. Upon completion of their internship, students return to StFX for their fourth year and complete CSCI 405. For further information, see the department website at <<http://www.stfx.ca/academic/mathcs/>>.

### 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, while enrolled in BSAD/INFO 401, 402 and 403, or 405. 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 <<http://www.stfx.ca/academic/mathcs/>>.

## [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]

An introductory programming course using C for the solution of scientific and engineering problems with special emphasis on well-structured programs. Crosslisted as ENGR 144. Three credits and a two-hour lab.

### 160 Computers, Programming and Data Structures

An introduction to computers, algorithms and programming using C. Topics include description of secondary storage devices and files; and introduction of linear data structures, lists, stacks, and queues with applications. Six 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

science students. Three credits and a two-hour lab.

### **254 Object-Oriented Methodologies**

An overview of object-oriented concepts, languages, and applications, with object-oriented programming in C++. Software engineering principles will be examined in relationship to abstract data types using objects, event-driven processing and inheritance. Prerequisite: INFO 152. Restricted to students in information systems. 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 160. 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. Three credits and a two-hour lab.

### **265 Computer Systems and Assembler**

An introduction to the structure of a computer system, number systems, and machine language by means of an assembler language. Prerequisite: CSCI 160. Three credits and a two-hour lab. Not offered 2004-2005.

### **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, graphics programming, geometrical objects and transformations, 2-D and 3-D data description, manipulation, viewing projections, clipping, shading, animation. Prerequisites: MATH 111, 112, 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 in alternate years; not offered 2004-2005.

### **365 Computer Organization**

This course covers basic computer architecture 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 systems, CPU scheduling, memory management, and virtual memory. 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.

### **385 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 255. Three credits and a two-hour lab.

### **401 Computer Science Work Experience I**

A required four-month work experience for computer science honours students admitted to the industrial internship program, this course provides an opportunity for students to develop an understanding of the work environment and the role of a computer professional. No credit.

### **402 Computer Science Work Experience II**

A four-month work experience that provides an opportunity for students to apply computer science methodology to real-world problems. Required for students in the industrial internship program. Prerequisite: CSCI 401. No credit.

### **403 Computer Science Work Experience III**

A four-month work experience that provides an opportunity for students to apply computer science to industrial problems. Required for students in the industrial internship program. Prerequisite: CSCI 402. No credit.

### **404 Computer Science Work Experience IV**

An optional four-month work experience in which students will apply computer science to industrial problems. Prerequisite: CSCI 403. No credit.

### **405 Industrial Internship Program Seminar**

In the first term of their return to full-time studies, students will complete and present a report on their work experience. Required for students in the industrial internship program. Prerequisite: CSCI 403. Three credits.

### **455 Parallel Computing: Architecture, 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.

### **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: INFO 325 or CSCI 365. Cross-listed as INFO 465. 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.

### **471 Topics in Computer Science**

This course explores current topics in computer science, such as computer security, interface design, real-time control, and simulation. Prerequisite: CSCI 375. Three credits.

### **475 Database Management Systems**

An introduction to the theory associated with the design and implementation of databases. Topics include: database models (relational models in detail), design, normalization, SQL, and a DBMS (ORACLE). Prerequisite: CSCI 255. Three credits and a two-hour lab.

### **483 Interactive Programming with Java**

This course introduces Java Programming and its application to interactive programming for the Web. Language features and object-

oriented concepts in Java will be described in depth. Topics will include: OOP programming, the basic Java language features, Thread, Exception Handling, AWT (the abstract window toolkit), Applet and Internet programming. Prerequisite: CSCI 254 or 383. One section will be restricted to students in information systems. Three credits.

#### 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. Prerequisites: CSCI 375. Three credits and a two-hour lab.

#### 491 Senior Seminar

All senior honours and advanced major candidates must perfect their presentation and writing skills. The honours thesis and advanced major research paper will constitute part of this course. No credit.

#### 493 Senior Thesis (Honours)

Three credits.

#### 495 Artificial Intelligence

An introduction to the core concepts of artificial intelligence, including state space, heuristic search techniques, knowledge representation, natural language processing, and expert systems. LISP and PROLOG will be used to solve problems. Prerequisite: CSCI 254 or 255. Three credits and a two-hour lab. Offered 2004-2005 and in alternate years.

### 7.12 DEVELOPMENT STUDIES

S. Vincent, Ph.D.	Co-ordinator
<i>Advising Faculty</i>	
J. Bickerton, Ph.D.	Political Science
M. Coyle, MA	Coady International Institute
M. Diochon, Ph.D.	Business Administration
S. Dodaro, Ph.D.	Economics
D. Gillis, M.Sc.	Human Nutrition
A. Mathie, Ph.D.	Coady International Institute
R. Wehrell, Ph.D.	Extension Department

This interdisciplinary program in community-based development examines the local and global social, economic, political, and cultural contexts in which development takes place. Students will investigate the theory, philosophy, and practice of development and social justice, and learn about the Antigonish Movement.

Students may complete a BA with Joint Advanced Major or Joint Major in development studies and another Faculty of Arts subject, or they may take a minor or pair in development studies. 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 Faculty of Arts subject must complete ECON 100 and one of ANTH 110, SOCI 100 or PSCI 100.

For Joint Major and Joint Advanced Major, no more than 12 credits of cross-listed courses may be in a single subject. None of the cross-listed courses may be in the student's declared subject B. A maximum of 18 credits may be from BSAD, INFO or HNU.

#### Joint Major in Development Studies and a Faculty of Arts Subject

Requirements:

- 36 credits in DEVS (subject A) and 36 credits in another Faculty of Arts subject (subject B). The program or department requirements for majors are applicable in both subjects. Students must complete the following:
  - DEVS 200 6 credits
  - DEVS 300 6 credits
  - Additional DEVS core or cross-listed courses 24 credits
  - ECON 100 and one of SOCI 100, ANTH 110 or PSCI 100
- Course Pattern: see section 4.1.3

#### Joint Advanced Major in Development Studies and a Faculty of Arts Subject

Requirements:

- 36 credits in DEVS (subject A) and 36 credits in another Faculty of Arts subject (subject B; see definition of subject at 4.1.2) or 36 credits in a Faculty of Arts 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 must complete the following:
  - DEVS 200, 300, 310, 405 21 credits
  - DEVS cross-listed courses 15 credits
  - ECON 100; one of SOCI 100, ANTH 110 or PSCI 100
 Students using DEVS as subject B must complete the following:
  - DEVS 200, 300, 310, 405 21 credits
  - DEVS cross-listed courses 15 credits
  - ECON 100; one of SOCI 100, ANTH 110 or PSCI 100
- Course Pattern: see section 4.1.3
- A senior paper is required for all advanced major students. The senior paper will be written in DEVS 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.

#### Minor in Development Studies

No more than six credits of cross-listed courses may be from a single department.

- DEVS 200 6 credits
- Additional DEVS core or cross-listed courses 18 credits

#### Pair

- DEVS 200 6 credits
- Additional DEVS core or cross-listed courses 6 credits

### DEVELOPMENT STUDIES CORE COURSES

#### 200 Introduction to International Development

An introduction to development theory and practice in the South and in Canada, particularly Atlantic Canada. Students will analyze development policies, programs, and impacts; explore social and economic justice in relation to development; and learn about the Antigonish Movement and other people's movements worldwide. Prerequisite: 30 credits of university courses or permission of the co-ordinator; one of SOCI 100; ANTH 110; PSCI 100; ECON 100; HIST 110 or BSAD 101, 102. Six credits.

#### 300 Globalization and Development

This course will introduce students to the factors, processes, trends, and events that are associated with globalization. It will examine the impact of globalization internationally and in the Atlantic region of Canada specifically. Students will also learn how people and communities have mobilized responses to globalization. Prerequisite: DEVS 200 or ECON 100. Six credits.

#### 310 Internship in Development Studies

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. There will be some in-class preparation and reflection, but the majority of this experiential learning option will involve students working with a local or international development agency. A job description and work plan will be developed by the student in consultation with the course supervisor and the host agency representative. A journal, written report and oral presentation are required. Prerequisite: DEVS 200 or permission of the instructor. Six credits.

#### 405 Community-Based Development: Strategies and Practice

An examination of community-based development, this course teaches the planning and evaluation tools and techniques used to empower people to take charge of their own development. Students taking this course to fulfill a joint advanced major with development studies as subject A will write a senior paper demonstrating an

understanding of the field of development and linking theoretical knowledge with internship work completed in DEVS 310. Prerequisite: DEVS 200. Three credits.

#### 499 Directed Study

Students will work with a course instructor on a topic which is not available through other course offerings. Prerequisite: DEVS 200 and six credits in core development studies courses. See section 3.5. Three credits.

#### DEVELOPMENT STUDIES CROSS-LISTED COURSES

##### *Business Administration* Credits

BSAD 231	Foundations of Marketing	3
BSAD 261	Foundations of Management	3
BSAD356	Entrepreneurship/New Venture Development	3
BSAD 357	International Business Development	3
BSAD 457	Community Enterprise Development	3

##### *Economics* Credits

ECON 211	Local and Community Development Economics	3
ECON 305	Economic Development I	3
ECON 306	Economic Development II	3
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 491	Selected Topics in Economics I	3
ECON 492	Selected Topics in Economics II	3

##### *English* Credits

ENGL 247	Post-Colonial Literature	6
ENGL 347	African-Canadian Literature	3

##### *History* Credits

HIST 209	The Maritime Provinces, 1500-1950	6
HIST 372	Imperial China	3
HIST 374	20th-Century China	3

##### *Human Nutrition* Credits

HNU 200	Nutrition for a Healthy Lifestyle	6
HNU 261	Introduction to Nutrition (science only)	3
HNU 262	Principles of Nutrition in Human Metabolism (science students only)	3
HNU 405	Food Availability	3

##### *Information Systems* Credits

INFO 435	Introduction to Multimedia	3
INFO 275	Database Management Systems	3

##### *Interdisciplinary Studies* Credits

IDS 305	Immersion Service Learning	3
IDS 306	Service Learning: Theory and Practice	3

##### *Mathematics, Statistics, and Computer Science* Credits

STAT 201	Elementary Statistics	3
MATH 205	Business Mathematics	3

##### *Modern Languages* Credits

FREN 215	French Language III	6
FREN 220	Language and Culture	6
SPAN 200	Second-Year Spanish	6

##### *Nursing* Credits

NURS 486	International Development and Health	3
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##### *Philosophy* Credits

PHIL 330	Ethics	6
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##### *Political Science* Credits

PSCI 250	World Politics	6
PSCI 291	Violence, Conflict and Politics	3

PSCI 322	Atlantic Canada	3
PSCI 346	The Politics of Resource Management	3
PSCI 351	Canadian Foreign Policy	3
PSCI 352	American Foreign Policy	3
PSCI 353	International Organizations	3
PSCI 355	Global Issues	3
PSCI 370	Third World Politics	6
PSCI 382	International Political Economy	3
PSCI 390	Politics and Society in Latin America	6

##### *Religious Studies* Credits

RELS 200	Conscience and Freedom	6
RELS 215		
/SOCI 227	Sociology of Religion	3
RELS 310	Religion in Modern India	6
RELS 370	Islam in the Modern World	6

##### *Sociology and Anthropology* Credits

ANTH 220	Political and Economic Anthropology	6
SOCI 300		
/NURS 300	Research Methods	6
ANTH 304	Principles and Methods of Fieldwork	3
SOCI 305		
/NURS 310	Applied Methods in Social Research	6
ANTH 315	Health and Medicine	6
ANTH 316	Rural Communities	3
SOCI 318	First Nations	3
SOCI 320	Black/African Diaspora in the Americas	6
SOCI 321	Sociology of Atlantic Canada	3
SOCI 322	The Antigonish Movement as Change and Development	3
SOCI 323	Environment and Society I: Introduction	3
ANTH 335	Cultural and Social Anthropology	6
ANTH 353	Law, Culture and Society	3
ANTH 365	Anthropology of Development	6
ANTH 418	Area and Regional Studies I and II	6
SOCI 423	Environment and Society II: Paradigms and Politics	3

##### *Women's Studies* Credits

WMNS 200	Introduction to Women's Studies	6
WMNS 303	Feminist Theory	3

Other courses may be considered cross-listed courses with permission of the development studies coordinator.

## 7.13 EARTH SCIENCES

A.J. Anderson, Ph.D.  
H. Beltrami, Ph.D.  
L. Kellman, Ph.D.  
M.J. Melchin, Ph.D.  
J.B. Murphy, 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; joint programs with biology, business administration, chemistry, 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 170, 201, 202, 215, 216, 275 or 276 (non-credit); 21 additional credits ESCI. Students following the geoscience or environmental geoscience concentrations 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 5.1.

### Geoscience Concentration

Year 1	ESCI 170, 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, 275 (non-credit), 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; MATH 221; 3 credits MATH; or PHYS 241 and 3 credits PHYS)
Year 3	ESCI 301, 302, 305, 365, 366; 3 credits ESCI elective; 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 170; 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, 276 (non-credit), 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; MATH 221; 3 credits MATH; or PHYS 241 and 3 credits PHYS
Year 4	ESCI 406, 465, 472, 475, 491 (non-credit), 493 or 499; 3 credits ESCI elective; 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 170, 201, 202, 215, 216, 245, 301, 302 or 435, 305, 406, 499 (ESCI 275 and

495 are required non-credit courses); CHEM 100 or 120, 220, 231, 232, 245, 365; MATH 111, 112; PHYS 100 or 120; additional ESCI, arts and elective courses as outlined in section 5.1.

### 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 5.1. Students should consult the appropriate department chair or program coordinator. 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, 275 or 276, 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 170, 201, 215, 216, 275 or 276, 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 and Business Administration

Course sequence for the B.Sc. with Advanced Major in Earth Sciences and Business Administration:

Science A	(ESCI) 36 credits: ESCI 170, 201, 202, 215, 216, 245, 275; 15 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, 3 credits
ECON	6 credits
Arts X	12 credits humanities or social science
Arts Y	6 credits
Approved electives	9 credits of BIOL, CHEM, ESCI, or PHYS

### Earth Sciences and Chemistry

ESCI 170, 201, 202, 215, 216, 275 or 276, 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 5.1; interdisciplinary thesis and seminar.

### Earth Sciences and Mathematics

ESCI 170, 201, 215, 216, 245, 246, 275 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 5.1; interdisciplinary thesis and seminar.

### Earth Sciences and Physics

ESCI 170, 201, 215, 216, 245, 246, 272, 275 or 276, 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 5.1; interdisciplinary thesis and seminar.

### Minor in Earth Sciences

Students will take ESCI 171 and 21 other credits ESCI.

### Master of Science Program

See chapter 6 for admission regulations.

**[AR] Indicates Designated Course in Aquatic**



**Resources****100 Physical Geology**

An introduction to the study of rocks and minerals and the materials that make up planet Earth; the roles played by water, ice and wind in shaping the face of our planet; the Earth's origin and internal structure and composition; the plate tectonic theory, crustal deformation and mountain building; resources from the Earth. Six credits, field trips, and lab. Not offered 2004-2005.

**170 Understanding the Earth**

Explores the Earth around us, the processes that have shaped its past and present, implications for our future. Topics include: volcanoes, earthquakes, continental drift and plate tectonics; the origin and destruction of oceans; ocean water currents, groundwater, weather and climate patterns; tornadoes, hurricanes, monsoons; the evolution and extinction of lifeforms; planets, sun, stars and galaxies; natural resources; the greenhouse effect, global warming, the ozone layer. Designed for arts and science students. ESCI 171 (the first term of ESCI 170) is offered primarily to students in the aquatic resources (ISAR) program. Six credits.

**171 Understanding the Earth I**

The first term of ESCI 170 is offered for students in the ISAR program, or with permission of the instructor. Three credits.

**172 Understanding the Earth II**

The second term of ESCI 170. 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 100 or 170; 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 100 or 170. 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 100 or 170, 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 used in geosciences and 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 100 or 170; MATH 111 and 112; 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 100 or 170. 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 100 or 170. 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 in Earth sciences. Three credits.

**274 Health Impacts of Global 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 Earth sciences students. Three credits.

**275 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. No credit.

**276 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. No credit.

**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 100 or 170 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.

### **304 Sedimentary Petrology**

Covers the description, classification and interpretation of sedimentary rocks using hand specimens and thin sections, introduction to the origin, geochemistry and diagenesis of sedimentary rock including siliciclastics, carbonates and other chemical sediments; organic matter in sediments; and sedimentary rocks as sources of or reservoirs for hydrocarbons, coal or other resources. Prerequisites: ESCI 201, 215. Three credits and lab. Not offered 2004-2005.

### **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 100 or 170; 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 and paleoecology. Prerequisite: ESCI 170. 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 100 or 170; or ESCI 171; AQUA 100. Three credits and lab.

### **386 Oceanography [AR]**

An introduction to the physical and chemical characteristics of the oceans; properties of ocean water; oceanic currents and circulation; waves and tides; physical and chemical marine resources. Prerequisites: ESCI 100 or 170, or ESCI 171; AQUA 100, or permission of the instructor. Three credits and lab. Not offered 2004-2005.

### **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 100 or 170; ESCI 171; AQUA 100. Three credits and lab.

### **406 Advanced Environmental Geochemistry [AR]**

An in-depth study of aqueous and atmospheric chemical systems. Topics include: environmental pollution, and the causes, effects and control of contaminants in the environment. Prerequisite: ESCI 271, 305 or permission of the instructor. Three credits and lab.

### **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; practical 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. Not offered 2004-2005.

### **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 lab. Not offered 2004-2005.

### **455 Fossil Fuels**

Explores advanced topics in the origin, classification and development of petroleum and coal resources. Covers exploration strategies, reserve estimation, hydrocarbon provinces worldwide. Includes a large seminar component. Prerequisites: ESCI 304, 446. Three credits. Not offered 2004-2005.

### **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. Not offered 2004-2005.

### **471 Geographic Information Systems**

Students will use geographic information systems to analyze geographic data, and to learn methods of supporting geographic data representation, analysis, and modelling. Topics include: the nature of spatial data; map projections and projection conversions; map coverage; spatial computing using overlay techniques; modelling in GIS. Prerequisites: INFO 130 or CSCI 235; MATH 111, 112 or 205 or permission of the instructor. Winter term. Cross-listed as INFO 374. Three credits.

### **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**

An introduction to principles and classical applications concerning the physical properties of Earth materials. Topics on pure geophysics include inversion theory and applications, non-linear dynamics and time series analysis. Prerequisites: PHYS 100 or 120 (PHYS 120 is strongly recommended); MATH 111, 112. 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. Not offered 2004-2005.

**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**

For advanced major and 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
599	Thesis

Additional courses are available depending on the requirements and interests of the student and the availability of faculty.

\* In co-operation with the Centre for Geographic Sciences (COGS), Nova Scotia Community College. See the department chair for additional COGS courses that may be applicable to the graduate program.

**7.14 ECONOMICS**

J. Amoako-Tuffour, Ph.D.  
S. Dodaro, Ph.D.  
S. El-Sheikh, Ph.D.  
M. Gerriets, Ph.D.  
R. Martinez-Espiñeira, 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 Major Program**

See chapters 4 and 5 for information on the degree patterns, declarations of major, advanced major and honours, advancement and graduation requirements.

Requirements are:

- ECON 100, 221, 251;
- 24 credits ECON with 18 at the 300 or 400 level.

Other subjects and electives should be chosen in consultation with the department chair.

**BA Advanced Major Program**

Degree requirements are:

- ECON 100, 221, 222, 251, 252, 490;
- 6 credits of calculus;
- 12 credits ECON at the 300 or 400 level.

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 100, 221, 222, 251, 252, 370, 490; 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. MATH 100 may not count as part of the honours concentration, but may be used as an elective.

**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 regulations in chapter 7*. 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 100, 221, 222, 251, 252, 370, 490;
- 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 100, 221, 222, 251, 252;
- normally 18 credits of ECON electives with at least 6 credits at the 300 or 400 level;
- ECON electives may include ECON 490 with approval of the department chair;
- A course in quantitative methods (ECON 271; STAT 201, 224, 231 or ECON 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 412, 471 as ECON electives.

### **Honours in Mathematics and Computer Science with a subsidiary in Economics**

ECON 412, 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 and Advanced Major**

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 100, 221, 222, 251, 252, 370, 490;
- 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 100, 221, 222, 251, 252, 370, 471, 411, 412, 490 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 100 is a prerequisite for all other courses. Students lacking other prerequisites may request department approval to enroll in a course.*

### **[AR] Indicates Designated Course in Aquatic Resources**

#### **100 Introductory Economics**

An introduction to economic concepts and methodology, this course examines pressing problems and issues in the Canadian economy. Students will learn about alternate economic systems; the market; the theory of production and costs; the roles of government and money; components of the national economy; inflation; unemployment; international trade; price distortions; fiscal and monetary policy; trade policy; price regulation. Six 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. Not offered 2004-2005.

#### **221 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 portrayals of the closed economy for explaining what determines national income, employment, unemployment, prices, inflation, and the interest rate. Three credits.

#### **222 Intermediate Macroeconomics II**

This sequel to ECON 221 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 221. Three credits.

#### **230 Western Economic History**

Examines the origin and nature of the modern economy by tracing the evolution of European and North American economies from the late 15th century to the present day. Six credits. Not offered 2004-2005.

#### **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.

#### **251 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.

#### **252 Intermediate Microeconomic Theory II [AR]**

An extension of ECON 251, this course covers price determination in monopoly, monopolistic competition, and oligopoly models. 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 251. 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, SHAZAM, TSP, SPSS) to analyze economic data. Prerequisite: permission of the instructor. Three credits and lab. Not offered 2004-2005.

#### **281 Environmental Economics [AR]**

This course explores the economic concepts used to analyze the causes and consequences of, and possible solutions to, local and global environmental issues. Topics include: property rights; public good; benefit-cost analysis; environmental valuation and regulation; ozone depletion; biodiversity; and sustainability. Students will apply economic concepts to issues such as air and water pollution; toxic and hazardous substances; waste disposal and recycling. 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. Three credits. Offered in alternate years; not offered 2004-2005.

#### **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. Three credits.

### **310 Canadian Economic History**

Covers the Canadian economy from European contact to the post-war period, including: forces which determined the timing and extent of settlement and development; the role of tariff and transportation policy in shaping the economy; the response of the economy to the wheat boom period and the hardships caused by instability between the wars; the impact of foreign investment; and changing tariff and transportation policy in the post-war period. Six credits. Not offered 2004-2005.

### **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 251, 252. Three credits. Offered in alternate years; not offered 2004-2005.

### **320 Economic Systems**

An analysis of the relationships among economic theory, the economy, politics, and social institutions in the context of contemporary economic systems: capitalism, socialism, and communism. Students will consider the emergence, evolution, and malfunction of such systems in Japan, Sweden, Canada, the former Soviet Union, Poland, and China; and will assess the recent experience of countries such as Poland and China in moving towards a market economy. Six credits. Not offered 2004-2005.

### **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; fundamentals of interest rates; role of households as financial managers; economic role and operation of major financial institutions and markets; causes and consequences of financial innovation; demand for and supply of money; goals and process of monetary control. Six credits.

### **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.

### **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 2004-2005.

### **350 Schools of Political Economy**

Economists such as Paul Samuelson, Milton Friedman, John Kenneth Galbraith, and contemporary Marxists analyze the economy in strikingly different ways. This course explores the foundations of these streams of contemporary thought from the time of Adam Smith. Prerequisites: ECON 221, 251. Six credits. Not offered 2004-2005.

### **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 251. Three credits. Not offered 2004-2005.

### **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 251. Three credits. Not offered 2004-2005.

### **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 macro-economics; international finance, financial liberalization and globalization; capital flows and multinational corporations; and the international monetary system. Prerequisites: ECON 221, 251. 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 cointegration, and heteroscedasticity. Prerequisites: MATH 111, 112 or permission of the instructor. Six credits. Offered in alternate years; not offered 2004-2005.

### **381 Natural Resource Economics [AR]**

Examines the role of natural resource industries in the Canadian and world economies, including mineral, fossil fuel, water and forest resources. Topics include: welfare and inter-temporal issues involved in the use of resources; conservation; ownership and property rights issues; resource taxation in Canada; and the nature of resource markets. Prerequisites: ECON 251; MATH 111. Three credits. Offered 2004-2005 and in alternate years.

### **391 Public Finance I**

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 251 or equivalent. Three credits. Not offered 2004-2005.

### **392 Public Finance II**

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 251 or equivalent. Three credits. Not offered 2004-2005.

### **411 Advanced Macroeconomics**

An advanced treatment of macro-economic theory and policy, including such unresolved issues as stabilization policies in a small open economy such as Canada. Prerequisites: ECON 222; MATH 111, 112; ECON 471 or permission of the instructor. Three credits. Offered 2004-2005 and in alternate years.

### **412 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 251, 252; MATH 111, 112 or ECON 471; or permission of the instructor. Three credits. Offered 2004-2005 and in alternate years.

### **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 or permission of the instructor. Three credits. Offered 2004-2005 and in alternate years.

#### 490 Seminar

Designed to integrate various areas of economic knowledge into the framework of evolving economic theories, policies and institutions, and to foster the application of economic principles to current economic issues. Topics are determined to some extent by the interests of students. Prerequisites: ECON 222, 252; permission of the instructor. Six 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.

#### 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 or six credits.

### 7.15 EDUCATION

I. Bernard, Ph.D.  
 P. Betts, Ph.D.  
 D. DeCoste, M.Ed.  
 A. Foran, M.Ed.  
 J. Grant, Ed.D.  
 J. Greenlaw, Ph.D.  
 J. Huber, Ph.D.  
 A. Jones, M.Ed.  
 J. MacDonald, M.Ed.  
 L. MacDonald, Ph.D.  
 M.A. MacPherson, Ph.D.  
 M.J. Mahody, M.Ed.  
 M. Meyer, Ph.D.  
 A. Murray-Orr, M.Ed.  
 S. Northfield, M.Ed.  
 M. Olson, Ph.D.  
 J. Orr, Ph.D.  
 A. Sherman, Ph.D.  
 J. Tompkins, M.Ed.

#### Part Time

G. Barker, M.Ed.  
 B. Campbell, MFA  
 I. den Heyer, M.Ed.  
 D. Graham, M.Ed.  
 A. Hawley, M.Ed.  
 F. Hurley, Ed.D.  
 W. MacAskill, Ph.D.  
 B. MacDonald, M.Ed.  
 K. MacDonald, M.Ed.  
 A. MacInnis, B.Ed.  
 C. MacNeil, MAS  
 F. McCormack, M.Ed.  
 J. Meikle, M.Ed.  
 A. Pasqualotto, M.Ed.

See chapter 4 for B.Ed. regulations and chapter 6 for M.Ed. and MAT regulations. Candidates are required to complete all of the

courses shown below for the elementary or secondary division.

#### Elementary

Year 1 (E1) EDUC 411, 412, 413, 431, 433, 435, 471, 472; 6 credits EDUC electives

Year 2 (E2) EDUC 414, 415, 416, 417, 434, 436, 468, 481, 482; 3 credits EDUC elective

All elementary program students are required to take one of the following in their elective complement: EDUC 456, 457, 458, 469 (Drama), or 469 (Film and Media Arts). For elementary students specializing in French, one of the esthetics electives listed above will replace EDUC 415.

#### Secondary

Year 1 (S1) EDUC 432, 433, 435, 470; one of EDUC 421 to 428;

6 credits EDUC electives

Year 2 (S2) EDUC 434, 436, 438, 440, 480; a second curriculum and instruction course chosen from EDUC 421 to 428; 6 credits EDUC electives.

#### Mi'kmaq Focus

In addition to the elementary and secondary divisions, a focus on Mi'kmaq language can be achieved by earning credit for EDUC 453, 454, 455 and one of EDUC 411, 451 or 452. Students pursuing a Mi'kmaq culture focus must also complete EDUC 424.

#### Physical Education Specialization

A student in the elementary and secondary stream 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 457 in the fall of year one, EDUC 425A in the winter of year one, EDUC 444 in the fall of year two, and EDUC 425B in the winter of year two.

#### Curriculum and Instruction 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 whole language 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. 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. Three credits.

##### 415 Integrating Curriculum in the Elementary Classroom (E2)

This course provides students with an understanding of the philosophy behind integrative curriculum in the elementary classroom. Students will develop a rationale for teaching through an interdisciplinary-integrated approach and learn to design integrated

curriculum with particular attention to the process of curriculum making in keeping with diverse, inclusive classroom. Three credits.

#### **416 Curriculum and Instruction in Social Studies (E2)**

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 Diverse Cultures (E2)**

This course will provide students with an overview of the cultural diversity in Canadian schools and with strategies to enhance their understanding of cultural and linguistic diversity. Three credits.

#### **421 to 428 Curriculum and Instruction in Secondary Education (S1 and S2)**

Curricular and instructional concepts will be described, demonstrated, evaluated, and applied in relation to eight areas of the school curriculum:

421 English	425A physical education
422 social studies	426 music
423 mathematics	427 science
424 diverse cultures	428 French

Students 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 teachable areas of study. Each course is six credits, 425A and 425B are three credits each.

#### **Other Required Courses:**

#### **431 Principles and Practices of Elementary Education (E1)**

This course emphasizes curriculum and instructional theories as they relate to the process of becoming an elementary school teacher. Topics include the role of the teacher, effective teaching strategies, lesson planning, reflective practice, and classroom environment. Three credits.

#### **432 Principles and Practices of Secondary Education (S1)**

This course emphasizes the curriculum and instructional theories as they relate to the process of becoming a secondary school teacher. Topics include perspectives on educational psychology, administrative theory, curriculum theory, and instructional theory through an examination of the practice of teaching. Six credits.

#### **433 Sociology of Education (E1 & S1)**

This course will examine the social context of education in Canada, particularly contemporary structures. Students will explore the relationship between educational opportunity and conditions of inequality. Three credits.

#### **434 Philosophy and History of Education (E2 & S2)**

This course examines the philosophical and historical underpinnings of Canadian schools today and their effect on educational practice. Three credits.

#### **435 Curriculum Planning and Instructional Strategies for the Inclusive Classroom I (E1 & S1)**

Students will develop an understanding of the nature and characteristics of exceptional learners, and become familiar with the history and development of services for children and adolescents with exceptionalities in Canadian schools. Topics will include: the processes, policies, and procedures collaboratively developed to support exceptional learners in Nova Scotia educational settings. Three credits.

#### **436 Curriculum Planning and Instructional Strategies for the Inclusive Classroom II (E2 & S2)**

Students will learn to make instruction and curriculum accessible for learners with exceptionalities in regular classrooms. Models will be presented to guide differentiated instruction. Inherent in such models

are changes in content, process, product, and specific learning strategies to meet the needs of exceptional learners in ways that are mindful of all learners. Emphasis will be placed on the collaborative development, implementation, and evaluation of individual educational plans. Three credits.

#### **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 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. Six credits.

#### **437 Guidance (S2)**

This course focuses on the development of knowledge of interpersonal relationships and interpersonal skills required by the classroom teacher in providing guidance for his/her students. The basic principles and practices of guidance will be emphasized. Three credits.

#### **442 Drama Applications K-12**

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.

#### **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.

#### **451 The Teaching of Writing**

Familiarizes students with different theories and their implications for the teaching of writing. The course will emphasize the process approach to writing and provide students with an understanding of each stage, as well as guidelines for its evaluation and promotion. The course will integrate theory and practice through writing assignments, evaluation of written samples, and development of grammar mini-lessons. Three credits.

#### **452 The Teaching of Reading**

Examines current theories on the reading process, including word recognition and reading comprehension, and their implications for teaching reading. Students will explore research on the development of reading skills; acquire knowledge of different areas of reading difficulty; and integrate theory and practice in a field-related practicum. Three credits.

#### **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.

#### **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.

#### **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.

#### **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.

#### **461 Entrepreneurship Education**

Entrepreneurship is defined as a dynamic process in which a person, alone or with others, actualizes her or his potential, knowledge, and skills to initiate a venture. This course will cover economic, entrepreneurial, and problem-solving processes. 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.

#### **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.

#### **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.

#### **465 School Law**

This course provides students with a basic understanding of the Education Act, the Charter of Rights and Freedoms, other laws affecting education, teachers' contracts, and the impact all of these have on classroom practice. Three credits.

#### **466 Foundations of Adult Education**

This course will provide an historical and philosophical overview to set the stage for two basic concepts: adult learning and program planning. The course will then focus on these two dimensions and integrate ideas through practical application. 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.

#### **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.

#### **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.

#### **Internship:**

##### **471 Internship I**

Students are placed in schools for 5 weeks of supervised practice teaching. Three credits.

##### **472 Internship II**

Students are placed in schools for 5 weeks of supervised practice teaching. Three credits.

##### **481 Internship III**

Students are placed in schools for 5 weeks of supervised practice teaching. Three credits.

##### **482 Internship IV**

Students are placed in schools for 5 weeks of supervised practice teaching. Three credits.

## **GRADUATE COURSES**



**Master of Education**

*The requirements of the M.Ed. are given in chapter 6.*

**501 Program Evaluation**

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. Subject to the final approval of the University Senate.

**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 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 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

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

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 learning difficulties. 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 will learn to choose formal or informal measures for assessing individual student achievement; to administer, interpret, and communicate the results of these assessments; and to relate the assessment results to provincial outcomes suitable for students. Prerequisite: EDUC 553. Three credits.

**536 Program Development**

Examines diverse theoretical bases for program development, and explores action research in program development. 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 learn to administer various assessments and to develop approaches to assessment in selected case studies. Administration, interpretation, and communication of assessment results will be emphasized. 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 Problems in School Administration**

This course examines recurring and emerging problems 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.

**575 Computers in Education**

This course provides an overview of the role of computers in education, including providing computer services to schools, determining appropriate computer curricula, computer literacy, computer science, and Internet use. Local computer co-ordination and management will also be explored. Three credits.

**576 Specific Problems 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.

**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.

**7.16 ENGINEERING**

F. Comeau, M.Sc., 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.  
H. Spekkens, Ph.D.

*Program requirements are found in chapter 5. Students must follow the program outlined below:*

Year 1	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	ENGR 221, 224, 237, 242; up to 24 credits of ENGR discipline-specific courses (see below); and up to 6 credits humanities normally from CATH, CLAS, CELT (literature or culture), ENGL, HIST, PHIL, RELS, or language courses beyond the language acquisition level

Discipline-specific courses and elective requirements are as follow: Please visit the following website: <<http://www.stfx.ca/academic/engineering>>

Biosystems	ENGR 231, 234, 235, 244; BIOL 111, 112; CHEM 221; 3 credits humanities elective
Chemical	ENGR 222, 223, 227, 233, 234, 244; CHEM 221; 3 credits humanities elective
Civil	ENGR 222, 223, 231, 233, 234, 235, 244; ESCI 216
Electrical & Computer	ENGR 222, 223, 233, 238, 244, 245, 246, 248
Environmental	ENGR 234, 244; BIOL 111, 112; CHEM 221; ESCI 170; 3 credits humanities elective
Industrial	ENGR 222, 223, 231 or 234, 233, 235, 236, 244; 3 credits humanities elective
Mechanical	ENGR 222, 231, 233, 234, 235, 236; 6 credits humanities electives
Metallurgical	ENGR 222, 223, 231 or 236, 233, 234, 235, 244; 3 credits humanities elective
Mining	ENGR 222, 223, 231, 233, 234, 235, 236, 244

Humanities electives may be taken in the following departments or programs: Catholic studies, classical studies,

Celtic studies, English, history, philosophy, and religious studies.

### 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 problem session.

### 122 Calculus II 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 122. Three credits and problem session.

### 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 problem session.

### 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 problem session.

### 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.

### 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 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 MATH 222. Prerequisites: ENGR 121, 122 or MATH 121, 122. 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 MATH 223. Prerequisites: ENGR 121, 122 or MATH 121, 122. Three credits and problem session.

### 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 problem session.

### 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 problem session.

### 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 problem session.

### 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 problem session.

### 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 problem session.

### 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 problem session.

### 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 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: PHYS 120. Three credits and 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. Three credits and 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 problem session.

#### 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.

#### 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 problem session.

#### 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 136, 144, 237. Three credits and 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 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. Prerequisite: ENGR 245. Three credits and a three-hour problem session.

### 7.17 ENGLISH

P.A. Black, Ph.D.  
J. Boulter, Ph.D.  
J. Lynes, Ph.D.  
P.A. Marquis, Ph.D.  
M.B. McGillivray, Ph.D.  
P. Milner, Ph.D.  
M.A. Moynagh, Ph.D.  
R.A. Nemesvari, Ph.D.  
D. Smith, Ph.D.  
H. Spekkens, Ph.D.  
J.O. Taylor, Ph.D.  
S. Vint, Ph.D.  
E. Wilputte, Ph.D.

#### Part Time

J. Strickler, MA  
D. Wood, MA, B.Litt.

English courses are organized into six categories.

#### Medieval Literature

206 World Masterpieces I: Classical Antiquity  
207 World Masterpieces II: Medieval and Renaissance  
273 Linguistics  
274 History of the English Language  
373 Old English Language  
374 Middle English Language  
390 Chaucer  
392 Medieval Literature  
490 Seminar on Chaucer

#### Renaissance Literature

304 The Early Tudor and Elizabethan Renaissance  
305 The Later Elizabethan Renaissance  
310 Culture, Power, and Politics in Shakespeare and His Age  
312 17th-Century Literature  
340 Shakespeare  
345 Literary Theory and Practical Criticism to 1798  
408 Seminar on Jacobean Drama  
412 Seminar on 17th-Century Literature  
440 Seminar on Shakespeare  
480 Seminar on Spenser and Milton

#### 18th-Century Literature

344 American Literature to 1900  
345 Literary Theory and Practical Criticism to 1798  
355 Restoration and 18th-Century Drama and Prose  
356 18th-Century Novel and Poetry  
460 Seminar on 18th-Century Literature

#### 19th-Century Literature

270 The Romantic Gothic  
271 Gothic Fiction  
346 Literary Theory and Practical Criticism, 1798 to the Present  
370 English Romantic Literature  
371 Victorian Literature, 1832-1867  
372 Victorian Literature, 1867-1901  
377 19th-Century Fiction  
444 Seminar on 19th-Century American Literature  
470 Seminar on Romantic Literature  
477 Seminar on Victorian Literature

#### Modern Literature

201 Science Fiction and Fantasy  
209 Narrative in Fiction and Film  
229 Women in English Literature  
234 Children's Literature: 1865 to the Present  
247 Post-Colonial Literature in English  
250 Survey of 20th-Century Literature in English  
317 Cultural Theory Through Popular Culture  
320 Modern Poetry  
329 Studies in Women Writers: Feminisms and Their Literatures  
330 Studies in Women Writers: Genres, Cultures, and Contexts  
346 Literary Theory and Practical Criticism, 1798 to the Present  
347 African-Canadian Literature  
350 Modern British Fiction  
376 Modern American Fiction  
380 Modern Drama  
420 Seminar on Modern Poetry  
445 Seminar on Contemporary Critical Theory  
450 Seminar: After Beckett  
476 Seminar on Modern American Fiction

#### Canadian Literature

265 Canadian Poetry and Prose  
347 African-Canadian Literature  
367 The Canadian Novel  
368 Canadian Poetry  
467 Seminar on Canadian Poetry: The Poet in Atlantic Canada

#### Creative Writing

221 Introduction to Journalistic Writing  
222 Creative Non-fiction/Memoir

- 231 Introduction to Creative Writing  
 331 Intermediate Creative Writing  
 431 Advanced Creative Writing

*Note: Creative writing courses count towards the modern requirements.*

### Department Requirements

ENGL 100 or equivalent is required for entrance to all other ENGL courses. A student should have ENGL 100 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; six credits medieval or Renaissance; six credits 18th or 19th century; six credits modern or Canadian; 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, 340; a senior seminar; and 18 credits ENGL electives to include courses from three of the following categories: medieval, Renaissance, Restoration and 18th century, 19th century, and modern or Canadian. They must also write an advanced major thesis. *See section 4.1 for degree regulations.*

### Honours Program

Students in the honours program in English take the following courses: ENGL 100, 340; six credits medieval literature or language; six credits 18th century; six credits 19th century; six credits in modern literature; one seminar in critical theory; nine credits ENGL electives; and a senior seminar. An honours thesis is also required (three credits). *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, or religious studies. *The program requirements and the course pattern are described in section 4.1.*

### Senior Seminar

Each year certain advanced courses will be designated senior seminars. All honours and advanced major students must be enrolled in one 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

A study in its historical context of literature written in English from the beginnings to the early twentieth century. Six credits.

*Note: ENGL 100 or equivalent is required for entrance to all other ENGL courses.*

### 201 Science Fiction and Fantasy

This course will examine particular genres, themes, or authors in speculative literature. In 2004-2005, the class will explore representations of the alien in science fiction. It will focus on how the characterization of aliens reflects cultural uneasiness about difference, and will trace the gender, race, sexual, and religious anxieties that aliens stand for. It will also discuss the solutions provided by science fiction texts to the 'problem' of Otherness. 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. Not offered 2004-2005.

### 209 Narrative in Fiction and Film

This course examines the grammar and aesthetics of movies, as well as their sociology and social history. It looks at the technical and aesthetic demands of movies, and the changes that result from translating books into film. It examines the history and growth of Hollywood and the entertainment industry; techniques of movie production; the struggle for control of movies and audiences; the star system; censorship; and Canadian achievements in film. Six credits.

### 221 Introduction to Journalistic Writing

This course will provide experience in journalism. Students will learn the craft of writing news stories, feature stories, opinion pieces, and personal opinion columns. It will also introduce students to off- and on-line research techniques and on- and off-line publication. The emphasis will be on developing basic journalistic writing skills. Prerequisite: ENGL 100 and portfolio demonstrating literary skill. Three credits.

### 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. Prerequisite: ENGL 100 and portfolio demonstrating literary skill.

### 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.

### 231 Introduction to Creative Writing

This course teaches students how to write creatively in all genres (poetry, drama, prose, creative non-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. Prerequisite: ENGL 100 and portfolio demonstrating literary skill. Six credits.

### 234 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. Six credits.

### 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.

**265 Canadian Poetry and Prose**

A wide-ranging survey of writers mainly of the 19th and 20th centuries. This course begins with exploration narratives and continues to the present day. Authors may include: Sir Charles G.D. Roberts, Bliss Carman, Thomas Chandler Haliburton, E.J. Pratt, Alice Munro, Margaret Laurence, Margaret Atwood. Six 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.

**273 Linguistics**

An introduction to the study of human communication, attitudes towards language, and the phenomenon of linguistic change. Cross-listed as CELT 273 and as the first half of ANTH 355. Three credits.

**274 History of the English Language**

Examines the history and development of the English language. Cross-listed as CELT 274. Three credits.

*Note: A student should have ENGL 100 plus at least six credits at the 200 level before taking a course at the 300 level. Some exceptions apply; see course descriptions.*

**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. Not offered 2004-2005.

**310 Culture, Power, and Politics in Shakespeare and His Age**

A study of the relations between literary form and social energy in a period that gave rise to the major genres, including poetic anthologies, novels, epic poems, and theatrical dramas. Works will include Tottel's *Miscellany* and the major sonnet sequences, Baldassare Castiglione's *The Courtier*, Sir Philip Sidney's *Old Arcadia*, and Edmund Spenser's *The Faerie Queene*. Students will read a history play, a comedy, a tragedy, and a romance by Shakespeare. Six 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. Three 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 2004-2005.

**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. In 2004-2005, the course will focus on women and science fiction. Contemporary SF by women writers from the 1970s to the present will be discussed, including the works of James Tiptree, Jr. (Alice Sheldon), Tanith Lee, Angela Carter, Octavia Butler, Nancy Kress, and Sherri S. Tepper. The reading list will consist of short stories and one novel.

**331 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 ENGL 231. Prerequisite: ENGL 100 and portfolio demonstrating literary skill. Six credits.

**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. Six credits.

**344 American Literature to 1900**

Emphasizing the major Puritan and transcendentalist writers, this course also examines slave narratives, pioneer journals, Indian captivity narratives, and political documents of the United States between 1620 and 1900. Prerequisite: 12 credits ENGL. Six credits. Not offered 2004-2005.

**345 Literary Theory and Practical Criticism to 1798**

A study of central theoretical statements about literature and its analysis from the classical period to the Age of Reason. Authors may include Plato, Aristotle, Longinus, Boccaccio, Sir Philip Sidney, John Dryden, Samuel Johnson, Alexander Pope, and Anne Louise Germaine de Staël. Students will apply critical approaches to selected poetry, fiction, and drama. Three credits.

**346 Literary Theory and Practical Criticism, 1798 to the Present**

A study of central theories of literature and its analysis from the Romantics to the 21st century. Authors may include: William Wordsworth, Samuel Taylor Coleridge, Percy Bysshe Shelley, Matthew Arnold, Henry James, T.S. Eliot. Student will read and apply such approaches as new criticism, Marxism, feminism, psychological criticism, structuralism, post-structuralism, post-colonial criticism, queer theory, new historicism, and the new formalism. 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. Not offered 2004-2005.

**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.

**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.

**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. Six credits. Not offered 2004-2005.

**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.

**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. Three credits. Not offered 2004-2005.

**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. Three credits.

**373 Old English Language**

A study of the Anglo-Saxon language. Works will be read in the original language. Three credits. Not offered 2004-2005.

**374 Middle English Language**

A study of the English language between 1000 and 1500 CE. Selections will be studied in the original language. Prerequisite: ENGL 373. Three credits. Not offered 2004-2005.

**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. Not offered 2004-2005.

**380 Modern Drama**

A survey of modern drama from Georg Buchner to Samuel Beckett. The plays are studied not as scripts but as performed. Prerequisite: 12 credits ENGL. Six credits. Not offered 2004-2005.

**390 Chaucer**

This course explores the major poetry and prose of this seminal figure in English literature. Six credits. Not offered 2004-2005.

**392 Medieval Literature**

Examines the finest authors and works in Middle English, including Geoffrey Chaucer, *Sir Gawain and the Green Knight*, *Piers Plowman*, *The Pearl*, Sir Thomas Malory's *Le Morte D'Arthur*, and medieval ballads and lyrics. Cross-listed as CELT 392. Six credits. Not offered 2004-2005.

**397 Selected Topics in Literature in English I**

Three credits.

**398 Selected Topics in Literature in English II**

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 majors and honours students on a rotating basis over a period of years.*

**408 Seminar on Jacobean Drama**

Provides close textual readings of representative tragic, comic, and satiric plays of the period by Ben Jonson, John Marston, John Webster, Thomas Middleton, Cyril Tourneur, John Ford, Francis Beaumont, and John Fletcher. Six credits. Not offered 2004-2005.

**412 Seminar on 17th-Century Literature**

An intensive study of the Metaphysical poets, the Cavalier poets, *Paradise Lost*, and the prose of Francis Bacon, John Donne, Richard Burton, and Sir Thomas Browne. Six credits. Not offered 2004-2005.

**420 Seminar on Modern Poetry**

A study of the work of two major modern poets. Authors will change from year to year and may include Ezra Pound and T.S. Eliot; W.B. Yeats and T.S. Eliot; Wallace Stevens and William Carlos Williams. Six credits. Not offered 2004-2005.

**431 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. Prerequisites: ENGL 100; 6 credits in creative writing; portfolio demonstrating literary skill. Six credits. Not offered 2004-2005.

**440 Seminar on Shakespeare**

A study of Shakespeare's works in their social and literary contexts, accompanied by comparative study of sources and analogues, topics of bibliographic and textual interest. Prerequisite: ENGL 340. Six credits. Not offered 2004-2005.

**444 Seminar on 19th-Century American Literature**

A study of the major trends in pre-20th-century American literature with emphasis on the Puritan tradition, including Jonathan Edwards, Nathaniel Hawthorne, Edgar Allan Poe, Herman Melville, and Mark Twain, and the transcendentalist writers, Ralph Waldo Emerson, Walt Whitman, and Henry David Thoreau. Six credits. Not offered 2004-2005.

**445 Seminar on 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. Required for all honours students in addition to the senior seminar. Six credits.

**447 Seminar on Post-Colonial Literature**

A study of post-colonial literature and theory through selected questions central to contemporary scholarship in the field. Writers such as Kamau Brathwaite, J.M. Coetzee, Tsitsi Dangarembga, Caryl Phillips, Zadie Smith, and Derek Walcott will be read alongside essays by Homi Bhabha, Stuart Hall, Gayatri Spivak, Chandra Talpade Mohanty, Anne McClintock, and Edward Said. Six credits.

**450 Seminar: After Beckett**

A study of the influence of Samuel Beckett on the development of modern and post-modern narrative. The first term focuses on

Beckett's two trilogies of novels. The second term focuses on Beckett's influence on Alain Robbe-Grillet, Paul Auster, J.M. Coetzee, and John Banville. Six credits. Not offered 2004-2005.

**460 Seminar on 18th-Century Literature**

A close study of selected plays, poetry, prose, and novels of Eliza Haywood, Alexander Pope, and Henry Fielding. This course will examine the works in their contemporary context and by utilizing a variety of literary theories. Six credits. Not offered 2004-2005.

**467 Seminar on Canadian Poetry: The Poet in Atlantic Canada**

A study of the encounter between the poetic imagination and the Atlantic region in the 19th and 20th centuries, this course examines poetry by Maritimers and Newfoundlanders; poetic forms and their effect; the construction of images received as typically Maritime and how they engage the country's notions of itself. Authors may include: Sir Charles G.D. Roberts, Bliss Carman, E.J. Pratt, Alden Nowlan, Elizabeth Brewster, Milton Acorn, and Rita Joe. Six credits. Not offered 2004-2005.

**470 Seminar on Romantic Literature**

A study of the prose and poetry of Eliza Fenwick, Mary Hays, Mary Wollstonecraft, William Wordsworth, Samuel Taylor Coleridge, John Keats, Percy Bysshe Shelley, and Mary Shelley. The course focuses on the recent recognition of women Romantic writers and on changing critical attitudes towards Romantic literature. Six credits. Not offered 2004-2005.

**476 Seminar on Modern American Fiction**

A study of a major theme or critical question in American prose since 1900. A special focus will be selected for each year. Possible topics will range from representations of a specific motif (e.g., masculinity, nature) through the study of a period or school to the study of a particular ethnic tradition within the American canon. Not offered 2004-2005.

**477 Seminar on Victorian Literature**

A study of novelists Jane Austen, Charles Dickens, George Eliot, and Thomas Hardy; or the poetry of Alfred Lord Tennyson, Elizabeth Barrett Browning, Christina Rossetti, Gerard Manley Hopkins, and Oscar Wilde; and the prose of Thomas Carlyle, Matthew Arnold, and Walter Pater. Six credits. Not offered 2004-2005.

**480 Seminar on Spenser and Milton**

A reading of Edmund Spenser and John Milton in the contexts of contemporary society and Renaissance literary theory. Six credits. Not offered 2004-2005.

**490 Seminar on Chaucer and Contemporaries**

Examines the major poetry and prose of this seminal figure in English literature, as well as other Medieval writers. Six credits.

**496 Research Methods in English Literature**

This course will teach students the basis of academic research, and prepare them for identifying and locating materials necessary for the advanced majors and honours thesis. Restricted to third- and fourth-year students in the honours or advanced major programs. Three credits.

**497 Advanced Major Thesis**

Advanced major students write a thesis as part of the senior seminar. See chapter 4.

**498 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 three-credit course in the senior year. The thesis must be submitted no later than March 31 of the senior year. See chapter 4. Three credits.

**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.

**GRADUATE COURSES**

*Master of Arts in Teaching*

All courses are six credits.

- 512 Literary Criticism, Prose, and Rhetoric
- 522 The Novel and the Short Story
- 532 Poetry
- 542 The Classical Background to English Literature
- 552 Drama

▷ **FRENCH**

See modern languages in 7.24.

▷ **GEOLOGY**

See Earth sciences in 7.13.

▷ **GERMAN**

See modern languages in 7.24.

▷ **GRADUATE STUDIES**

See chapter 6.

**7.18 HISTORY**

- J. Cameron, Ph.D.
- N. Forestell, Ph.D.
- P. Hogan, Ph.D.
- G. Lalande, Ph.D.
- P. McInnis, Ph.D.
- P. Phillips, Ph.D.
- L. Stanley-Blackwell, Ph.D.
- R. Zecker, Ph.D.

**Department Requirements**

The history department offers programs that provide breadth while permitting students the opportunity to achieve a chosen specialization. Students may count courses in Celtic history as courses in the Department of History. Students may count RELS 383 as a course in history.

Juniors and seniors taking a pair in history normally take only one course at the 200 level. Juniors and seniors taking four or more courses in history normally take only two courses at the 200 level.

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 requirement must be completed through StFX.

**Major Program**

Students in the major program in history follow the degree regulations established by the university for this program. See chapter 4. It is strongly recommended that students following the major degree program strive for balance and breadth in their selection of courses. Ordinarily, students will have some degree of concentration in either Canadian or European history. The general pattern will follow that outlined above for the advanced major program, i.e., three or four courses in Canadian history and a combination of two or three courses in European and American history; or three or four courses in European history and a combination of two or three courses in Canadian and American history.

**Advanced Major Program**

Students in the advanced major program in history follow the degree regulations established by the university for this program. See chapter 4. Advanced major students take a seminar, normally during the



senior year, and complete a research paper under the supervision of a department member.

Department course requirements allow for concentration in either Canadian or European history. In the first case, students must take two or three courses and a senior seminar in Canadian history, and a combination of two or three courses in European and American history. In the second instance, students must take two or three courses and a senior seminar in European history, and a combination of two or three courses in Canadian and American history. The fields included in the European area are: Britain, Celtic history, Eastern Europe, medieval history, modern Europe, Germany and Russia.

Students wishing to concentrate in a field other than Canadian or European history, and who demonstrate a capacity for independent study, may request a directed study course in the area of their choice. Such requests should be referred to the department chair; see section 3.5.

### **Honours Program**

Students in the honours program in history follow the degree regulations established by the university for this program. *See chapter 4.* The chair of the department and the dean will assist in planning and supervising the programs of individual students. Honours students will take a seminar, normally during the senior year, and complete a thesis under the supervision of a department member.

### **100 Western Civilization**

Traces the development of western ideas and institutions as rooted in ancient Mesopotamian, Egyptian, and Hebrew cultures. 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 first-year students. Six credits.

### **110 Global History Since 1300**

A thematic exploration of selected topics in global history from 1300 to the present, including the age of exploration, the rise of capitalism and class society, struggles between Europeans and colonized peoples, slavery, political revolutions, and nationalisms. The course combines political, social, intellectual, and cultural history to provide a comprehensive examination of the key non-western and western civilizations. Normally restricted to first-year students. Six credits.

### **200 A History of Canada**

This introductory survey explores the main political, economic, and social themes in Canadian history. Required for history majors, advanced majors, and honours; optional for students seeking to pair history. Six credits.

### **202 Western Canada: The Prairies**

This course examines historical developments on the Canadian prairies from pre-European contact to the present. It covers native peoples and European-native contact; the fur trade, exploration, colonization, immigration, urbanization; social reform, war, and economic depression; intellectual, social, and religious developments. Coverage is sensitive to gender, class, ethnicity, religion, and regions on the prairies, as well as to issues of historical interpretation. Three credits.

### **204 Western Canada: British Columbia**

Examines historical developments in British Columbia from pre-European contact to the present. Topics include: native peoples and European; exploration, colonization, immigration, urbanization, industrialization; social reform, war, and economic depression; and intellectual, social, and religious developments. Coverage is sensitive to gender, class, ethnicity, religion, and regions in BC, as well as to issues of historical interpretation. Three credits.

### **209 The Maritime Provinces, 1500-1950**

A survey of social and economic developments including the Acadians, the migration of peoples, shipping and ship-building, federation with

Canada, coal and steel, trade unions, religion, and education. Six credits.

### **214 The French Revolution and Napoléon Bonaparte**

Examines what many consider the key revolution in modern European history. Topics include French society at the end of the 18th century; the toppling of the French monarchy and the Reign of Terror; the French revolutionary wars; the rise of Napoléon, his wars in Europe and catastrophic invasion of Russia; and the legacy of the revolution. Novels, historical documents, and films will be examined. Three credits.

### **220 Russia, 862-1917**

A brief survey of Russian history from the early times of Kievan Rus to the emergence of Muscovy. Emphasis will be placed on the political, economic, social, and cultural developments of the 18th and 19th centuries: Peter the Great and the challenge of the West; Catherine the Great and the Enlightenment; the emancipation of the serfs; industrialization; the revolutionary movement, World War I and the fall of the Romanov dynasty. Six credits. Not offered 2004-2005.

### **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.

### **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.

### **255 Colonial Latin America**

This is a survey of the Spanish and Portuguese colonial empires in the Americas from the late 15<sup>th</sup> century to the early 19<sup>th</sup> century. Topics and themes will include: the indigenous, African and European roots of colonial Latin America; the clash of civilizations and the Iberian conquest in the Americas; the politics and the economy of the Iberian colonies; the development of slavery and ethnic discrimination; the dynamics of gender, sexuality, ethnicity and class in colonial society; the age of piracy and the struggle for empire in Latin America; the rise of new national identities; and the struggle for independence. Three credits.

### **256 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 will include: the struggles for independence, beginning with the slave revolution in Haiti in 1791; the creation of new nations and cultures in the 19<sup>th</sup> century; the abolition of slavery in the Americas; the struggles of indigenous peoples to preserve their culture; modernization in the late 19<sup>th</sup> century; the evolution of social classes and ideas about 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.

### **260 Europe in the 19th and 20th Centuries**

A survey of European history from the French Revolution to the present, covering the political, economic, social, intellectual, and cultural affairs of major European states. Six credits.

### **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 2004-2005.

### **280 A Survey of British History Since 1485**

This is a survey course covering the political, social, and economic changes in society from the period of Tudor rule to the 20th century, including Britain's empire and relationship with Europe. Six 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 ART 300. Six credits. Not offered 2004-2005.

### **307 History of Quebec**

This course traces the political, economic, social, and cultural development of Quebec from the 16th century to the present, focusing on the debates that have shaped historians' interpretations of Quebec's past. Six credits.

### **308 Canadian Women's History**

Examines the history of women in Canada from the 16th century to the present. Attention will be paid to class, racial, ethnic, and regional variations of women's experience. Topics include: changes and continuities in the status of women; gender ideologies; women's role in the family; paid and unpaid work; access to education; religious participation; involvement in social reform and other political movements. Cross-listed as WMNS 308. Six credits. Not offered 2004-2005.

### **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.

### **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, labor, and popular culture. Three credits.

### **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.

### **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. Not offered 2004-2005.

### **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.

### **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 2004-2005.

### **337 Modern Mexico**

This course will explore Mexican history from 1810 to the present. Topics and themes will include: the independence war of 1810 to 1821; civil war, rebellion, and banditry in the 19<sup>th</sup> century; indigenous struggles to preserve their culture; foreign intervention and Mexican relations with North America and Europe. The course will pay special attention to the Mexican Revolution of 1910. It will follow developments in the post-revolutionary era to explore the issues of modernization, democracy, and social justice in contemporary Mexico. Three credits.

### **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.

### **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.

Three credits.

### **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. Three credits. Not offered 2004-2005.

### **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. Three credits. Not offered 2004-2005.

### **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.' Three credits.

### **361 Renaissance Europe**

Three credits. Not offered 2004-2005.

### **362 European Fascism**

This course explores the history of European fascism from its late nineteenth-century origins through World War II. It begins with an examination of historiographical issues related to the study of fascism, including the search for a workable definition of the term. The course then focuses upon the political and doctrinal origins of fascism and its crystallization during the Great War. The second part of the course explores Italian fascism and German Nazism from various perspectives: Domestic and foreign policy, the fascistization of economy and society, the use of propaganda, gender policies, and anti-Semitism. The third component examines the spread of fascism in Europe, and its subsequent apogee during World War II and the Holocaust. Finally, contemporary European fascism is briefly analyzed. Each component consists of lectures, class discussions, and independent study and research on the part of the student. Three credits. Not offered 2004-2005.

### **363 Reformation Europe**

Three credits. Not offered 2004-2005.

### **364 The Holocaust**

Explores the history and legacy of the destruction of the Jews of Europe during World War II. Topics include: historical anti-semitism, the rise of the Nazis, euthanasia, the ghettos, the death camps; Jewish and non-Jewish resistance; the role of ordinary Germans; the establishment of Israel; the 1960s Auschwitz trials; Canadian prosecution of World War II criminals; and controversy over the Holocaust memorial in Berlin. Three credits. Not offered 2004-2005.

### **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 2004-2005.

### **372 Imperial 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. Three credits. Not offered 2004-2005.

### **374 20th-Century China**

Covers 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. Three credits. Not offered 2004-2005.

### **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 social, economic, political, religious, and diplomatic developments during this period. Three credits.

### **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.

### **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.

### **400 Seminar in Canadian History**

The course will examine important periods of growth and change in Canadian history, the tensions created, and the questions raised by such growth and change. Six credits.

### **460 Seminar in Modern European History**

Explores major developments in 19th- and 20th-century European history. The themes and topics chosen each year will reflect to some degree the interests of the professor and the students. Six credits.

*Note: Although a seminar in medieval European history is not offered, the department may make arrangements for students who wish to write a thesis in that field.*

### **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.

## **7.19 HUMAN KINETICS**

L. Bilek, Pae.D.

J. Boucher, Ph.D.

D. Burke, Ph.D.

M. Gallant, M.Sc.

R. Rasmussen, Ph.D.

H. Stanish, Ph.D.

A. Thompson, Ph.D.

D. Vossen, Ph.D.

The Department of Human Kinetics offers a four-year arts degree program in the study of human movement from a humanities and social sciences perspective. The BA in Human Kinetics program offers the student further specialization with the option to major in either a nationally accredited kinesiology program or a pre-education program.

The department also offers a four-year science degree program in the scientific study of human movement. The B.Sc. in Human Kinetics program offers the student further specialization with the option to major in either a nationally accredited kinesiology program or a pre-education program.

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 athletic therapy, occupational therapy; direct employment in the health and fitness sector; or graduate programs in sport psychology, sociology, philosophy, history, or in the areas of special populations and adapted physical activity. Students interested in teaching in the school system should select the pre-education major, as it prepares them for admission to B.Ed. programs. Students who plan careers in other teaching-related professions should also choose the major in pre-education. Students may consult the department chair or designate to ensure proper course selection for acceptance to B.Ed. programs. *See chapter 4 for admission requirements to the StFX B.Ed. program.*

Candidates must follow the degree regulations in chapters 4 and 5. For entrance requirements, see chapter 1.

The normal sequence for the six human kinetics degrees and majors are as follows:

#### **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 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; 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 elective 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 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 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; 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

#### **B.Sc. in Human Kinetics with Major in Kinesiology and Minor in Health Sciences**

Year 1	HKIN 105, 115; CHEM 100; BIOL 111, 112; Arts X: ENGL 100; Arts Y: PSYC 100 or SOCI 100
Year 2	HKIN 205, 215, 236; 3 credits HKIN elective; BIOL 251, 252; CHEM 220; 6 credits Arts X or Arts Y
Year 3	HKIN 301, 365, 376, 396; 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 electives and open electives

#### **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 205, 215, 236; 3 credits HKIN elective; BIOL 251, 252; 6 credits Arts X; 6 credits approved electives
Year 3	HKIN 301, 365, 376, 396; 3 credits HKIN elective; CHEM 221, 255; HNU 145, 261, 262
Year 4	HKIN 446, 456, 466; BIOL 315; HNU 363; 12 credits HNU electives; 3 credits open elective

#### **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 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 electives and open electives

#### **BA and B.Sc. in Human Kinetics with Advanced Major and Honours**

See chapters 4 and 5 for requirements.

A student who fails to satisfy one or more requirements for the advanced major degree may be eligible for the BA in Human Kinetics or B.Sc. in Human Kinetics.

#### **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, rugby, soccer, squash, track and field, and weight training
Winter	Badminton I, basketball I, basketball II, fitness, folk dance, hockey I, gymnastics, handball, movement

	education, racquetball, soccer II, squash, volleyball I, and volleyball II
Spring	Badminton I, fitness, folk dance, gymnastics I, hockey II, racquetball, squash, volleyball, and weight training
TBA	Gymnastics II, national coaching certification program (NCCP), and outdoor education camp.

**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, active living, 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 fine and gross 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 Personal Health and Wellness**

This multidisciplinary course addresses personal health and lifestyle choices. Topics include psychological health, nutrition, physical activity, ergonomics, 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.

**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**

Cross-listed as SOCI 233; see SOCI 233. Three credits.

**332 Gender in Sport and Physical Activity**

An analysis of gender in sport and physical activity in Canada from a woman-centred viewpoint. Cross-listed as WMNS 332. Three credits.

**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. Four competing movements are considered, including amateur sport, women's sport, worker's sport, and professional sport. 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, women in sport, and violence in sport. 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**

Cross-listed as BIOL 376; see BIOL 376. Three credits and lab.

**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, advocacy, 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 advanced major 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. Prerequisite: HKIN 115.

**416 Advanced Motor Learning**

An in-depth study of motor control in skill movement and expertise development; research problems in areas of fine 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 in children and adolescents. The implications of changes in structure and function as they relate to physical education, physical activity, and training will be discussed. Anthropometric and physiological changes in bodily structures and systems are discussed as well as the role of various environmental factors such as nutrition, disease, physical activity, and training. Three credits and lab. Prerequisites: BIOL 251/252; HKIN 365.

#### **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 to elementary and middle year children and adolescents. Three credits. Prerequisite: HKIN 115.

#### **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.

#### **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.

#### **491 Senior Seminar**

Includes lectures by visitors, faculty, staff, and senior honours students 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. In HKIN 396, students develop and present a draft proposal of their research project; and in HKIN 491, they finalize their research project, conduct data collection or fieldwork, and present/defend their theses. Students must meet all department deadlines and requirements, and must submit an acceptable thesis to earn a BA or a B.Sc. in Human Kinetics with Honours. Prerequisites: HKIN 301, 396. 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.

## **7.20 HUMAN NUTRITION**

K.R. Cavan, Ph.D.  
D. Fagan, M.Sc.  
D. Gillis, M.Sc., M.Ad.Ed.  
P. Mazier, Ph.D.  
M. Nacz, Ph.D.  
L.A. Wadsworth, Ph.D.

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, 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. 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 may reflect the student's area of interest.

With the proper selection of courses (HNU 445 and 455 as HNU electives) students may meet the requirements for admission to a Dietitians of Canada (formerly the Canadian Dietetic Association) approved graduate dietetic internship program (comprehensive practicum).

Since 2002, the Integrated Dietetic Internship (IDI) Program is offered as an alternative to the traditional 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, including HNU 455, with 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.

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, 336, 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 5 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 221, 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 221, 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 221, 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, 461, 467, 475, 491, 493; 9 credits HNU electives; 6 credits open electives

### 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. 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 in the winter term, students will examine vegetarianism, food safety, body weight, and healthy eating. Not acceptable for credit for human nutrition students. Students may not earn credit for both HNU 200 and 261/262 or 263. Six credits.

### 261 Introduction to Nutrition

Students will learn the fundamentals of the science of nutrition with emphasis on energy nutrients and vitamins, their functions, and their dietary sources, and how the body handles them from ingestion through excretion. Topics include the recommended nutrient intakes, Canadian nutrition recommendations, Canada's Food Guide to Healthy Eating, and the appropriate use of these guides. 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 water and minerals, their function and sources, and the role of nutrition in promoting health and preventing disease. Topics will include: energy balance, weight control, sports nutrition, 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, 221, 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. Three credits and lab.

### **362 Clinical Nutrition II**

Covers the provision of nutritional care for such conditions as gastrointestinal and respiratory disorders, diabetes, liver and cardiovascular disease. 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. 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, changing, delivering, and evaluating community nutrition services. Prerequisites: HNU 261, 262. Three credits and lab.

### **366 Maternal and Pediatric 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. Offered 2004-2005 and in alternate years.

### **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. Offered 2004-2005 and in alternate years.

### **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 community nutrition practice in Canada. Prerequisite: HNU 365. 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. Not offered 2004-2005.

### **425 Geriatric Nutrition**

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. Not offered 2004-2005.

### **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 221, 255. Three credits and laboratory.

### **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 laboratory. Not offered 2004-2005.

### **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. 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.

### **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 prepare 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. Prerequisite: completion of the third-year course sequence including HNU 455 with an average of at least 70; 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 average of at least 70; HNU 445, 481. Six credits.

### **483 Internship Practicum III**

The final 14-week (minimum) practice course of the IDI program, this class 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.

#### **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.

### **7.21 INFORMATION SYSTEMS**

H. Abolghasem, Ph.D.

T. Boyle, Ph.D.

N. Foshay, MBA

H. Marzi, Ph.D.

R. Palanisamy, Ph.D.

S. Thomas, M.Eng.; P.Eng

G. Trites, CA, CISA, FCA

#### **Part Time**

G. Doucette, BBA

S. Lamers, BIS

C. Wright, SAP Administrator

The Department of Information Systems offers a variety of courses designed to train and educate students in information systems, business administration, and computer science.

Information systems involves the study of the technologies, people, and processes that collect, transform, and disseminate information in an organization. More specifically, information systems (IS) integrates business administration and computer science to provide technology solutions for gathering, representing, storing, processing, and deploying information.

A university degree in information systems can lead to a variety of career options, including: general management, project management, technology management, systems analysis, system design, software development, enterprise resource planning, e-business design, geographic information systems, and multimedia and visual arts. The program also prepares students for graduate studies in management information systems, technology management, and business administration.

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'2001 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 Resource Planning

Bachelor of Information Systems with Major or Honours in E-Business

Bachelor of Information Systems with Major or Honours in Management Information Systems

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, 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 Management Information Systems is designed to provide students with both depth and breadth regarding the management issues facing information systems in organizations.

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

See chapter 4 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 chart at the beginning of chapter 7 for restricted courses.

The BIS degrees require at least two programming languages. While the first language (C) is covered in INFO 151, 152, elective courses must be chosen such that an additional language is acquired. Examples of such courses are: CSCI 483: JAVA; CSCI 495: LISP/PROLOG; INFO 346: ABAP.

#### **Bachelor of Information Systems General Degree**

The normal sequence for the general degree is shown below.

Year 1	BSAD 101, 102; ECON 100; INFO 131, 135, 151, 152; 6 credits art/science electives
Year 2	BSAD 221, 223, 261; INFO 275, 325; 3 credits INFO elective; MATH 205; STAT 201; 6 credits arts/science electives
Year 3	BSAD 231, 361; CSCI 254; 3 credits from 455, 483, 485, 495; INFO 375; 3 credits INFO elective; 12 credits arts/science electives
Year 4	INFO 415, 416, 425, 465; 6 credits INFO electives at the 300/400 level; 6 credits open electives; 6 credits arts/science 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 resource planning, e-business, and management information systems.

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 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 Graduates**

Students who have completed a StFX degree can usually complete a BIS degree in one or two additional years of study. Students must have an average of 75 in the last two years of their completed first degree program. Before being admitted to the BIS program, students must complete INFO 131, 135, 151, and 152 with grades of 70 or higher. 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.

### **[Tech] Indicates Technology Elective for Students in Business**

#### **131 Computing and Business Applications**

An introduction to personal and business productivity tools using micro-computers, this course covers word processing, spreadsheets, presentation software, e-mail, Internet search tools, and web page publishing. Applications will be oriented towards business problems. Restricted to BIS and BBA students; open to others with permission of the instructor. A placement test prior to or during the first week of classes will determine enrollment in INFO 131 or 145. Three credits.

#### **135 Information Systems Concepts**

Covers the theoretical and technological foundations of information systems. Topics include the role of information systems in organizations, management, and decision-making; IS hardware and software; telecommunications and networking. Three credits.

#### **145 Introduction to Electronic Commerce and ERP**

Electronic commerce, the sale of goods or services over the Internet, presents technological, marketing, strategic, operational, and systems challenges. This course introduces students to the current state of electronic commerce from a perspective as well as enterprise resource planning and its role in e-commerce. Three credits and lab.

#### **151 Introduction to Programming Concepts**

The course provides an introduction to programming concepts, including data representation, problem analysis, algorithm development, and control structures. Structured C is used to develop solutions. Three credits.

#### **152 Programming and Data Structures**

This course furthers the student's programming knowledge and skills developed in INFO 151. Topics include data abstraction and data structures, memory addressing and pointer concepts, file manipulation and libraries. Structured C is used to design solutions for representative problems. Prerequisite: INFO 151. Three credits.

#### **245 (345) Introduction to Enterprise Resource Planning [Tech]**

This course is an overview of enterprise resource planning (ERP) using SAP R/3. The course will discuss ERP theory, the limitations of conventional information systems, and their significance to the SAP R/3 architecture. Students will gain practical experience in navigation, master data, and core functional applications of SAP R/3 (financial, human resources, and logistics). Prerequisites: INFO 135; BSAD 102. Three credits.

#### **275 Database Management Systems**

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. Prerequisites:

INFO 131, 135. Three credits.

#### **325 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 152. Three credits.

#### **335 Operations Research in Organizations**

The course will cover 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 111 and 112 or 205; STAT 201 or 231. Restricted to BIS and BSAD students; open to others with permission of instructor. Three credits.

#### **346 ABAP Programming Language**

This course will introduce the fundamentals of the ABAP/4 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 152. Three credits.

#### **348(447) Business Process Integration**

Covers enterprise resource planning (ERP) systems and ERP integration in business operations. Students will gain detailed knowledge of business processes and how SAP software can help a company prosper by improving business processes and by providing business managers with accurate up-to-date data. Prerequisite: INFO 345 or permission of the instructor. Three credits and lab.

#### **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. 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 135; STAT 201 or equivalent; restricted to students in BIS honours; open to others with permission of the chair. Three credits.

#### **401 Co-op Work Term I**

Prerequisite: work-term preparation workshops. One credit.

#### **402 Co-op Work Term II**

Prerequisites: BSAD/INFO 401 and work-term preparation workshops. One credit.

#### **403 Co-op Work Term III**

Prerequisites: BSAD/INFO 402 and work-term preparation workshops. One credit.

#### **405 Co-op Work Term 12- to 16- Month**

Prerequisite: work-term preparation workshops. 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. Prerequisites: INFO 152, 275. Three credits.

#### **416 Project Management and Practice**

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 BSAD 416. Three credits.

#### **418 Selected Topics in Information Systems**

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 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 152, 275. 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.

#### **427 Electronic Commerce Architecture and Design**

Covers the development of e-commerce architecture using system design principles, tools, and techniques. Includes decisions concerning the database, e-commerce business processes, online system interfaces and networks. Case studies will be used to deliver e-commerce concepts, and at the application level, the course emphasizes creating e-businesses using programming technologies. Prerequisite: INFO 425. Three credits.

#### **435 Introduction to Multimedia**

The study of multimedia systems, including basic concepts; media types (text, graphics, audio, video, animation); the design process; authoring, delivering, and managing multimedia projects; and anticipated developments. Restricted enrollment. Prerequisites: INFO 152 or CSCI 160; INFO 135. 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 152 or CSCI 160; INFO 275 or CSCI 475; or permission of the instructor. Three credits.

#### **446 Electronic Business**

Cross-listed as BSAD 415; see BSAD 415. Three credits.

#### **448 (347) Implementation, Configuration, and Use of an Enterprise Resource Planning System (ERP) [Tech]**

Provides a practical understanding of ERP systems with reference to SAP. The course familiarizes students with the Accelerated SAP implementation methodology and tools. Students will learn to configure sales and distribution functionality in the SAP implementation guide with reference to the SAP condition technique. Students will also create automated test scripts using SAP's CATT (Computer Aided Testing Tool). Prerequisite: INFO 345 or BSAD 417 and 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 325 or CSCI 365. Cross-listed as CSCI 465. Three credits and a two-

hour lab.

#### **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.

#### **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.

#### **497 Senior Seminar in Information Systems Research**

Provides students with an understanding of research themes and methodologies in information systems. Students will examine key issues in IS and analyze the research methodologies used to investigate and report on them. Prerequisite: INFO 397. 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. Three credits.

## **7.22 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. Fees include travel, accommodation, and meals.

#### **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**

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.

#### ▷ **Course-Based Service Learning**

Students will complete a variety of service options in the local community, the nature and length of which will be determined

by the professor, course content, and community need. The service learning experience is supported by the instructor, who prepares students for the experience, helps them reflect on it, and integrates it into their work. Courses with a service-learning component vary each year; students should consult faculty and program staff regarding available courses.

▷ **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. These experiences typically occur during the winter-term recess. Students may integrate an immersion experience into their chosen course of study through research for course credit or through IDS 305.

**305 Immersion Service Learning**

Designed for third- and fourth-year students who will participate in the immersion service learning program during the winter term. 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. 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.

**400 Arts IV**

This seminar for third- and fourth-year honours or advanced major students examines the foundations of Western civilization and culture, as they have been shaped by insights from the humanities, the social, physical, and life sciences, and the fine arts. This interdisciplinary course is taught by professors from several departments. Topics include: political and religious movements, technological change, intellectual discoveries, and artistic achievements. Six credits.

▷ **THEATRE**

A student may take a maximum of six credits in THEA in the first year of study.

**101 Introduction to Acting I**

An introduction to the art and craft of stage acting, including voice production, movement, character study, and textual interpretation. Students will learn the language of theatre and take part in *Theatre Antigone* productions guided by professional directors. Prerequisite: permission of the instructor, based on the student's resume of theatre experience or letter of interest. Three credits.

**102 Introduction to Acting II**

Building on the skills learned in THEA 101, this course covers stage acting, and provides an opportunity for students to study performances in musicals and one-act plays. Scheduled for the winter term. Performance component. Prerequisite: THEA 101. Three credits.

**111 Introduction to Stagecraft I**

An introduction to the disciplines of technical theatre, such as properties (design, construction, acquisition), lighting (history, equipment, control boards), sound (equipment, resources, sound-scape design), and set construction (methods and materials). Prerequisite: permission of the instructor, based on the student's resume of theatre experience or letter of interest. Three credits.

**112 Introduction to Stagecraft II**

This course will cover the disciplines of technical theatre, such as properties, set construction, lighting, sound, and stage management. Students will specialize in two areas. Prerequisite: THEA 111. Three credits.

**7.23 MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE**

- J. Apaloo, Ph.D.
- R. Fry, Ph.D.
- C. Gallant, Ph.D.
- S. Khan, M.Sc.
- M. Lin, Ph.D.
- W. MacCaul, Ph.D.
- A. MacEachern, Ph.D.
- J. Quinn, Ph.D.
- E. Schuegraf, Ph.D.
- M. van Bommel, Ph.D.
- R. van den Hoogen, Ph.D.
- P. Wang, Ph.D.
- L. Yang, Tek.Lic.
- P. Zhou, Ph.D.

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 and Computer Science and 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 in chapters 4 and 5.*

**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 160 and INFO 151, 152; CSCI 100, 235 and INFO 130/132; CSCI 254/255.

MATH 100 and 205 may not be used to satisfy department requirements for advanced major and honours degrees.

The senior seminar, MATH 491, and a research paper are required for all 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 7.11.*

**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, 277, 253, 267; CSCI 125 or 160.

**Major in Mathematics**

In addition to core requirements, a course in probability or STAT is required. This may be STAT 201 (if the degree is in the Faculty of Arts), 231 or 333.

**Advanced Major and Honours Programs**

Advanced Major and Honours students in mathematics may

specialize in mathematics, statistics or computational mathematics. 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, 491 and a STAT course are required. This may be STAT 333 (recommended), 231 or 201 (if the degree is in the Faculty of Arts). Additional courses must include six credits of MATH or STAT courses at the 300 or 400 level, and six credits at the 300 or 400 level, which may be chosen from MATH, STAT or CSCI.

#### **Advanced Major in Computational Mathematics**

In addition to core courses, MATH 254, 491; CSCI 255, 256; and a STAT course are required. This may be STAT 333 (recommended), 231 or 201 (if the degree is in the Faculty of Arts). Additional courses must include nine credits from MATH 347, 367, 384, 387, 481; CSCI 235, 335, 365. Three credits may be chosen from MATH, STAT or CSCI.

#### **Honours in Mathematics**

In addition to core courses, MATH 254, 354, 366, 367 or 221, 491, 493 and STAT 333 are required. Additional courses must include at least 15 MATH or STAT credits at the 300 or 400 level, with no fewer than three credits at the 400 level.

#### **Honours in Computational Mathematics**

In addition to the core courses, MATH 254, 491, 493; STAT 333; CSCI 255, 256 are required. Additional courses are required depending on which of three specialized streams is pursued. A list of required courses is available from the department chair.

#### **Typical Advanced Major and Honours Pattern:**

Year 1	MATH 111 and 112; CSCI 160
Year 2	MATH 253, 254, 267, 277; CSCI 160 unless completed in Year 1
Year 3	STAT 333; additional MATH, STAT or CSCI courses
Year 4	MATH 491; additional MATH, STAT or CSCI courses

#### **[AR] Indicates Designated Course in Aquatic Resources**

#### **MATH 100 Mathematical Concepts**

This course surveys interesting and useful topics from diverse areas, including geometry, probability, statistics, mathematics of finance, number theory. Students will solve problems using processes such as abstraction, pattern recognition, deduction, and generalization. One section will be restricted to students interested in elementary education. Acceptable for credit in the Faculty of Arts only. Prerequisite: grade 12 MATH or equivalent. Six credits.

#### **MATH 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.

#### **MATH 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.

#### **MATH 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.

#### **MATH 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.

#### **STAT 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.

#### **MATH 205 Business Mathematics**

A presentation of mathematics applicable to business, including functions, modelling, linear programming, matrix algebra, and probability. Use of spreadsheets will be a fundamental part of this course. Prerequisite: INFO 130. Acceptable for credit in the Faculty of Arts only. Three credits.

#### **MATH 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.

#### **MATH 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.

#### **MATH 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.

#### **STAT 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.

#### **STAT 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.

**MATH 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.

**MATH 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.

**MATH 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.

**MATH 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.

**MATH 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 in alternate years; not offered 2004-2005.

**STAT 301 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 in alternate years; not offered 2004-2005.

**STAT 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.

**STAT 333 Introductory Probability Theory**

Material will include: combinatorial 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.

**STAT 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.

**MATH 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. Offered 2004-2005 and alternate years.

**MATH 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. Offered in alternate years; not offered 2004-2005.

**MATH 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, 223 or 267, 253. Three credits.

**MATH 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. Prerequisite: MATH core courses. Three credits. Offered 2004-2005 and alternate years.

**MATH 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 or 267. In place of this course, students may take MATH 221. Three credits. Not offered 2004-2005.

**MATH 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. Offered in alternate years; not offered 2004-2005.

**MATH 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. Offered in alternate years; not offered 2004-2005.

**MATH 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 222, 223 or 253, 267; a programming course. Three credits. Offered in alternate years; not offered 2004-2005.

**MATH 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. Offered 2004-2005 and in alternate years.

**MATH 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. Offered 2004-2005 and in alternate years.

**STAT 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 2004-2005 and in alternate years.

**MATH 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. Offered in alternate years; not offered 2004-2005.

**MATH 462 Complex Variables**

Topics include: complex numbers, elementary functions, series and integration, Laurent series, and residue theory. Prerequisites: MATH 221, 222 or 361. Three credits. Offered 2004-2005 and in alternate years.

**MATH 466 Real Analysis II**

Material includes: topology of Euclidean nspace; differentiation; Riemann Stieltjes integration; limits and continuity in n-dimensions; differentiation of nonlinear transformations; and the implicit function theorem. Prerequisite: MATH 366. Three credits. Offered 2004-2005 and in alternate years.

**MATH 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. Not offered 2004-2005.

**STAT 472 Topics in Statistics**

This course will cover a selection of current statistical topics, such as sampling theory, time-series analysis, design and analysis of experiments, bootstrap methods, and multivariate analysis. Prerequisite: STAT 231 or 333. Three credits. Not offered 2004-2005.

**MATH 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 in alternate years; not offered 2004-2005.

**MATH 491 Senior Seminar**

All senior honours and advanced major candidates must perfect their skills in presentation and writing. The honours thesis and research papers required of advanced majors constitute part of this course. No credit.

**MATH 493 Senior Thesis (Honours).**

Three credits.

▷ **MI'KMAQ**

See modern languages in 7.24

**7.24 MODERN LANGUAGES**

M. Arpin, Ph.D.

M. Bourbeau-Walker, Ph.D.  
U. Fabijancic, Doc. IIIe cycle  
V. Kocay, Ph.D.  
M. Lade, M.Ed.  
E. Langille, D. ès L.  
R. LeBlanc, Ph.D.  
G. Wood, DML

**Part Time**

N. Mendez, MA  
M. Paz MacKay  
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 Grade XI French or its equivalent should enroll in FREN 110. Those who have completed Grade XII French or its equivalent should enroll in FREN 115. A placement test will be administered, as a result of performance on this test, a student may be moved to another course.
- Students who do not have the equivalent of Grade XI French may register in FREN 100.
- 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 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.

**Major Programs**

A student may take a major in French by completing 36 credits in FREN (excluding FREN 100, 110), including FREN 215, 300 and at least 12 credits at the 300 or 400 level. A thesis is not required. See *chapter 4*.

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, or at the University of New Mexico or the University of Arizona under the North American Mobility in Higher Education Program; see section 3.19. 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. The major in Spanish is pending final approval by the MPHEC (Maritime Province Higher Education Commission).

**Advanced Major Program**

A student may take an advanced major in French by completing 36 credits in FREN (excluding FREN 100 and FREN 110), including FREN 215, 300 and at least 18 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. See *chapter 4*.

**Honours Program**

A student may take an honours degree in French by completing 60 credits in FREN (excluding FREN 100, 110), including FREN 215, 300 and at least 30 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. See *chapter 4*.

### 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 XII 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

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, 902-424-6646. For information on immersion courses in France during the summer contact the French Consulate, C.P. 1109, Moncton, NB, E1C 8P6, 506-857-4191. Information about either program may be obtained 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 3.19. 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.

## COMPARATIVE LITERATURE

### 310 20th-Century Romance Literature (English Translation)

A study of the major works, in translation, of contemporary francophone and Hispanic writers. Prerequisite: one of ENGL 100; FREN 100, 110 or 115; SPAN 100; or permission of the chair. Cross-listed as FREN 310 and SPAN 310. Six credits.

### 335 Traditional Folklore in European Children's Literature (English Translation)

A comparative reading of European children's literature starting with Charles Perrault's *Mother Goose Tales*. The class will study the narrative structure of the classic fairy tale as immortalized in such works as *Grimm's Fairy Tales*, Hans Christian Andersen's *The Ugly Duckling*, and Oscar Wilde's *The Happy Prince*. Film adaptations may be used to study core texts. Prerequisite: one of CELT 120; ENGL 100; FREN 110, 115; SPAN 100; or any COML course. Three credits. Not offered 2004-2005.

### 345 The Tradition of the Animal Fable in European Children's Literature (English Translation)

The majority of European animal fables are derived from Aesop's succinct tales of human vice, folly, and virtue. This course traces the influence of this tradition on European children's literature. Film adaptations may be used to study core texts, and works may be chosen from modern literature or from literary traditions in which animals or non-humans take human form. Prerequisite: one of CELT 120; ENGL 100; FREN 110, 115; SPAN 100; or any COML course. Three credits. Not offered 2004-2005.

## FRENCH

### 100 Introduction to the French Language

Designed for students who have had little or no French. FREN 100 is a credit course; however, it may be used only as an elective. FREN 100 teaches basic French vocabulary and sentence structure. The language is assimilated through a variety of techniques, including

drills, phonetics, and memorization of short dialogues. Emphasis is on building oral and aural skills. Class participation is essential. Some written work and reading will be required. Six credits.

### 110 French Language I

Designed as the entry-level course for students who have completed at least grade XI French, this class is an intensive review of the basic structures of the French language. Weekly lab assignments. Six credits.

#### Notes:

- The department reserves the right to refuse admission to this course to students who have not completed Nova Scotia grade XI French, or equivalent, and/or 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 or as an elective.

### 115 French Language II

Designed as a follow-up to FREN 110, this course is a review of advanced grammatical and syntactical structures, and is recommended for prospective major, advanced major, and honours students. Students will learn to write compositions, to read literary texts, and to translate. Language lab component. Prerequisite: FREN 110 (normally with a grade of at least 55) or a good result on the placement test. Six credits.

### 215 French Language III

Focuses on complex sentence structure and writing techniques. Special emphasis is placed on the acquisition of reading skills and on literary usage. Language lab component. Required for the major, advanced major, and honours degrees. Prerequisite: FREN 115 (normally with a grade of at least 55) 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 the vocabulary acquisition, text comprehension, and class participation. Strongly recommended for the major in French. 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 instructor. Three credits.

### 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 chair. Three credits.

### 300 French Humanism

This course provides an in-depth understanding of the literary, philosophical, and cultural questions that permeate French literature. The resulting portrait of a thousand-year literary tradition will highlight the French contribution to world literature and civilization. Students will be initiated into literary research and the art of the *dissertation française*. Required for major, advanced major, and honours degrees in French. Pre- or co-requisite: FREN 215. Six credits.

### 310 20th-Century Romance Literature (English



**Translation)**

Cross-listed as COML 310 and SPAN 310; see COML 310. Six credits.

**314 Selected Topics in French Studies**

A wide-ranging introduction to current topics in French. Course content changes from year to year, and may reflect faculty involvement in a specific area of research; subjects may include children's literature, French women writers. Pre- or co-requisite: FREN 200, 215, or 220. Three or six credits. Topic for 2004-2005 is Written Communication in French.

**316 17th-Century French Literature: Literature and Society**

An introduction to plays by Pierre Corneille, Jean Racine, and Jean-Baptiste Molière, to the poetic trends of the classical era, to Jean de La Fontaine's fables and to other works by authors such as Jean de la Bruyère, Marie-Madeleine de La Fayette, and François de la Rochefoucauld. This course explores the ideologies of the *grand siècle* and introduces some of its major institutions. Six credits.

**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 chair. Three credits. Not offered 2004-2005.

**326 18th-Century French Literature**

*Le Siècle des Lumières*: Through representative works from the principal literary genres, this course explores the ideas that shaped 18th-century philosophical thought in France. Authors will include: Pierre Augustin de Beaumarchais, Denis Diderot, Choderlos de Laclos, Alain-René Lesage, Pierre Marivaux, Baron de Montesquieu, Abbé Prévost, Jean-Jacques Rousseau, Bernardin de St-Pierre, and Voltaire (François-Marie Arouet). Six credits. Not offered 2004-2005.

**336 19th-Century French Literature**

Traces the development of French literature from the French Revolution to the end of the 19th century, from Madame de Staël and François René de Chateaubriand to Stéphane Mallarmé. Six credits.

**340 Introduction to Linguistics**

The objective of this course is to make linguistics accessible and comprehensible to students who have little or no previous knowledge of the field. The subject matter will be divided into four distinct but related parts: phonetics and phonology; morphology and syntax; semantics; the application of linguistics to the understanding and analysis of literary texts. Six credits.

**346 20th-Century French Literature**

A study of the literary and ideological trends in 20th-century novels, plays, and poetry. Six credits.

**356 French Canadian Literature: 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. Six credits. Not offered 2004-2005.

**366 French Canadian Literature: Révolution tranquille to the Present**

A study of the major literary forms and authors of French Canada from the *Révolution tranquille* to the present day. Structural and thematic approaches are combined with cultural and ideological background in a study of literary output in the 1960s and 1970s. Authors will include: Yves Beauchemin, Marie-Claire Blais, Roch Carrier, Marcel Dubé, Jacques Godbout, Anne Hébert, Gaston Miron, Paul Monette, Yves Thériault, Michel Tremblay. Six credits.

**376 Acadian Literature**

A critical investigation of the historical, socio-cultural, linguistic, and literary significance of Acadian writing. Consideration will also

be given to its stylistic evolution, from oral literature to poetry, novels, and short stories. Six credits. Not offered 2004-2005.

**400 Medieval and Renaissance French Literature**

A study of literary genres from the *chanson de geste* and the novels of chivalry to the poetry of the *Pléiade*, with analysis of selected texts by François Rabelais, Michel de Montaigne, and other authors. This course provides a literary view of the emergence of modern French culture from its medieval origins. Six credits.

**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*. Three credits. Not offered 2004-2005.

**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, André Breton, Henri Michaux, Francis Jammes, Blaise Cendrars, Jules Supervielle, Paul Eluard, René Char, Jacques Reda. Prerequisite: any 200-level French course or permission of the chair. Three credits. Not offered 2004-2005.

**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 First-Year German**

An introduction to the German language and culture, this course teaches basic reading, writing, and speech. Six credits.

**200 Second-Year German**

A continuation of GERM 100, this course introduces advanced grammatical patterns and structures. Emphasis is placed on 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.

**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. Not offered 2004-2005.

**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. Not offered 2004-2005.

**SPANISH****100 First-Year Spanish**

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 component. Six credits.

**200 Second-Year Spanish**

A continuation of SPAN 100 with more advanced literary readings and written assignments. Prerequisite: SPAN 100 or equivalent. Six credits.

**300 Hispanic Civilization to 1800**

A study of Hispanic civilization in the Iberian Peninsula and in the New World to 1800 with emphasis on the age of exploration and discovery. Students completing this course can expect to be able to read advanced texts in Spanish. Prerequisite: SPAN 200 or equivalent. Six credits.

**310 20th-Century Romance Literature (English Translation)**

Cross-listed as COML 310 and FREN 310; see COML 310. Six credits.

**320 Hispanic Civilization, 1800 to the Present**

A study of 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. The course will emphasize Spanish literature in the New World. Prerequisite: SPAN 200 or equivalent. Six credits. Not offered 2004-2005.

**7.25 MUSIC**

- C. Beckwith, Artist in Residence
- D. Burghardt, M.Mus.
- G. Carter, M.Mus.
- T. Daniels, M.Mus.
- A. Genge, Ph.D.
- T. O'Mahoney, M.Mus.
- G. Smith, M.Mus.
- P. Tynan, M.Mus.

**Part Time**

- A. Sutherland, M.Mus.
- O. Stewart-Robertson, B.Mus.

**Visiting Artist**

David Restivo

**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, the Bachelor of Music, or to the Diploma in Jazz. Students must then apply for admission to the Bachelor of Arts in Music with Advanced Major or Honours, or the Bachelor of Music 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 Music; 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 or 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
Bachelor of Music	First class honours
BA in Music, Honours or Advanced Major	Honours
BA in Music with Major	Pass with Merit
BA with Major in Music	No level required
Diploma in Jazz	Pass

All courses offered by the Department of Music are available to any student who satisfies the prerequisite and audition requirements.

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 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 with Advanced Major or Bachelor of Music with Honours degrees must achieve the appropriate grade in the Level 1 exam and have no grade of less than 60 for the advanced major, or 70 for the honours, in any MUSI course.

**Minor in Music**

Students may complete a minor in music in the BA or BBA program by completing the following courses:

MUSI 101, 103, 106 or 107, 117, 118, 206 or 207, 219, 222

An audition on a major instrument or voice 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 Studies**

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, 118, 165, 190; 6 credits arts/science electives
- Year 2 MUSI 201, 203, 206 or 207, 219, 222, 265, 290; 6 credits arts/science electives

**Bachelor of Arts in Music with Honours or Advanced Major**

Typical Course Pattern:

- Year 3 MUSI 306 or 307, 315 (115, 116), 335 (435), 395;  
18 credits arts and science electives
- Year 4 MUSI 406 or 407, 415, 416, 495; 18 credits arts/  
science electives

### **Bachelor of Music with Honours**

Typical Course Pattern:

- Year 3 MUSI 304, 306 or 307, 315 (115, 116), 325, 335  
(435), 365, 390; 6 credits arts/science electives
- Year 4 MUSI 406 or 407, 415 (302), 416 (400), 420 (425),  
465, 490; 6 credits arts/science electives

The minimum grade requirement of 60 listed below 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 StFX University Concert Choir or the StFX University Vocal Jazz Choir provides students with an opportunity to develop basic vocal fundamentals, including sound production, diction, language usage, and sight reading, through the rehearsal and performance of selected music relevant to the given ensemble. Three credits over the full academic year.

### **107 Instrumental Ensembles I: Includes Big Band, Combos, and Percussion Ensembles**

This course will introduce the fundamentals of ensemble performance. Proper instrumental balance and function within an ensemble will be addressed. Sight-reading is an essential skill for any performer. Methods of properly negotiating passages of music on sight will be stressed. Students will be expected to prepare concert materials outside of the rehearsal format. 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.

### **165 Jazz Styles and Literature**

An introductory course in improvisational style from 1900 to the present. Extensive listening and viewing will be required. Essays will be required based on the reading list. Three credits.

### **190 Applied Performance I**

This course provides students with instruction on a major applied instrument or voice. Functional piano skills are also covered. Six credits.

### **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. 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.

### **219 Celtic Music**

An historical and musical survey of Celtic music focusing on the Cape Breton and Scottish traditions. The curriculum includes frequent lectures and in-class performances by world-renowned Celtic scholars and musicians. Three credits.

### **222 The Business of Music**

What a career musician needs to know about the music business. Topics include copyright applications, music publishing, arts management, grant writing, and the recording industry. Guest lecturers will enhance the curriculum. Open to non-music students with permission of the instructor. Students in BSAD and BIS may count this course as an arts/science or open elective only. 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. Six credits.

### **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 with a minimum grade of 60. Three credits.

### **306 Vocal Ensemble III**

A continuation of MUSI 206. 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.

### **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 with a minimum grade of 60. Three credits.

### **335 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.

**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**

A continuation of MUSI 375, this course puts into practice the various lyrical and musical devices analyzed and discussed in Contemporary Songwriting I. Students are required to compose lyrics and music in the styles of the aforementioned artists and are encouraged to assimilate these techniques in writing new song material. Prerequisite: MUSI 375; general knowledge of basic music theory. Three credits.

**376 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. Six credits.

**395 Applied Performance III A**

This course provides students with instruction on a major applied instrument or voice. Functional piano skills are also covered. Three credits over the full academic year.

**406 Vocal Ensemble IV**

A continuation of MUSI 306. 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.

**415 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.

**416 History of Music III**

A study of modern composition techniques, including analysis of selected contemporary music. Prerequisite: MUSI 415 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. 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. Six credits.

**495 Applied Performance IV A**

This course provides students with instruction on a major applied

instrument or voice. A final recital is required. Three credits over the full academic year.

**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.

**7.26 NURSING**

- S. Adamson, B.Sc.N.
- M. Alex, M.Sc.N., CNM, RN
- E. Arbuthnot, MN, RN
- D. Beiswanger, B.Sc.N., RN
- S. Bowman, B.Sc.N., RN
- C. Cameron, M.Ad.Ed., RN
- A. Chisholm, B.Sc.N., RN
- M. Chisholm, BSc.PE., B.Sc.N., RN
- J. Cormier, MN, IBCLC, RN
- L. Farrell, B.Sc.N., RN
- Y. Fraser, B.Sc.N., RN
- A. Gillis, Ph.D., RN
- A. Girroir, B.Sc.N., RN
- H. Graham, MN, RN
- P. Hansen-Ketchum, MN, RN
- P. Hawley, MN, RN
- W. Jackson, Ph.D.
- M. Kennedy, MA, MN, RN
- K. Kenny, B.Sc.N., RN
- B. MacDonald, MS, M.Ed., RN
- C. MacDonald, B.Sc.N., RN
- E. MacFarlane, M.Ad.Ed., RN
- A. MacIsaac, M.Sc., RN
- M. MacLellan, MN, RN
- J. MacLellan-Peters, B.Sc.N., RN
- M. MacNeil, B.Sc.N., RN
- E. McGibbon, RN
- J. Mosely, B.Sc.N., RN
- C. Mrazek, MN, RN
- A. Murdock, B.Sc.N., RN
- J. Rogers, B.Sc.N., RN
- D. Roach, B.Sc.N., RN
- K. Saulnier, B.Sc.N., RN
- J. Shaw, Ph.D., RN
- D. Snyder, MN., RN
- B. Sproull-Seplaki, M.Sc.N., RN
- C. Stewart, B.Sc.N., RN
- B. Sutherland, B.Sc.N., RN
- C. Venedam-Marchand, B.Sc.N., RN
- S. Wood, B.Sc.N., RN

*Faculty in Sydney:*

- J. Bailey, B.Sc.N., RN
- D. Brennick, B.Sc.N., RN
- E. Buffet, MN, RN
- C. Currie, B.Sc.N., RN
- O. Griscti, MN, RN
- B. Jacono, M.Sc.N., RN
- J. Jacono, Ph.D., RN
- E. Kennedy, MN, RN
- C. MacPhee, B.Sc.N., RN
- C. McIsaac, M.Ed., B.Sc.N., RN
- W. Nemeth, B.Sc.N., RN
- S. Profit, M.A.Ed., RN
- C. Taylor, BN, RN

The School of Nursing offers to qualified high school graduates, transfer students, post-degree students, registered nurses, and LPNs who graduated after 1998, programs of study leading to the Bachelor of Science in Nursing. The basic program option is offered at two

sites, at StFX in Antigonish, and at the University College of Cape Breton (UCCB) in Sydney, NS. The B.Sc.N. program at UCCB a joint degree program; StFX provides nursing courses and faculty while UCCB provides support courses.

The basic program is four academic years in length with one six-week intersession for a total of 129 credits plus a non-credit course in pharmacology. The fast-track option for transfer students is three years, with two six-week intersessions, for a total of 129 credits plus pharmacology. The accelerated option for post-degree students is 20 months for a total of 66 credits plus pharmacology. The option for LPNs is three years, one intersession, and one summer session for a total of 111 credits. The option for RNs is 75 credits.

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 (2002), the Entry-Level Competencies for Registered Nurses (RNANS, 1998), the Standards of Nursing Practice (CRNNS, 2004), and the StFX nursing program objectives. Student nurses are expected to act in a manner comparable to the average prudent student nurse. Behaviour that endangers public health or safety, in any setting, may warrant nursing 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 activity 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 independent 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

- i) BIOL 105, 115, 251, 252 and CHEM 150 must be completed before the student may progress to the third year.
- ii) Supplementary exams are not permitted in NURS courses.
- iii) A pass must be received in the practice component of a NURS course for the student to progress to the next NURS course.
- iv) Receipt of two nursing alerts, or a nursing failure, in the practice component of the program will result in dismissal from the program. A student's eligibility for and conditions surrounding re-entry into the program, following a nursing failure, are determined by the School of Nursing.
- v) Students who fail to meet the progression requirements on two occasions are ineligible for re-admission to the program.
- vi) Current certification in standard first aid and Level C CPR is required for entrance into the program; *see 1.3f*. Students in

the nursing program are responsible for re-certification as necessary.

- vii) Students must be screened through the child abuse register search of their home province and Nova Scotia, and have a criminal records check completed prior to entry into the program. Documentation of both is required; *see 1.3f*.

### Bachelor of Science in Nursing

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.

The normal sequence of courses is listed below for both the basic and fast-track options. *See chapter 5 for program requirements.*

Basic and fast-track program options:

Year 1	BIOL 105, 115; CHEM 150; NURS 105, 115, 125; PSYC 100; RELS 120
Year 2	BIOL 251, 252; NURS 205, 215, 225, 235, 245, 260, 275; HNU 261, 263; NURS 250 (intersession)
Year 3	NURS 300 or 310, 305, 315, 345, 355, 330; 6 credits arts/science electives
Year 4	NURS 405, 415 493, 491; 9 credits open electives; 6 credits arts/science electives

Accelerated post-degree option:

Level 1	105, 115, 125
Level 2	205, 215, 225, 235, 245, 250, 275
Level 3	300, 330, 305, 315, 355, 345
Level 4	405, 415, 491, 494

LPN Option:

Level 1	NURS 145, 280; BIOL 105, 115, 251, 252 ; CHEM 150; RELS 120
Level 2	NURS 205, 215, 225, 245, 250; HNU 261, 262
Level 3	NURS 305, 315, 345, 355, 300 or 310, 330; 6 credits arts/science electives
Level 4	NURS 405, 415, 493, 491; 9 credits open electives; 6 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, 415, 425, 491, 493, 499; 9 credits open electives; 3 credits arts/science elective
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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, 415, 425, 493, 491, 496, 498; 3 credits NURS elective; 6 credits open electives; 3 credits arts/science elective

The course pattern is the same as for the general B.Sc.N. except that NURS 300/SOCI 300 is required in year three and that three credits of NURS elective, six credits of open electives, and three credits of arts/science 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
Arts/Science electives	6 credits
Open electives	6 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, B2G 2W5 or phone 902-867-5190 or 1-800-565-4371.

### **B.Sc. in Nursing for Post-Degree Students**

The required courses for the accelerated option for post-degree students are

NURS 105, 115, 125, 205, 215, 225, 235, 245, 250, 275, 300, 305, 315, 330, 345, 355, 405, 415, 491, 494

### **B.Sc. in Nursing for Licensed Practical Nurses**

The required courses for LPN students are

NURS 145, 205, 215, 225, 245, 250, 280, 300 or 310, 305, 315, 345, 355, 405, 415, 491, 493

BIOL 105, 115, 251, 252

CHEM 150

HNU 261, 263

RELS 120

Electives 12 credits arts/science and 9 credits open electives

### **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, 246, 425, 488.

For information on this limited enrollment certificate 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 Conceptual Model for 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. Three credits.

### **115 Health Promotion and Learning**

Explores the concepts of wellness, health promotion, and learning within a framework of self-care theory. This course examines lifestyle issues and health behavior in the context of the socio-cultural, economic, political, and ecological issues which determine health. Students will develop interviewing and health assessment skills, and learn to facilitate client education about health and wellness. Prerequisite: NURS 105, 125 (with a grade of 60 for the midterm/final and lab/skill test). Three credits.

### **125 Introduction to Nursing**

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. Clinical component. The final grade combines mid-term and final exams; students must pass the lab skill test. Students must successfully complete NURS 105 to progress to NURS 125 clinical rotations in the second term. Three credits over the academic year.

### **145 Nursing Foundations and Health**

Designed for LPNs enrolled in the B.Sc.N. program, this course combines content from NURS 105, 115, and 125 to explore the theoretical and philosophical bases of professional nursing. Students will examine factors that influence contemporary practice, such as

legal and ethical issues, health care reform, and changing health care priorities; concepts of health and wellness, health promotion, and Orem's self-care theory; lifestyle issues and health behaviors. Three credits.

*Note: Second-year courses pursue a common theme: community health with a focus on health problems and programs as they relate to the needs of individuals of all age groups within the family and the community. Students will begin NURS 425 in the winter term of their second 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.

### **215 Community Mental Health Nursing**

This course provides a comprehensive approach to the practice of mental health nursing. Students will learn self-awareness, communication skills, and critical thinking, as they apply holistic nursing care. Topics include: common stressors; the interrelationships among mind, body, and spirit; the role of nurses in promoting mental health; legal and ethical issues; and frameworks for ethical decision-making. Communication lab component. Three credits.

### **225 Community-Parent-Child-Family Nursing**

This course explores the role of nurses in promoting healthy child-bearing and child-rearing families and communities. Students will examine research on, and issues related to, the health and wellness of families; normal developmental processes; human sexuality, child growth and development; and parenting. Community resources for parents and children will be explored. Three credits.

### **235 Introduction to Pharmacology**

This six-week course provides an overview of pharmacological principles and the science of drugs. The properties of major drug families will be reviewed via a prototype, and students will learn to understand medication prescriptions, accurately calculate drug dosages, and apply their knowledge in client care and client education. A passing grade in this course is a prerequisite for NURS 250. No credit.

### **245 Healthy Aging**

This course provides an opportunity to apply the nursing process to an older adult population. Topics will include: maintaining wellness and maximum function; disease and disability prevention; identifying normal aging changes and other physiological concerns; psychological and social function. Students will interact with an elderly client, learning how older adults define and promote their own health. Three credits.

### **250 Nursing Practice I**

An intersession course (May-June) with experience of selected clinical settings. Prerequisite: NURS 235. Six credits.

### **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 nursing practice and lab settings. Three credits.

### **280 Consolidation of Comprehensive Health Assessment and Pharmacy**

This course includes two required components: training in comprehensive health assessment through medical history and physical examination; and an introduction to pharmacology which

provides an overview of the science of drugs, the basic principles of pharmacology, and the application of knowledge to client care. Three credits.

*Note:* *Third-year courses focus on the nursing needs of the family and are organized around the developmental stages of the life cycle, and various situational crises that a family may experience.*

### **300 Research Methods**

Cross-listed as SOCI 300, see SOCI 300. Six credits and lab.

### **305 Nursing of Adults I**

This course focuses on the nursing care of adults. It considers the main health problems encountered during adulthood and includes conditions such as cardiovascular, respiratory, and hematological health deviations. Six hours per week of classroom instruction and 12 hours of nursing practice per week for six weeks. 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 hours of classroom instruction per week for 12 weeks; 12 hours of nursing practice per week for six weeks. Three credits.

### **330 Legal and Ethical Issues in Nursing Care**

Cross-listed as RELS 300, see RELS 300. Six credits.

### **345 Mental Health Nursing**

A comprehensive approach to mental health aspects of nursing, including: anxiety, depression, dementia, psychosis; eating disorders; trauma; substance and gambling dependency. Students will explore principles of social justice, and ethical and legal aspects of mental health care from socio-cultural, political, economic, historical, and bio-physical perspectives. A three-hour workshop per week; 11 hours per week for a six-week period of mental health practice during the term. 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. Six hours per week of classroom instruction; 12 hours of nursing practice per week for six weeks. Three credits.

### **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, including 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 the nursing process in acute care, community, and home settings. Three credits.

### **415 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. Three credits.

### **483 Palliative Care**

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. Students contemplating an advanced major or honours degree are strongly recommended to complete PSYC 290 in their second year. Offered in distance-delivery format. Three credits.

### **486 International Development and Health**

This course introduces a holistic understanding of health in the context of development. Health concepts and issues are examined within a social, political, economic, and cultural framework. Models and case studies focus on community health in developing countries, but examples are also drawn from Canada. Restricted enrollment; open to non-nursing students. 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 in which computers can enhance nursing practice, education, administration, and research. Trends and issues related to the use of computers in nursing are explored. Three credits.

### **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**

Patsy MacDonald, M.Ad.Ed., RN, Co-ordinator

**Bachelor of Science in Nursing  
for Registered Nurses**

See chapter 5 for program requirements. All courses are offered through the distance-delivery format except for NURS 497. 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 manual.

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. Three 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 483 Palliative Care**

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 senior 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 494 Leadership and Management in Nursing**

Examines nursing leadership theories and management models, and their relationship to client care and practice management. Career planning and management will also be explored. Three credits.

**NURS 497 Nursing Informatics**

Focuses on the knowledge and skills necessary to ensure that computers have a positive impact on the nursing environment and delivery of patient care. Students will explore computer concepts and terms; way in which computers can enhance nursing practice, education, administration, research; trends and issues related to the use of computers in nursing; management strategies for harnessing computer technology to support the nursing profession. Three credits.

**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.



**7.27 PHILOSOPHY**

S. Baldner, Ph.D.  
 C. Byrne, Ph.D.  
 J. Mensch, Ph.D.  
 W. Sweet, D.Ph.  
 N. Zunic, Ph.D.

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 critical understanding of their own ideas, and develops analytical reasoning skills.

PHIL 100 is normally a prerequisite for advanced courses. Exceptions are:

- i) PHIL 210 (no prerequisite);
- ii) PHIL 330 and 331, to which students are admitted with either PHIL 100 or third year standing or permission of the department; and
- iii) other courses at the discretion of the department.

Students planning the advanced major or honours degree in this field are required to consult the department chair about their program of study. *See chapter 4 for degree regulations.* The department offers an honours degree with a subsidiary subject: *see chapter 4.*

**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**

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.' 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. Six credits.

**270 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. Six credits.

**281 Aesthetics**

Is beauty in the eye of the beholder? Is it necessary to 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.

**310 History of Modern Philosophy**

A review of the intellectual developments of the Renaissance relevant to philosophy is followed by a study of René Descartes and his rationalist successors. British empiricist thought is traced in Locke, Berkeley, and Hume. An introduction to the critical philosophy of Kant. Six credits.

**320 History of German Idealism**

In the 19th century, German philosophy found expression in the idealist movement. Major figures such as Kant, Fichte, Schelling, Hegel, and Schopenhauer 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. Six credits.

**330 Ethics**

Ethics or moral philosophy is a study of the meaning and means of living a truly human life. The major ethical theories will be examined and applied in our decisions on contemporary questions of euthanasia, abortion, capital punishment, drug use and abuse, marriage and the family, human sexuality, liberation movements, contracts, work and wages, war and peace. Six credits.

**331 Ethical Theories**

Equivalent to the first term of PHIL 330, 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. 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 or the first half of PHIL 330. May not be taken by students who have credit for PHIL 330. Three credits.

**334 Ethics Applied to the Professions**

Applying theories studied in PHIL 331, students will explore such ethical issues as the rights of clients, patients, and consumers; affirmative action; the social responsibilities of professionals and corporations; behaviour in the workspace; economic and social justice; conflict between professional obligations and personal values. Recommended for students in business and nursing, and for those planning careers in law, medicine or government. Prerequisite: PHIL 331 or the first half of PHIL 330. Three credits.

**340 Logic**

The course will be prefaced by a study of Aristotelian syllogistic logic. A standard account of propositional logic and of first order predicate logic (with identity) will constitute a major part of the course. Inductive logic will also be covered. Six 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. 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. 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. 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.

### 380 Existentialism and Phenomenology

Examines 19th- and especially 20th-century philosophical ideas in continental Europe. A look at the philosophical antecedents of existentialism and phenomenology will be followed by an intensive discussion of the writings of major figures in these movements: Kierkegaard, Sartre, de Beauvoir, Marcel, Merleau-Ponty, Husserl, Arendt, and Heidegger. Six credits.

### 390 Contemporary Anglo-American Philosophy

Examines the work of 20th-century philosophers in the English-speaking world, notably Russell, A.J. Ayer, Wittgenstein, Searle, and Rawls. Six credits.

### 450 Seminar in Ethics, Political Philosophy, and the Philosophy of Law

Examines questions of ethics, political philosophy, and the philosophy of law, including such topics as the state and society, rights and duties, justice and equality, freedom and punishment, the moral basis of political obligation, and the concept of law. The course will include both classical and contemporary authors. Six credits.

### 460 Seminar in Metaphysics and Epistemology

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. Philosophers such as Plato, Aristotle, Aquinas, Kant, and Hegel may be considered. Six credits.

### 489 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.

## 7.28 PHYSICS

C.P. Adams, Ph.D.  
D.L. Hunter, Ph.D.  
N. Jan, Ph.D.  
Y.N. Joshi, Ph.D.  
D.A. Pink, Ph.D.  
P.H. Poole, Ph.D.  
M.O. Steinitz, Ph.D.  
B. Wallbank, Ph.D.  
R. Wickham, 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 a joint advanced major in physics and 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 5 for information on the degree patterns, declarations of major, advanced major and honours, advancement and graduation requirements.

### Major 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, 267; 6 credits arts electives; 6 credits open electives
Year 3	PHYS 223, 271, 325; MATH 253, 254; CSCI 125; 6 credits arts electives; 6 credits open electives
Year 4	PHYS 272, 302, 3 credits PHYS electives; 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, 253, 254, 267; CSCI 125; 3 credits approved electives
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; 6 credits PHYS electives; 6 credits arts electives; 12 credits open electives

### 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, 253, 254, 267; 6 credits from CSCI 125, 160 or 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, 493; have of 223, 303, 342, 425\*, 444\*, 473, 475\* (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 mechanics, electricity, and magnetism. This course makes extensive use of calculus, and is intended for students considering further study in the physical sciences, mathematics, computer sciences, and engineering. An attempt is made to co-ordinate the course with MATH 111, 112, 120 and CHEM 120; students are advised to take these courses concurrently. Six credits and lab.

### 130 The Implications of Physics

Intended for arts students, this course will de-mystify science. Topics may include: nuclear power; heat and insulation; water flow; electrons and blood (implications for designing people and houses); radiation; is it all relative? how small is smallest? the periodic table and the consequences of everyone wanting to be iron; metallurgy as the history of civilization; the elementary particle zoo; star-gazing; ultrasonic examination of babies and submarines. Six credits. Not offered 2004-2005.

### 170 Understanding the Universe

A study of the universe at a fundamental level, this course teaches the basic concepts of physics using computer graphics and mostly non-mathematical techniques (though some simple arithmetic and algebra may be used). Topics include: the quantum description of nature; the complex behavior of gases, liquids, solids; stars, black holes, galaxies; electrical conduction; lasers; superconductivity; biophysics. Closed to B.Sc. and engineering students. Six credits. Not offered 2004-2005.

### 201 (301) Modern Physics: Introduction to Relativity and Quantum Physics

Topics include: special relativity; wave description of matter; early atomic quantum theory; introduction to nuclear and particle physics; Schrodinger's quantum mechanics. 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. Prerequisite: PHYS 120. Three credits and lab. 237. Three credits and lab.

### 223 Digital Electronics 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 ENGR 238. Three credits and lab.

### 241 Mathematical Physics: Oscillations and Waves

An introduction to complex numbers, 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. Three credits.

### 242 Classical Dynamics I

The course covers conservative systems and potential energy; central forces; angular momentum; Kepler's laws; orbital transfers; systems of particles; variable mass systems; collisions; centre of mass frame; generalized co-ordinates and forces; Lagrange's equations; constraints; Hamilton's principle and equations. Three credits.

### 271 Astronomy: The Solar System

Topics include: the evolution of the solar system, sun, planets, planetoids, comets, meteors, and solar wind. Open to science students as a free elective and to arts students with permission of the instructor. Three credits. Offered in alternate years; not offered 2004-2005.

### 272 Astronomy: The Stellar System

Topics include: stellar evolution, supernovae, quasars, pulsars, neutron stars, black holes, the universe, our galaxy, and cosmology. Recommended prerequisite: PHYS 271. Open to science students as a free elective and to arts students with permission of the instructor. Three credits. Offered 2004-2005 and in alternate years.

### 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. Three credits and lab.

### 303 Modern Physics: Subatomic Physics and Cosmology

Topics include: nuclei; elementary particles; concepts of general relativity; cosmology. Three credits. Not offered 2004-2005.

### 322 Electromagnetic Theory I

This course elaborates on the theory covered in PHYS 120, with detailed study of electrostatic fields in vacuum and in dielectric materials, and of magnetic fields in non-magnetic materials. Three credits.

### 323 Electronics

An introduction to electronic devices and circuits. Devices and topics discussed include diodes, bi-polar junction transistors, field effect transistors, linear models, single-stage amplifiers, operational amplifiers, and digital circuits. Three credits and lab.

### 325 (224) Optics

Topics include: the nature of light; combinations of oscillations in space and time; wave propagation; geometrical optics; aberrations; optical instruments; diffraction; interference; the resolving power of instruments. 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. Three credits. Not offered 2004-2005.

### 343 Quantum Mechanics I

Covers electron double-slit and Stern-Gerlach experiments; 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. 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 Gibb's distribution; ideal gases; Fermi, Bose; heat and work; Gibb's free energy, enthalpy. Three credits and lab.

### 422 Electromagnetic Theory II

This course, a continuation of PHYS 322, covers the electric and

magnetic fields of moving electric charges; Maxwell's equations; and the propagation and radiation of electromagnetic waves in various media. Three credits.

#### 425 (324) 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; and stimulated Raman scattering. Three credits and laboratory.

#### 442 Mechanics of Continuous Media

The mechanics of continuous distributions of matter include hydrodynamic and wave-like motions. This course covers Newtonian, Lagrangian, and Hamiltonian formulations of wave motion in an elastic medium; emphasizes mathematical techniques; explores applications to acoustics and geophysics; and stresses similarities to optics, EM radiation, transmission-line phenomena, and quantum mechanics. Three credits.

#### 443 Quantum Mechanics II

Topics include: state vectors, density operator; finite unitary transformations, infinitesimal transformations; generalized uncertainty relations; the Schrödinger, Heisenberg, and interaction pictures; angular-momentum coupling; perturbation theory, time-independent (degenerate case) and time-dependent; tensor operators, the Wigner-Eckart theorem, recognizing symmetries; identical particles; scattering. Three credits.

#### 444 Statistical Mechanics

Covers probabilities in classical and quantum systems: Poisson distribution and Gaussian deviations; phase transitions and critical phenomena; classical and phenomenological theories; approximate methods. Applications may include random walks, percolation, magnetic models, and recent research topics in statistical physics. In computer labs, students will work on computer-simulation projects begun in class. Three credits and lab.

#### 471 Astrophysics

A directed study. See section 3.5. Three credits.

#### 473 Soft Material 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. 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. Three credits. Not offered 2004-2005.

#### 475 Atomic and Molecular Physics

Covers the 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. 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; the behavior of electrons in metals; magnetism; superconductivity. Three credits and lab.

#### 477 Linear Systems and Information Theory

Three credits. Not offered 2004-2005.

#### 478 Nuclear Physics

Three credits. Not offered 2004-2005.

#### 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

Three credits.

### GRADUATE COURSES

The following are offered by directed study to students in the M.Sc. program.

		<i>Credits</i>
500	Atomic and Molecular Spectroscopy	6
510	Low Energy Scattering	6
515	Quantum Theory	3
520	Advanced Spectroscopy	6
535	Quantum Theory II	3
545	Mathematical Physics I	3
555	Statistical Mechanics	3
565	Many-Body Theory and Its Application	3
575	Group Theory and Its Application	3
585	Mathematical Physics II	3

Additional courses are available depending on the requirements and interests of the student and the availability of faculty.

### 7.29 POLITICAL SCIENCE

J. Bickerton, Ph.D.

P. Clancy, Ph.D.

S. Dossa, Ph.D.

Y. Grenier, Ph.D.

R. Haddow, Ph.D.

J.F. Harrison, Ph.D.

S.K. Holloway, Ph.D.

L. Stan, Ph.D.

Y.C. Xu, 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.

#### 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 18 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 and at least one seminar course as part of their program. Students will normally concentrate in two areas within the discipline, and have at least 18 credits at the 300 level or above, including PSCI 399 and a seminar.

#### Honours Program

Candidates for the degree with honours in political science require credit for PSCI 100, 200, a minimum 6 credits from the following: 210, 220, 240, 250; and 399; a seminar, a thesis and 27 other credits in PSCI. 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, 499 and a seminar.

**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 timetable prior to registration.

**[AR] Indicates Designated Course in Aquatic Resources**

**100 Politics, Power, and Culture: An Introduction**

An introduction to the nature, variety, and use of political power in contemporary society and the state, especially Canada. Some major topics considered are: political ideology, movements and pressure groups, parties and elections, identity politics, and international conflict. 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, Simone de Beauvoir, 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.

**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.

**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**

A critical analysis of the theoretical and strategic justification of violence in politics both in the West and in the developing world. Liberal opposition to violence and the radical defense of revolutionary violence will be considered in the context of historical and contemporary cases. Three credits.

**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.

**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. Three credits.

**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. 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 legitimization crisis of the modern state. Three credits.

**310 European Politics**

Examines a variety of theoretical and empirical issues in comparative politics, 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. 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. Three credits.

**312 Art and Politics**

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

**315 Democratization Around the World**

This course focuses on democracy and democratization by investigating 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. 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. 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. Three credits.

**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. Three credits.

**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. 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. 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. Three credits.

**342 Canadian Public Policy [AR]**

An examination of contemporary public policy issues in Canada, including economic and social policy, the environment and culture. The course begins with a survey of major contemporary theoretical debates in the study of public policy. 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. Three credits.

**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. 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.

**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. Three credits.

**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. 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 international organizations, the effects of international law on state behavior, and the extent to which international co-operation has been effective in resolving global problems. Three credits.

**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 trans-national crime; and the rise of trans-national social activist groups. 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.

**361 East European Politics**

A comparative study of government and politics in Central and Eastern Europe during communism 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. 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. Three credits.

**370 Third World 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. Six credits.

**381 Japan and the East Asian Region**

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 Japanese domestic politics and Japanese interaction with China, Korea, the Philippines, and other Asian developing countries. Three credits.

**382 International Political Economy**

This course will focus on the economic foreign policies of the major powers, especially the developed capitalist states. Among the questions posed by this course: how do economic developments influence the rise and fall in relative status of major powers? What are the politics of international trade, investment, and monetary regimes among the core states? Three credits.

**390 Politics and Society in Latin America**

This course provides a broad historical background to Latin America and then focuses on six nations or sub-systems: Argentina, Brazil, Chile, Mexico, Cuba, and Central America. Topics will include: human rights, the role of the Catholic Church, the military, the USA and Canada in Latin America, economic development, and revolutions. Six credits.

**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.

**400 Political Theory (Seminar)**

Six credits.

**420 Canadian Politics (Seminar)**

Six credits.

**450 International and Comparative Politics (Seminar)**

Six credits.

**491 Topics in Political Science I (Seminar)**

Three credits.

**492 Topics in Political Science II (Seminar)**

Three credits.

**499 Directed Study**

See section 3.5. Six credits.

**7.30 PSYCHOLOGY**

A. Bigelow, Ph.D.  
G. Brooks, Ph.D.  
T. Callaghan, Ph.D.  
K. denHeyer, Ph.D.  
R. Duncan, Ph.D.  
J. Edwards, Ph.D.  
P. Henke, Ph.D.  
C. Lomore, Ph.D.  
K. MacLean, Ph.D.  
P. McCormick, Ph.D.  
G. McGuire, MA  
J. McKenna, Ph.D.  
E. Pencer, Ph.D.  
M. Watt, Ph.D.  
E. Wright, Ph.D.

**BA Major Program**

*Candidates must follow the degree regulations in chapter 4 and complete:*

- i) PSYC 100;
- ii) one of PSYC 210, 220, 225 or 230;
- iii) 12 PSYC credits at the 300 or 400 level;
- iv) 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 Advanced Major Program**

*Candidates must follow the degree regulations in chapter 4 and complete:*

- i) PSYC 100, 290; at least 6 PSYC credits at the 400 level;
- ii) PSYC 391, 491(non-credit);
- iii) a senior research paper;
- iv) a total of 36 PSYC credits.

**BA Honours Program**

*Candidates must follow the degree regulations in chapter 4 and complete:*

- i) PSYC 100; one of PSYC 210, 220, 225 or 230; PSYC 290, 300, 390;
- ii) 6 credits at the 400 level;
- iii) PSYC 391 and 491 (non-credit) and PSYC 490, the honours thesis;
- iv) 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:*

- a) 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) B.Sc. advanced major and honours degree programs must include BIOL 111, 112 (101, 102); CHEM 100; MATH 111, 112; and 12 additional credits in science courses (excluding PSYC);
- c) 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 in psychology 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. Six credits.

**290 Research Methods and Statistics**

An introduction to methods used to collect and analyze data in psychology. Topics include: research ethics; measurement and design;

descriptive statistics; hypothesis testing; inferential statistics including correlation and regression; z-tests and t-tests; basic analysis of variance; non-parametric procedures such as chi-square. Students will use statistical software. Lab component. Six 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.

**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**

This lecture course will examine the empirical and theoretical psychological literature dealing with the nature of the normal personality. Research methods in this field will also be considered. 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. Each student will carry out extensive library research on one type of disorder. Courses in learning, brain and behavior, and personality form a useful background for this course. Prerequisite: 12 credits PSYC. Six credits.

**375 Applied Psychology**

This is a wide-ranging lecture course in which psychological aspects of many different areas of life are considered. 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 department chair. Six credits.

**385 Selected Topics in Psychology I**

The topic for 2004-2005 is child psychopathology. Prerequisite: 12 credits PSYC including PSYC 260; PSYC 370 is recommended. Three credits.

**386 Selected Topics in Psychology II**

The topic for 2004-2005 is the self. Prerequisite: 12 credits PSYC including PSYC 240. Three credits.

**388 Selected Topics in Psychology III**

The topic for 2004-2005 is the biopsychology of pain. Six credits. Prerequisite: 12 credits PSYC.

**390 The Treatment of Data in 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 Cognition and Perception**

An examination of topics in perception and cognition, including pattern recognition; attention; memory; and cognitive skills such as reading-skill acquisition. The course includes lectures, seminars; laboratory component. Prerequisites: PSYC 220 or 225; advanced major or honours standing or permission of the chair. Six credits.

**430 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. 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. The course includes lectures, seminars, and research. Prerequisites: PSYC 240 or 350; advanced major or honours standing or permission of the chair. Six credits.

**460 Advanced Developmental Psychology**

An examination of topics in developmental psychology from various theoretical perspectives and in terms of empirical evidence. The course includes lectures, seminars; 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. Three 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.

**7.31 RELIGIOUS STUDIES**

- A. Ahern, Ph.D.
- B. Appleby, Th.D.
- R. Kennedy, Ph.D.
- B. MacDonald, Ph.D.
- M.Y. MacDonald, D.Phil.
- L. Turcescu, 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 Conscience and Freedom**

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.

### **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: SOCI 100 or ANTH 110 or RELS 100, 110, or 120. Cross-listed as SOCI 227. 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: SOCI 100 or ANTH 110 or RELS 100, 110, or 120. Cross-listed as SOCI 226. 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 archaeological 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 2004-2005.

### **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. Not offered 2004-2005.

### **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 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 explores religious movements and personalities in 19th- and 20th-century British India, including Rammohun Roy, Bal Gangadhar Tilak, Sri Ramakrishna, Vivekananda (Narendranath Datta), Mahatma Gandhi, and Rabindranath Tagore. Students will consider various manifestations of continuity and change in the Hindu religious tradition, and examine the socio-political dimensions of religion in contemporary India. Six 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 2004-2005.

### **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 2004-2005.

### **340 Archeology of the Ancient Near East**

A study of the archeology of the ancient Near East, beginning with the emergence of farming around 8000 BCE, this course covers the birth of civilization in Mesopotamia (present-day Iraq) and Egypt (ca. 3100 BCE). It then traces the development of civilization in

these two areas, as well as in Syria-Palestine, to the Iron Age, ca. 1200 BCE. Cross-listed as ANTH 360. Six credits.

**341 Christians in Dialogue**

Christians are to be united in faith, and yet there are divisions in Christianity. What are the doctrinal, historical and political issues still dividing Orthodox, Catholic, and Protestant Christians? What concrete measures have been taken in the contemporary theological landscape towards the restoration of Christian unity? These issues will be studied in light of both official documents of various Churches and contemporary grassroots movements. Three credits.

**345 The Bible and Archeology**

An introduction to the archeology and texts, especially the Bible, which are used to reconstruct aspects of the social, economic, and religious life of ancient Israel and Judah. Students will explore pertinent artifactual and textual evidence from ca. 1300 BCE to 100 CE, learning that archeological and biblical evidence must be treated with precision. Cross-listed as ANTH 360. Six credits. Not offered 2004-2005.

**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. Not offered 2004-2005.

**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. Not offered 2004-2005.

**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 2004-2005.

**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 2004-2005.

**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.

**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.

**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**

The topic for 2004-2005 is Women in Hinduism and Buddhism: This course examines diverse images of the feminine in the philosophy, mythology and experience of women in Hinduism and the Buddhism of India and Tibet. It concentrates on roles of Hindu and Buddhist women by means of historical and phenomenological approaches, and it promotes reflection on the inter-action of gender, culture, and religious identity in these societies as well as our own. Cross-listed as WMNS 399. Three or six credits.

**400 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, and homosexuality and sexual diversity. Six credits.

**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 2004-2005.

**499 Directed Study**

See section 3.5. Three or six credits.

▷ **SERVICE LEARNING**

See interdisciplinary studies in 7.22

**7.32 SOCIOLOGY AND ANTHROPOLOGY**

- R. Bantjes, Ph.D.
- A. Calliste, Ph.D.
- P. Cormack, Ph.D.
- A. Davis, Ph.D.
- C. Fawcett, Ph.D.
- W. Jackson, Ph.D.
- J. Kearney, Ph.D. (adjunct)
- D. Lynes, Ph.D.
- D. MacInnes, Ph.D.
- R. Michalko, Ph.D.
- R.J. Nash, Ph.D.
- J. Phyne, Ph.D.
- T. Titchkosky, Ph.D.
- N. Verberg, Ph.D.
- S. Vincent, Ph.D.

The Department of Sociology and Anthropology offers honours, advanced major and major programs with a specialty in either sociology or anthropology.

Students may use sociology upper-level courses to fulfill anthropology electives and anthropology courses to fulfill sociology degree electives. An advanced major degree in the specialized area of social and criminal justice is offered, but enrollment is limited and entry requires acceptance by the department in the spring of the

student's second year.

See chapter 4 for information on the degree patterns, declarations of major, advanced major and honours, advancement and graduation requirements.

#### Major

Year 1	SOCI 100 or ANTH 110 (depending on specialty)
Year 2	SOCI/ANTH 201, 202
Year 3	3 credits in theory or methods at the 300 level
Years 2-4	21 additional credits in SOCI/ANTH

#### Advanced Major

Year 1	SOCI 100 or ANTH 110 (depending on specialty)
Year 2	SOCI/ANTH 201, 202
Year 3	SOCI/ANTH 391
	3 credits in theory or methods at the 300 level
Years 2-4	18 additional credits in SOCI/ANTH

#### Advanced Major in Sociology with a concentration in Social and Criminal Justice

Year 1	SOCI 100 or ANTH 110 (depending on specialty)
Year 2	SOCI/ANTH 201, 202 SOCI 250
Year 3	SOCI/ANTH 391
	3 credits in theory or methods at the 300 level
Years 2-4	12 credits from SOCI 212, 217, 230, 318, 320, 340, 351, 352, 353, 451, 492 with 300 recommended

#### Honours in Sociology or Anthropology

Year 1	SOCI 100 or ANTH 110 (depending on specialty)
Year 2	SOCI/ANTH 201, 202
Year 3	12 credits from SOCI/ANTH 300, 301, 302, 303, 304; SOCI/ANTH 391
Year 4	SOCI/ANTH 400 (thesis), 491
Years 2-4	27 additional credits in SOCI/ANTH

#### [AR] Indicates Designated Course in Aquatic Resources

#### SOCI 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 (or ANTH 110) is a prerequisite for all other sociology courses. Six credits.

#### ANTH 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 archeology, and to physical, linguistic, and socio-cultural anthropology. ANTH 110 (or SOCI 100) is a prerequisite for all other ANTH and SOCI courses. Six credits.

#### SOCI/ANTH 201 Traditions in Social Thought

This core course is an introduction to the dominant traditions of social thought in both anthropology and sociology. It establishes how both traditions explore questions about culture, social life, and social organization. More specifically the course explores the variety of perspectives that have shaped sociological and anthropological discourse: Marxism, structuralism, symbolic interactionism, functionalism, feminism, postmodernism. Three credits.

#### SOCI/ANTH 202 Research Principles and Practices [AR]

This course addresses the ways in which philosophical assumptions

shape the aims and practices of research in sociology and anthropology. Topics include: empirical research design principles (collecting and recording data, assessing reliability and validity, data analysis) and direct observational techniques (unobtrusive measures, content analysis, survey design, participant observation, and secondary data analysis); and the ethical implications of research. Three credits.

*Note: SOCI/ANTH 202 is a prerequisite for entry into higher level methods courses (except SOCI 305/NURS 310).*

#### SOCI 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.

#### ANTH 215 Archeology and Native Peoples of Canada

Studies the prehistory of the First Nations of Canada during the 30,000 years prior to the arrival of Europeans, and examines native cultures in the past and present. The course will focus on the Maliseet and Mi'kmaq of the Maritimes and consider the court cases and new treaties that are re-defining Canada for the 21st century. Six credits.

#### SOCI 217 Race, Class, Gender, and Sex

Through comparative perspectives, this course examines critical race, class, gender and sexuality theoretical perspectives and practices in Canada and elsewhere. These theories will be used to analyze substantive areas such as deconstructing whiteness, international migration, the media, education, work and organizing for social transformation. Cross-listed as WMNS 217. Three credits.

#### ANTH 220 Political and Economic Anthropology

An introduction to ethnographic examples of political and economic systems from around the world. Topics include: economic systems such as foraging, pastoralism, industrial production, and horticulture; political systems including bands, states, chiefdoms, and tribes. Students will analyze the theories that have been developed to interpret economic and political forms, and the ways in which the political and economic systems of small-scale societies fit into global systems. Six credits.

#### ANTH 225 Anthropology of Gender

From a cross-cultural perspective and using examples from physical anthropology, archeology, and socio-cultural anthropology, students will explore questions such as: can the differences observed between men and women best be explained by biology or by culture and what factors explain the subordination of women found in many societies around the world? Cross-listed as WMNS 225. Six credits.

#### SOCI 226 Cults and New Religious Movements

Cross-listed as RELS 225; see RELS 225. Three credits.

#### SOCI 227 Sociology of Religion

Cross-listed as RELS 215; see RELS 215. Three credits.

#### SOCI 230 Sociology of Education

Provides the student 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.

#### SOCI 233 The Sociology of Sport

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. Prerequisite: SOCI 100. Three credits.

**SOCI 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.

**SOCI 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.

**ANTH 260 Evolution of Civilization**

An archeological examination of the sequences and processes which led to the emergence of civilizations in Mexico, Peru, Egypt, Mesopotamia, Pakistan, and China. Six credits.

**SOCI 300 Research Methods**

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. Six credits and laboratory.

**SOCI 301 Classical Social Theory**

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. Prerequisite: SOCI/ANTH 201. Three credits.

**SOCI 302 Topics in Contemporary Theory**

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, post-modernism, and neo-Marxist theory. Prerequisite: SOCI/ANTH 201. Three credits.

**ANTH 303 Anthropological Theory**

This seminar 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. Prerequisite: SOCI/ANTH 201. Three credits.

**ANTH 304 Principles and Methods of Fieldwork**

This course will examine the principles and methods of anthropological fieldwork, including observing and interviewing participants, collecting oral and life histories, analyzing data, and writing ethnographies. Prerequisite: SOCI/ANTH 202. Three credits.

**SOCI 305 Applied Methods in Social Research [AR]**

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. Credit may not be earned for both SOCI/ANTH 202 and SOCI 305/NURS 310. Cross-listed as NURS 310. Six credits.

**SOCI 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 100 or ANTH 110. Three credits.

**SOCI 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.

**SOCI 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. Three credits.

**SOCI 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. Three credits.

**SOCI 313 Conceptions of Disability**

An introduction to the field of disability studies, this course examines the ways in which disabled people and disability issues are defined and treated in contemporary society. Social and political conceptions of disability are contrasted with medical and individualistic definitions of disability with the aim of developing a critique of taken-for-granted conceptions of normal bodies, minds, and senses. The experience of disability will be stressed. Three credits.

**SOCI 314 Disability and Culture**

Beginning with the assumption that disability is a social phenomenon, this course provides students with the tools to analyze such cultural conceptions as normalcy-abnormalcy, ability-inability, independence-dependence. Students will examine cultural representations of disability that marginalize and oppress disabled people, and explore the ways in which cultural representations of disability differ from experiential accounts. Prerequisite: SOCI 313. Three credits.

**ANTH 315 Health and Medicine**

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; 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. Six credits.

**ANTH 316 Rural Communities [AR]**

Students will examine the social, economic, and political dimensions of rural communities from a comparative and analytical perspective. Topics include: attachment and identity, kinship relations, and gender relations; household economies, inheritance, and petty commodity forms of production; the integration of rural communities within regional, national, and global institutions. Three credits.

**SOCI 318 First Nations**

Examines how the contemporary situation of First Nations 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 to the relevance of existing theoretical perspectives in explaining the experiences of First Nations. Prerequisite: SOCI 217. Three credits.

**SOCI 320 The Black/African Diaspora in the Americas**

Examines Black/African culture and experience in Canada, the United States, Latin America, and the Caribbean Basin. Topics include: the intersection of race, gender, and class; approaches to anti-racism; the relevance of existing theoretical perspectives in explaining the Black/African experience in the Diaspora. Six credits.

**SOCI 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.

**SOCI 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.

**SOCI 323 Environment and Society I: Introduction [AR]**

In light of modern warnings of a global environmental crisis, this course examines the ways in which modern societies construct their relationship to the natural world. Students will discuss 'common sense' assumptions about social and natural phenomena; review human efforts to dominate and control environments in the pursuit of modern comforts; and explore the consequences of these efforts in the form of social inequities and emergent physical threats. Three credits.

**SOCI 324 Work, Labor, and Unemployment**

An examination of the rise of industrial capitalism sets the context for this course on the changing meaning and social organization of work, labor, and unemployment. Topics include: the ways in which social forces shape social policies on work, labor, and unemployment, including unemployment insurance, strike legislation, workers' compensation, sexual harassment. For example, students may discuss Fabianism, the labor movement and the new right, globalization or free trade. Three credits.

**SOCI 325 The Sociology of 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.

**ANTH 326 The Family in Cross-Cultural Perspective**

A 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. Cross-listed as WMNS 326. Three credits.

**SOCI 327 Contemporary Canadian Families**

This course explores the impact of social, political, economic, and cultural change on Canadian families, and the unequal power relationships between men and women. Students will use a life course perspective to examine the family in modern Canada, including social and interpersonal dynamics and the diversity of family relations. Cross-listed as WMNS 327. Three credits.

**SOCI 328 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. Three credits.

**ANTH 335 Cultural and Social Anthropology**

A comparative study of band, tribal, chiefdom, and state-level societies studied by anthropologists in the 20th century. Using film ethnographies, the course will examine how the Other is represented by anthropological and artist filmmakers. Traditional ethnographic films, designed to produce knowledge about other cultures, will be compared with the more recent self-critical approach that often reveals unconscious assumptions about one's own culture. Six credits.

**ANTH 340 Comparative Analysis of Power and Violence**

Power differentials and violence are often assumed to be inherent, constant, and inescapable qualities of the human condition. This course provides students with the opportunity to explore the socio-cultural qualities of power and violence, and to become familiar with comparative approaches to the study and appreciation of human socio-cultural organization and behavior. Six credits.

**ANTH 345 Archeological Field School**

This course is designed to teach methods of survey, excavation, laboratory analysis, and writing archeological reports. Primarily a field course with visits to archeological sites and some excavation work. Offered on an occasional basis during the summer only. Six credits.

**ANTH 350 The Future of Post-Industrial Society**

This course examines the field of future studies and the methods and forecasting techniques which futurists use to assist them in thinking about the future. Students will examine both optimistic and pessimistic ideas about the state of the world at the beginning of the third millennium: the future of the nation-state; global ecological and demographic problems; the impact of new technologies on society; economic disparities among nations; and trends in North American life. Six credits.

**SOCI 351 Criminal Justice and Corrections**

This course examines the structure and operation of the criminal justice system, including policing, court systems, correctional institutions, philosophies, and practices. Regular class sessions will be supplemented with guest lectures, attendance at court sessions, and field trips. Prerequisite: SOCI 250. Three credits.

**SOCI 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.

**ANTH 353 Law, Culture, and Society**

An exploration of the anthropology and sociology of law, this course has three sections: an historical overview of the social science literature on the inter-relationships among legal, cultural, and social institutions and practices; a cross-cultural study of the literature on disputes; an examination of punishment as a social institution, including utilitarian, functionalist, political economy, panoptican, and feminist accounts. Prerequisite: SOCI 250 or 12 credits ANTH. Three credits.

**ANTH 355 Linguistics**

The first half of this course is cross-listed as CELT 273 and ENGL 273; see ENGL 273. Six credits.

**SOCI 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.

**ANTH 360 Archeology of the Ancient Near East**

Cross-listed as RELS 340; see RELS 340. Six credits. Not offered 2004-2005.

**SOCI 364 Food & Development**

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.

**SOCI 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.

**ANTH 365 Anthropology of Development**

This course examines the impact of development on peoples around the world, using ethnographic examples. There are two major sections in the course: discussion of how people in developing countries are affected by colonization and current global processes, and examination of the effects of development projects intended to improve the lives of poor people. The ethnographic material will be analyzed in the context of theoretical frameworks of development. Six credits.

**SOCI 375 The Comparative Study of Nationalism**

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

**SOCI/ANTH 391 Junior Seminar**

This seminar will assist honours and advanced major students in their junior year with their thesis/major paper work, and provide an environment in which to learn with senior students working on their theses. Students will develop a thesis/advanced major topic, choose a supervisor with whom they will develop a proposal, collect materials, and consider methodological and ethical issues relevant to their research. Students are expected to attend colloquia, guest lectures, and public talks relevant to anthropology and sociology. Prerequisites: SOCI/ANTH 201, 202. Three credits.

**SOCI/ANTH 400 Honours Thesis Research**

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

**ANTH 403 Science in Society**

This seminar examines the role of science and technology in contemporary society. Starting with the question, "What is science?" the class will review the historical development of science and technology before moving on to consider current issues such as gender and science; political, economic, and social influences on scientific research; and the nuclear question. Prerequisite: SOCI/ANTH 201. Three credits.

**SOCI 417 Social Difference: Race, Ethnicity, Gender, Class, Sex, and Ability**

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 217. Cross-listed as WMNS 417. Three credits.

**ANTH 418 Area and Regional Studies I and II**

The modern era is characterized by numerous, often competing claims of cultural distinctiveness based on language, history, tradition or

social structure, as well as on attachment to place or territory. Using either an anthropological or a sociological perspective, students will explore the construction of cultures within regional boundaries, focusing on one region, linguistic group, or nation-state, or comparing two or more. Prerequisite: SOCI/ANTH 201. Three or six credits.

**SOCI 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. Prerequisite: SOCI/ANTH 201 or permission of the chair. Three credits.

**SOCI 423 Environment and Society II: Paradigms and Politics [AR]**

Within the framework outlined in SOCI 323, this course examines four modern movements offering innovative approaches to environmental problems: deep or non-human-centred ecologies; feminist environmentalism; environmental justice; global and third-world environmentalism. Using the current crises in Canadian agriculture and fisheries as case studies, students will consider the competing claims of science, the state, and citizen or community groups to define and redress these problems. Prerequisite: SOCI 323. Three credits.

**SOCI 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: ANTH 225 or SOCI 310. Cross-listed as WMNS 424. Three credits.

**SOCI 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. Prerequisite: SOCI 100 or ANTH 110; SOCI/ANTH 201 is recommended. Three credits.

**SOCI 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. Prerequisites: SOCI 250, 351. Three credits.

**SOCI/ANTH 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 anthropology and sociology. Required for honours students in their senior year. Prerequisite: SOCI/ANTH 391. No credit.

**SOCI/ANTH 492 Student Internship in Social and Criminal Justice**

Offered each fall, this course is a four-month internship in criminal and social justice requiring at least 39 hours in a work-placement setting. Students will complete a research paper that incorporates their placement experience within the context of research in criminal and social justice. Required for students in the Advanced Major in Criminal and Social Justice. Prerequisite: 18 credits in the criminal and social justice area, including SOCI 201, 202 by the end of the third year. Three credits.

**SOCI/ANTH 499 Directed Study**

Under the direction of a professor, students will work in an area of sociology or anthropology 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 modern languages in 7.24.

## **7.33 WOMEN'S STUDIES**

M. Moynagh, Ph.D. Co-ordinator

<i>Advising Faculty</i>	<i>Department of</i>
A. Bigelow, Ph.D.	Psychology
N. Forestell, Ph.D.	History/Women's Studies
J. Dawson, Ph.D.	Adult Education
M. Gallant	Human Kinetics
C. Mrazek	Nursing
S. Vincent, Ph.D.	Sociology/Anthropology

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:

- i) 12 credits of WMNS 200 and 303, 398 or 399;
- ii) 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 Requirements**

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;
- 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:

- 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.
- iii) 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.

### **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)**

- i) WMNS 200 (6 credits);
- ii) 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**

- i) WMNS 200 (6 credits);
- ii) 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 women's studies 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.

#### **397 Women in Hinduism and Buddhism**

This course examines diverse images of the feminine in the philosophy, mythology and experience of women in Hinduism and the Buddhism of India and Tibet. It concentrates on roles of Hindu and Buddhist women by means of historical and phenomenological approaches, and it promotes reflection on the inter-action of gender, culture, and

religious identity in these societies as well as our own. Cross-listed as RELS 398. Three or six credits.

### **399 Selected Topics in Women's Studies II**

This course provides students with the option of a second selected topics course. Three credits. Not offered 2004-2005.

### **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**

<i>WMNS</i>	<i>Course</i>		<i>Credits</i>
217	SOCI 217	Race, Class, Gender, and Sex	3
225	ANTH 225	Anthropology of Gender	6
229	ENGL 229	Women in English Literature	6
308	HIST 308	Canadian Women's History	6
310	SOCI 310	Gender	6
311	SOC 311	Men and Masculinities	3
323	RELS 323	Mary and the Identity of Women	3
325	RELS 325	Early Christian Women	3
326	SOCI 326	The Family in Cross-Cultural Perspective	3
327	SOCI 327	Contemporary Canadian Families	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
345	PSCI 345	Women and Politics	3
360	PSYC 360	Psychology of Gender	6
365	NURS 365	Gender and Health	3
367	BSAD 367	Current Challenges: Women in Management	3
417	SOCI 417	Social Difference: Race, Ethnicity, Gender, Class, Sex, and Ability	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 February 4, 2004

**University Officers**

Sean E. Riley, D.Ph.	President
Ronald W. Johnson, Ph.D.	Academic Vice-President & Provost
H. Ramsay Duff, BA(Hons.)	Vice-President, Finance & Operations
TBA	Vice-President, Student Services
Mary Coyle, MA	University Vice-President, Director, Coady International Institute
TBA	Vice-President, Advancement
Mary McGillivray, Ph.D.	Dean of Arts
E.J. McAlduff, Ph.D.	Dean of Science
Janet Stark, MA	Registrar
Susan Cameron, MLS	Acting University Librarian
James McMullin, Ph.D.	Director of Health and Counselling
Elizabeth J. MacDonald, MSW	Assistant to the Deans of Arts & Science
Rev. Paul MacNeil, M.Div.	Chaplain
John Blackwell, MLIS	Director, Research Office
Roger Wehrell, Ph.D.	Director, Extension Department
Robert Kitchen, M.Sc.	Dean of Students
TBA	Manager, Recruitment & Admissions
Winston Jackson, Ph.D.	Director, Institutional Analysis

**University Faculty****Professors**

Anderson, A., Ph.D.(Queen's)	Earth Sciences
Baldner, S., Ph.D.(Toronto)	Philosophy
Beck, J.F., Ph.D.(UBC)	Chemistry
Bernard, I., Ph.D.(Pennsylvania)	Education
Bickerton, J., Ph.D.(Carleton)	Political Science
Bigelow, A., Ph.D.(Simon Fraser)	Psychology
Bilek, L., Ph.D.(Prague)	Human Kinetics
Brooks, G.P., Ph.D.(Queen's, Belfast)	Psychology
Buckland-Nicks, J., Ph.D.(Alberta)	Biology
Callaghan, T., Ph.D.(Brown)	Psychology
Clancy, P., Ph.D.(Queen's)	Political Science
Davis, A., Ph.D.(Toronto)	Sociology and Anthropology
DeMont, M.E., Ph.D.(UBC)	Biology
den Heyer, K.C., Ph.D.(Manitoba)	Psychology
Dossa, S.A., Ph.D.(Toronto)	Political Science
Duncan, C.M., Ph.D.(UWO)	Business Administration
Edwards, J.R., Ph.D.(McGill)	Psychology
El-Sheikh, S., Ph.D.(Queen's)	Economics
Gallant, C.D., Ph.D.(Illinois)	Math, Stats. & Comp. Sci.
Gallant, L., MBA(Queen's), FCA(ICANS)	Business Administration
Gallant, M., M.Sc.P.E.(Dal.)	Human Kinetics
Garbary, D., Ph.D.(Liverpool)	Biology
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
Haddow, R.S., Ph.D.(Toronto)	Political Science
Harrison, J.F., Ph.D.(Durham)	Political Science
Henke, P.G., Ph.D.(Georgia)	Psychology
Hogan, M.P., Ph.D.(Toronto)	History
Holloway, S., Ph.D.(Ohio State)	Political Science
Hunter, D., Ph.D.(King's, London)	Physics
Jackson, W., Ph.D.(Washington)	Sociology and Anthropology
Jacono, J.J. Ph.D.(Western)RN	Nursing
Jan, N., Ph.D.(Cambridge)	Physics
Johnson, R.W., Ph.D.(Manitoba)	Psychology
Klapstein, D., Ph.D.(Victoria)	Chemistry
Langille, E.M., D. ès L.(Sorbonne)	Modern Languages
Liengme, B.V., Ph.D.(Imperial)	Chemistry
MacCaull, W., Ph.D.(McGill)	Math, Stats. & Comp. Sci.
MacDonald, B., Ph.D.(CUA)	Religious Studies
MacDonald, M.Y., D.Phil.(Oxford)	Religious Studies
MacEachern, A., Ph.D.(Iowa State)	Math, Stats. & Comp. Sci.
MacFarlane, E., B.Sc.N., M.Ad.Ed., RN	Nursing
MacInnes, D., Ph.D.(McMaster)	Sociology and Anthropology
Madden, R.F., MBA(Queen's), CA	Business Administration
Marangoni, D.G., Ph.D.(Dalhousie)	Chemistry
Marquis, P.A., Ph.D.(Queen's)	English
Marshall, W.S., Ph.D.(UBC)	Biology
McAlduff, E.J., Ph.D.(Toronto)	Chemistry
McGillivray, M.B., Ph.D.(Queen's)	English
Melchin, M.J., Ph.D.(UWO)	Earth Sciences
Mensch, J. R., Ph.D.(Toronto)	Philosophy
Milner, P., Ph.D.(Notre Dame)	English
Murphy, J.B., Ph.D.(McGill)	Earth Sciences
Naczka, M., Ph.D.(Technical U. Gdansk)	Human Nutrition
Nash, R., Ph.D.(Calgary)	Sociology and Anthropology
Newsome, G.E., Ph.D.(Manitoba)	Biology
Nilsen, K., Ph.D.(Harvard)	Celtic Studies

Palepu, R., Ph.D.(India)	Chemistry
Phillips, P., Ph.D.(Toronto)	History
Phyne, J., Ph.D.(McMaster)	Sociology and Anthropology
Quigley, A., Ed.D.(N.Illinois)	Adult Education
Quinn, J., Ph.D.(Wisconsin)	Math, Stats. & Comp. Sci.
Quinn, W.R., Ph.D.(Queen's)P.Eng.	Engineering
Rasmussen, R., Ph.D.(Saskatchewan)	Human Kinetics
Schuegraf, E.J., Ph.D.(Alberta)	Math, Stats. & Comp. Sci.
Seymour, N., Ph.D.(McGill)	Biology
Smith, D., Ph.D.(Manitoba)	English
Smith, G., M.Mus.(Eastman)	Music
Smith-Palmer, T., Ph.D.(Auckland)	Chemistry
Steinitz, M.O., Ph.D.(Northwestern)	Physics
Sweet, W., Ph.D.(Ottawa), DEA(Sorbonne), D.Ph.(Saint Paul)	Philosophy
Taylor, J.O., Ph.D.(Ottawa)	English
Trites, G., BA(York), FCA(ICANS)	Business Administration
Wallbank, B., Ph.D.(Liverpool)	Physics
Wehrell, R., Ph.D.(Ottawa)	
Wilputte, E., Ph.D.(Toronto)	English
Wood, D., MA, B.Litt.(Oxford)	English
Wright, E., Ph.D.(Alberta)	Psychology

**Associate Professors**

Ahern, A. J., Ph.D.(McMaster)	Religious Studies
Alex, M., M.Sc.N.(Dalhousie)RN	Nursing
Amoako-Tuffour, J., Ph.D.(Alberta)	Economics
Apaloo, J., Ph.D.(Montana)	Math., Stats. & Comp. Sci.
Aquino, M.A.S., Ph.D.(Carleton)	Chemistry
Arpin, M., Ph.D.(Laval)	Modern Languages
Bantjes, R., Ph.D.(Lancaster)	Sociology and Anthropology
Beltrami, H., Ph.D.(UQAM)	Earth Sciences
Black, P.A., Ph.D.(Simon Fraser)	English
Boucher, J.L., Ph.D.(Université de Montréal)	Human Kinetics
Bourbeau-Walker, M., Ph.D.(UBC)	Modern Languages
Byrne, C., Ph.D.(Toronto)	Philosophy
Calliste, A., Ph.D.(Toronto)	Sociology and Anthropology
Cameron, J. D., Ph.D.(Queen's)	History
Carter, G.G., M.Mus.(Eastman)	Music
Cormack, P., Ph.D.(York)	Sociology and Anthropology
Cormier, J., Ph.D.(McGill)	Chemistry
Diocion, M.C., Ph.D.(Durham)	Business Administration
Dodaro, S., Ph.D.(Toronto)	Economics
English, L., Ed.D.(Columbia)	Adult Education
Fabjancic, U., Doc. IIIe cycle (Montpellier III)	Modern Languages
Fawcett, C., Ph.D.(McGill)	Sociology and Anthropology
Forestell, N.M., Ph.D.(OISE)	History
Fry, R., Ph.D.(Toronto)	Math., Stats. & Comp. Sci.
Galea, C., Ph.D.(UWO)	Business Administration
Galway, M., Ph.D.(Australian NU)	Biology
Genge, A., Ph.D.(State U. NY)	Music
Gillis, D., M.Sc.(Guelph)	Human Nutrition
Graham, L., Ph.D.(Calgary)	Biology
Greenlaw, J., Ph.D.(UBC)	Education
Hawley, M.P., MN(Dalhousie)	Nursing
Hynes, T., Ph.D.(Calgary)	Business Administration
Jacono, B., M.Sc.N.(Toronto)RN	Nursing
Kellman, L., Ph.D.(UQAM)	Earth Sciences
Kocay, V., Ph.D.(Toronto)	Modern Languages
Lalande, G., Ph.D.(McGill)	History
Lander, D., Ph.D.(Nottingham)	Adult Education
LeBlanc, R., Ph.D.(Laval)	Modern Languages
Lynes, D.A., Ph.D.(York)	Sociology and Anthropology
Lynes, J., Ph.D.(York)	English
MacAulay, K., Ph.D.(Queen's)	Business Administration
MacLean, K., Ph.D.(Simon Fraser)	Psychology
Mahaffey, T., Ph.D.(Queen's)	Business Administration
McCormick, P., Ph.D.(Waterloo)	Psychology
Meyer, M., Ph.D.(McGill)	Education
Michalko, R., Ph.D.(UBC)	Sociology and Anthropology
Miller, A.G., Ph.D.(Queen's)	Biology
Moynagh, M.A., Ph.D.(Texas-Austin)	English
Nemesvari, R.A., Ph.D.(Queen's)	English
Oguejiofor, E., Ph.D.(Saskatchewan)P.Eng.	Engineering
Olson, M., Ph.D.(Alberta)	Education
O'Mahoney, T., M.Mus.(Miami)	Music
Orr, J., Ph.D.(Alberta)	Education
Parsons, C.N., MA(Hons.)(Edinburgh)	Celtic Studies
Pencer, E.L., Ph.D.(Waterloo)	Psychology
Poole, P., Ph.D.(Boston)Canada Research Chair	Physics
Sherman, A., Ph.D.(Nottingham)	Education
Spekkens, H., Ph.D.(Ottawa)	English
Stanley-Blackwell, L., Ph.D.(Queen's)	History
Titchkosky, T., Ph.D.(York)	Sociology and Anthropology
Turcescu, L., Ph.D.(St. Michael's)	Religious Studies
van Bommel, M., Ph.D.(Waterloo)	Math, Stats. & Comp. Sci.
van den Hoogen, R., Ph.D.(Dalhousie)	Math, Stats. & Comp. Sci.



**Adjunct Professors**

Barre, D., Ph.D.(Guelph) Human Nutrition  
 Betts, D., Ph.D.(McGill) Physics  
 Blunsten, J.F., Ph.D.(Calgary) Chemistry  
 Cranton, P., Ph.D.(OISE) Adult Education  
 Graham, D., M.Ed.(StFX) Education  
 Holt, L., Ph.D.(S. Illinois) Human Kinetics  
 Knox, J., MN(Dalhousie)RN Nursing  
 MacDonald, J., Ph.D.(Edinburgh)Ben Alder Chair Celtic Studies  
 Sharma, T., Ph.D.(Guelph) Earth Sciences  
 Starzomski, L., M.Ed.(StFX) Education

**Distinguished University Fellow**

Stewart, J.B., Ph.D.(Columbia) Political Science

**Retired Faculty**

Aalto, S., Ph.D.(Oregon State) Math., Stats. & Comp. Sci.  
 Aboud, Sr. H.T., Ph.D.(Cornell) Human Nutrition  
 Amit, E., MA(Carleton) Director, Coady International Institute  
 Asadulla, S., Ph.D.(Florida) Math, Computing & Info. Sys.  
 Babin, J.W., MA(Laval) French  
 Baker, J., Ph.D.(Manchester) English  
 Balawyder, A., Ph.D.(McGill) History  
 Bauer, Rt. Rev. C.H., BA German/ Executive Vice Pres. 1961-70  
 Berridge, J., Ph.D.(Basel) Religious Studies  
 Bunbury, D.L., Ph.D.(Notre Dame) Chemistry  
 Burke, Sr. B., MA(Columbia TC) Music  
 Campbell, Sr. M.E., CND, M.Ed. Principal, Mount Saint Bernard  
 Carty, E., M.Litt.(Glasgow) Philosophy  
 Chiasson, L.P., Ph.D.(Toronto) Biology  
 Cormier, R.F., Ph.D.(MIT) Geology  
 Cujes, R., Ph.D.(Graz) Sociology and Anthropology  
 Currie, S., Ph.D.(Alabama) English  
 Fiaz, M., Ph.D.(Toronto) Sociology and Anthropology  
 Foley, W., D.Sc.(Laval) Chemistry  
 Gillen, M., Ed.D.(Toronto) Adult Education  
 Gillis, H.A., Ph.D.(Notre Dame) Chemistry/  
 Academic Vice-President (1995-99)  
 Gillis, M.L., M.Sc.(Boston)RN Nursing  
 Gillis, Rev. J.H., Ph.D.(CUA) Classics  
 Grant, C., Ph.D.(Purdue) Economics  
 Grant, Sr. J., M.A.(Notre Dame) Art  
 Grew, E., MNS(Harvard) Nursing  
 Hayes, Z.L., Ph.D.(Waterloo) Psychology  
 Hollohan, Sr. E., MLS(Simmons) Librarian  
 Joshi, Y.N., Ph.D.(UBC) Physics  
 Kontak, W., MA(Oxford) Political Science  
 Kuzsman, F.J., Ph.D.(East Coast U.) Education  
 Langley, J.T., M.S.(Nebraska)FCGA  
 Administrative Vice-President (1972-2002)  
 Losier, Sr. A., Ph.D. (Notre Dame) Theology  
 Lynch, B.M., Ph.D.(Melbourne) Chemistry  
 MacAdam, A.J., MPE(Springfield) Human Kinetics  
 MacDonald, J.J., Ph.D.(Toronto) Chemistry  
 Executive Vice-President 1970-91  
 MacDonald, Rev. R.B., SSL(Biblicum), STD(Urban) Religious Studies  
 MacDonell, Sr. M., Ph.D.(Harvard) Celtic Studies  
 MacDonell, Rev. M., MA(Toronto) History  
 President 1970-78  
 MacInnis, M., M.Ed.(Alberta) Education  
 MacIsaac, T., Ph.D.(Temple) Education  
 MacKenzie, A., MA(Dalhousie) History  
 MacKinnon, Rev. G.A., Ph.D.(Ottawa) Theology  
 President 1978-90  
 MacKinnon, N., Ph.D.(Queen's) History  
 MacKinnon, R.J., Ph.D.(Oklahoma State) Information Systems  
 MacLean, Rev. M., Ph.D.(Fordham) Education  
 MacLean, R., Ph.D.(Toronto) History  
 MacLellan, Rev. V.J., MA(Notre Dame) English  
 MacMullin, Sr. M.R., Ed.D.(Temple) Education  
 MacNeil, Teresa, Ph.D.(Wisconsin) Adult Education  
 MacPherson, J., Ph.D.(Ottawa) English  
 McDonnell, R., ME(TUNS) Engineering  
 McFarland, J.M., DPE(Springfield) Human Kinetics  
 Miffen, Rev. S., Ph.D.(Indiana) Education  
 Morrissey, L., MNS(Cornell) Human Nutrition  
 Mutimer, B.T.P., Ph.D.(Alberta) Human Kinetics  
 O'Brien, K., Ph.D.(Notre Dame) English  
 O'Donnell, J.C., C.M., M.Mus.(King's, London) Music  
 Peters, Sr. C., Ph.D.(Iowa State) Human Nutrition  
 Pink, D., Ph.D.(UBC) Physics  
 Pluta, L., Ph.D.(Queen's) Economics  
 Power, Rev. G., Ph.D.(Harvard) History  
 Roach, T., MFA(Guanajuato) Art  
 Rousell, Rev. G., Ph.D.(Fordham) Biology  
 Sanderson, G., Ph.D.(Louvain) Philosophy

Sears, J.T., DBA(Harvard) Business Administration  
 Academic Vice-President 1984-1987, 1991-1995  
 Secco, E.A., D.Sc.(Laval) Chemistry  
 Shaw, W., Ph. D.(MIT) Geology  
 Shea, Rev. H., Ph.D.(Laval) Philosophy  
 Sony, S.D., MN(Delhi)RN Nursing  
 Stewart, Hon. J.B., Ph.D.(Columbia) Political Science  
 Stouffer, A.P., Ph.D.(Claremont) History  
 Sullivan, A., Ph.D.(UBC) Human Nutrition  
 Walsh, P., Ph.D.(Dublin) English  
 Weingartshofer, A., D.Sc.(Laval) Physics  
 Wittgens, H.J., Ph.D.(Washington) History  
 Woodfine, W., Ph.D.(MIT) Economics

**Clinical Associates & Laboratory Instructors**

Adamson, S. B.Sc.N.(StFX)RN Nursing  
 Bailey, J., B.Sc.N.(StFX)RN Nursing  
 Beiswanger, D., B.Sc.N.(StFX)RN Nursing  
 Bowman, S., BN(Natal)RN Nursing  
 Brennick, D., B.Sc.N.(StFX)RN Nursing  
 Cameron, C., M.Ad.Ed.(StFX)RN Nursing  
 Chisholm, A., B.Sc.N.(StFX)RN Nursing  
 Chisholm, M. B.Sc.N.(StFX)RN Nursing  
 Currie, C., B.Sc.N.(StFX)RN Nursing  
 Farrell, L. B.Sc.N.(StFX)RN Nursing  
 Fraser, Y., B.Sc.N.(StFX)RN Nursing  
 Girroir, A., B.Sc.N.(StFX)RN Nursing  
 Ingram, D., B.Ed.(Saint Mary's) Nursing  
 Keizer, P., B.Sc.(StFX) Math., Stats. & Comp. Sci.  
 MacNeil, M., B.Sc.N.(StFX)RN Nursing  
 MacPhee, C., B.Sc.N. Nursing  
 Murphy, C., MA(McGill) Earth Sciences  
 Newsome, A.V., M.Sc (UWO) Biology  
 Powell, J., M.Sc.(StFX) Physics  
 Rennie, C., MA(Queen's) Earth Sciences  
 Roach, D., B.Sc.N.(StFX)RN Nursing  
 Seaboyer, C., CET Electronics Technologist  
 Saulnier, K., B.Sc.N.(StFX)RN Nursing  
 Snyder, D., B.Sc.N.(StFX)RN Nursing  
 Stewart, C., B.Sc.N.(StFX)RN Nursing  
 Taylor, S., MA(Memorial) Earth Sciences  
 Venedam-Marchand, C., B.Sc.N.(StFX)RN Nursing  
 Wallbank, D., Ph.D.(Liverpool) Chemistry  
 Wood, S., B.Sc.N.(StFX)RN Nursing

**Senior Research Professors**

Joshi, Y.N., Ph.D.(UBC) Physics  
 McLachlan, J.L., Ph.D.(Oregon) Biology  
 Pink, D., Ph.D.(UBC) Physics

**Chaplains**

MacNeil, Rev. Paul D., M.Div.University Chaplain, Roman Catholic  
 MacNeil, Sr. Millie, M.Ed. Associate Chaplain, Roman Catholic  
 Bourbonniere, Rev. Katherine Anglican  
 Luke, Rev. George United Pentecostal  
 Luten, Rev. John Gospel Church  
 TBA United  
 MacLeod, Rev. Lorne, M.Div. Presbyterian

**Library**

Cameron, S., MLS(UWO) Acting University Librarian  
 Adams, S., MLS(UWO) Librarian  
 Bertrand, G., MLIS (UWO) Librarian  
 MacKenzie, K. MA(Saint Mary's) Archivist  
 MacLean, E., MLIS(Dalhousie) Librarian  
 MacPherson, G., MLS(Dalhousie) Librarian  
 Phillips, B., BLS(Toronto) Librarian  
 Quinn, G., MLS(Dalhousie) Librarian  
 Williams, M., MA(Hons.)(Glasgow) Custodian, Special Collections

**Coady International Institute**

Coyle, M., MA(Guelph) University Vice-President, Director  
 Adams, S., MLS(UWO) Librarian  
 Cameron, C., M.A.Ed.(StFX) Lecturer  
 Cunningham, G., MA(Guelph) Lecturer  
 Gladkikh, O., MA(UWO) Manager, Education Programs  
 Hall, K., BJH(Kings) Communications Officer  
 Hamelin, L., MA(Queen's) Youth Programs Co-ordinator  
 Irving, C., MA(Memorial) Library Assistant  
 Landry, H., MBA(St. Mary's) Assistant Director & Manager Global  
 Partnerships  
 Lee, N., M.Sc.(Guelph) Lecturer  
 Mathie, A., Ph.D.(Cornell) Lecturer  
 Okafo, D., B.Sc.(UNB) Technology & Innovations Co-ordinator  
 Peters, N., M.A.Ed.(StFX) Program Associate, Monitoring &  
 Evaluation  
 Tinkham, L. M.P.A.(Dahousie) Fund Development Co-ordinator

Toogood, M., B.Ed.(StFX) Registrar & Student Services  
Turay, T., Ph.D.(Toronto) Lecturer

**Adjunct Lecturers**

Amit, E., MA(Carleton)  
Bean, W., Ph.D.(Toronto)  
Dodaro, S., Ph.D.(Toronto)  
Edwards, J.H., MA(East Anglia)  
Fugere, R., Ph.D.(Toronto)  
Gora, V. MA(Nagarjuna)  
Kearney, J. Ph.D.(Laval)  
MacIntosh, P., M.A.Ed.(MSVU)  
MacLean, E., MLIS(Dalhousie)  
MacLellan, E., Ph.D.(Waterloo)  
Sanchez, J.  
Wehrell, R., Ph.D.(Ottawa)  
Wickham, T., MA(Waterloo)

**Xtending Hope**

MacDonald, A., BA(StFX)

**Continuing and Distance Education**

Goldie, H., M.Ed.(StFX) Co-ordinator, Non-Credit Programs  
Landry, J., M.Ad.Ed.(StFX) Director  
MacInnis, M. BA(StFX) Co-ordinator, Diploma in Ministry  
MacDonald, P., M.Ad.Ed.(StFX) Co-ordinator, Distance Nursing Programs

**Diploma in Adult Education**

Goggin, William, M.Ad.Ed.(StFX) Director

**Enterprise Development Centre**

Poder, Tiiu, MFA Executive Director

**Extension Department****Antigonish Office**

Wehrell, R., Ph.D.(Ottawa) Director  
Kearney, J., Ph.D.(Laval) Program Leader,  
Centre for Community-Based Resource Management  
MacIntosh, P., M.A.Ed.(Mount Saint Vincent) Fieldworker  
Wickham, T., MA(Waterloo) Fieldworker

**Sydney Office**

Campbell, M., MA(Queen's) Fieldworker  
Edwards, J. H., MA(East Anglia) Fieldworker  
Hogan, G., B.Ed.(StFX) Fieldworker

**Administrative Departments****Administrative Services**

Vice-President, Finance & Operations H. Ramsay Duff, BA(Hon)  
Comptroller John Hagar, B.Comm., CGA  
Bookstore Manager David Renny, BBA  
Personnel Officer G.B. Frizzle  
Procurement Services Manager L.B. Keizer  
Manager, Business Development Tim Reid

**Admissions Office**

Manager, Recruitment and Admissions TBA  
Admissions Officer Janice Lukeman, BBA  
Admissions Advisor Miraraid Barry, BA  
Admissions Advisor Austen Gilliland, MA  
Admissions Advisor Stacy White, BA

**University Advancement**

Vice President, Advancement TBA  
Director of Advancement Relations Iain Boyd, BBA  
Alumni Affairs Officer Noreen Nunn, B.Ed.  
Communications Manager TBA

**Athletics and Recreation**

Director Tom Kendall, MPE  
Coach Peter Artibello, MPE  
Coach Lubomir Bilek, Ph.D.  
Coach Michael Cavanagh  
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Coach Daniel Flynn, B.Sc.P.E.  
Coach Stephen Konchalski, LLB  
Coach Peter Ryan, B.Ed.  
Coach David Synishin, BA  
Coach Lisa Unsworth, M.Ed.  
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Facility Manager Terrance MacDonald  
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Marketing Co-ordinator Jerrett DeFazio  
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Maintenance Manager Shaun Chisholm, BBA  
Manager, Cleaning & Grounds Christene McInnis  
Co-ordinator Lori Matheson, B.Sc., B.Eng.  
Project Manager Carmen D'Intino, P.Eng.  
Project Manager Brian Doiron, P.Eng.

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Associate Registrar Danny McInnis, M.Sc.

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Residence and Food Service Manager Pamela Widmeyer, B.Sc.P.Dt.  
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Counsellor Laurie Baird, M.Ed.  
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Physician John Hickey, MD  
Physician Brian Steeves, MD  
Nurse Harriet Crawford, RN  
Nurse Lynne Lukeman, B.Sc.N., RN  
Student Placement Officer Jane MacDonald, BSc., MLIS  
Co-ordinator, Equity & Community Issues Maureen Shebib, LLB  
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Black Student Advisor Agnes Calliste, Ph.D.  
International Student Advisor Brenda Berthiaume, BA  
Writing Centre Coordinator Nancy Marenick, B.Ed.

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Manager of Audio Visual Ian Lancaster  
Director of Management Information Systems  
Director of Infrastructure Operations Gary Doucette, BBA  
Manager of Desktop Support John Delorey, B.Sc.  
Aaron MacDonald

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As of February, 2004

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Mary Coyle, MA University Vice-President,  
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Linda Gallant Sydney, Nova Scotia  
A. Kevin Francis, B.Sc., D.Comm.(Hon.) Santa Clara, California  
Harold A. Dunstan, B.Comm. Halifax, Nova Scotia  
William A. Clarke, B.Comm. Forth Worth, Texas  
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Mark Wallace, LLB Toronto, Ontario  
Stephen Smith, BA Antigonish, Nova Scotia  
Daniel MacInnes, Ph.D. Antigonish, Nova Scotia  
Patricia Hogan, Ph.D. Antigonish, Nova Scotia  
Rev. Donald MacGillivray, M.Div. New Waterford, Nova Scotia

**TERM EXPIRES DECEMBER 31, 2005**

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St. Andrews, Nova Scotia  
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Lawrence MacPherson, MSW Sydney, Nova Scotia

Hayes MacNeil, Ed.D. Sydney, Nova Scotia  
 John Beck, Ph.D. Antigonish, Nova Scotia  
 Michael Steinitz, Ph.D. Antigonish, Nova Scotia

*Term Expires May 15, 2003*

A. Curry  
 K. Hogg  
 M. Jackson  
 H. Reddy  
 I. Yap

**TERM EXPIRES DECEMBER 31, 2006**

David Case, BA Old Town, Maine  
 Sister Yvonne Vigneault, CSM, B.Ed., MAMS Antigonish, Nova Scotia  
 John B. Stewart, Ph.D. Bayfield, Nova Scotia  
 Andrea MacLean-Holohan, B.Sc.N., RD, CFE Saint John, New Brunswick  
 Kevin Gillis, B.Sc. Stellarton, Nova Scotia  
 John A. MacIsaac, MA, A.I.E. Deepdale, Nova Scotia  
 Rev. Paul Abbass, BA Frenchvale, Nova Scotia  
 Margaret MacDonald, D.Phil. Antigonish, Nova Scotia  
 David Bernatchez, BBA Calgary, Alberta  
 Patrick Sullivan, LLB Calgary, Alberta

**ELECTED STUDENT MEMBERS**

*TERM EXPIRES MAY 15, 2004*

Nicholas Smerek St. Catherines, Ontario  
 Joseph Roberts Nassau, Bahamas  
 Mathieu Caissie Moncton, New Brunswick

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 K.Ives Vice-President, Students' Union  
 Roger Wehrell, Ph.D. Director, Extension Department

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*Secretary* Hope Graham, MN

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*Term Expires September 2004*

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 J. Boulter, Ph.D.  
 H. Graham, MN  
 B. Murphy, Ph.D.  
 J. Orr, Ph.D.  
 J. Shaw, Ph.D.  
 W. Sweet, Ph.D.  
 T. Tynan, M.Mus.

*Term Expires September 2005*

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 J. Cormier, Ph.D.  
 J. Cormier, M.N.  
 S. Dossa, Ph.D.  
 L. Gallant, MBA  
 M. Galway, Ph.D.  
 D. Gillis, M.Sc.  
 W. Jackson, Ph.D.  
 J.G. Lalnade, Ph.D.  
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 R. Martinez-Espineira, Ph.D.  
 P. McInnis, Ph.D.  
 C. Mrazek, MN  
 A. Thompson, Ph.D.  
 S. Vint, Ph.D.  
 M. Watt, Ph.D.  
 T. Wright, Ph.D.  
 P. Zhou, Ph.D.

**Elected Student Members**

**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 intersession and summer session.

**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 3.20.

**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. See 3.21.

**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 3.14.

**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.

**Intersession**

A six-week term from early May to mid-June, also called Spring Session.

**Invigilator**

A person who, in the absence of the professor, administers and oversees examinations.

**Junior**

A third-year student.

**Level**

A student entering 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.

**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 6.*

**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 7.*

**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 3.9.*

**Prerequisite**

A course which must be completed before taking another course.

**Program**

A student's degree is sometimes referred to as a program. For example, for the degree Bachelor of Science in Nursing, the

program is nursing.

**Registrar**

The university officer responsible for maintaining the academic records of the university and issuing student transcripts and confirmation of enrollment.

**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, economics, political science, psychology, and sociology.

**Sophomore**

A second-year student.

**Special Needs Student**

A student with a physical or learning disability. *See 1.1.*

**Special Student**

A student with a baccalaureate degree who is not pursuing a second degree but is enrolled in courses either part time or full time.

**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 3.19.*

**Subject Abbreviations**

The abbreviations below are used throughout the Calendar and on transcripts:

ADED Adult Education  
 ANTH Anthropology  
 AQUA Aquatic Resources  
 ART Art  
 BIOL Biology  
 BSAD Business Administration  
 CATH Catholic Studies  
 CELT Celtic Studies  
 CHEM Chemistry  
 CLAS Classical Studies  
 COML Comparative Literature  
 CSCI Computer Science  
 DEVS Development Studies  
 ECON Economics

ESCI Earth Sciences  
 EDUC Education  
 ENGR Engineering

ENGL English  
 FREN French  
 GEOL Geology  
 GERM German  
 HIST History  
 HKIN Human Kinetics  
 HNU Human Nutrition  
 IDS Interdisciplinary Studies  
 INFO Information Systems  
 MATH Mathematics  
 MIKMMi'kmaq  
 MNST Ministry  
 MUSI Music  
 NURS Nursing  
 PHIL Philosophy  
 PHYS Physics  
 PSCI Political Science  
 PSYC Psychology  
 RELS Religious Studies  
 SOCI Sociology  
 SPAN Spanish  
 STAT Statistics  
 THEA Theatre  
 WMNS Women's Studies

#### Subsidiary Subject

#### Summer Session

A six-week term scheduled from early July to mid-August.

#### Supplementary Examination

An examination scheduled after the regular examination period for students who have failed a final written exam. Popularly known as a *supp.*

#### 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 3.16 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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PO Box 5000  
Antigonish, Nova Scotia, Canada  
B2G 2W5

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

Registrar's Office Phone: (902) 867-2160  
Fax: (902) 867-5458  
Email: [registr@stfx.ca](mailto:registr@stfx.ca)

**[www.stfx.ca](http://www.stfx.ca)**