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www.stfx.ca

Quaecumque Sunt Vera

Whatsoever things are true

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

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

Phil. 4: 4-9

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

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

The Board of Governors has final authority on all financial matters. The financial policies will be enforced through the Financial Services, under the direction of the Director of Finance. Notwithstanding any other provision of this calendar, St. Francis Xavier University accepts no responsibility to provide any course of instruction, program or class, residential or other services including the normal range of academic, residential and other services in circumstances of utility interruptions, fire, flood, strikes, work stoppages, labour disputes, war, insurrection, the operation of law or acts of God or any other cause (whether similar or dissimilar to those enumerated) that reasonably prevent their provision.

Published February 2017.

St. Francis Xavier University is a member of
- Association of Universities and Colleges of Canada
- Association of Atlantic Universities
- Association of Commonwealth Universities
- International Association of Universities

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The Academic Calendar is available online at
www.sites/stfx.ca/registrars_office/academic_calendar/

CALENDAR OF EVENTS 2017 - 2018

JUNE 2017

Thu. 15 2017-2018 Course timetable posted
Registration start times available on Banner
Mon. 19 Course registration for the 2017-2018 academic year begins for continuing students

JULY

Mon. 3 Canada Day observance, offices closed
Tue. 4 Summer term classes begin
Fri. 7 Final date to apply for degree or diploma to be conferred at Fall Convocation
Registration start times for new first-year students available on Banner
Tue. 11 Course registration for the 2017-2018 academic year begins for first-year students
Sat. 22 LEAP students arrive on campus

AUGUST

Mon. 7 Civic Holiday, offices closed
Mon. 28 International students arrive on campus
International student welcome program begins at noon; registration is required; see website at https://www.stfx.ca/international/office-internationalization

SEPTEMBER

Sat. 2 Welcome Day. New students arrive. Orientation program begins. Students will receive first week schedule of events, times and locations. New students only may check into residence after 9:00 a.m.
Mon. 4 Academic Day
Orientation program continues
Returning students may check into residence after 9:00 a.m.
Xaverian Welcome ceremony for new students in the evening
Tue. 5 Classes begin
Continuing and Distance Education courses begin
Sun. 10 Opening Mass of the Holy Spirit 5 p.m.
Tue. 12 Last day to change first-term or full-year courses
Last day to receive full tuition refund for full-year or first-term courses, when applicable
Fri. 15 HKIN Fall Outdoor Camp (session 1) begins
Thu. 21 Last date for approval of senior honours and advanced major thesis topics and supervisors
For Fall Convocation, final date for:
• seniors to submit senior theses
• graduate students to submit theses
Fri. 22 HKIN Fall Outdoor Camp (session 2) begins
Fri. 29 December exam schedule available

OCTOBER

Fri. 6 Fall Study Day
Mon. 9 Thanksgiving Day, no classes
Tue. 24 Final day for partial tuition refunds for first-term courses, when applicable
Fri. 27 Professors to submit October quiz grades by 9 a.m.
Tue. 31 Final date to apply for degree or diploma to be conferred at Spring Convocation

NOVEMBER

Fri. 3 Last day to drop first-term three-credit courses
Mon. 13 Remembrance Day observance, no classes
Tue. 21 Final day for partial tuition refunds for full year courses, when applicable
Tue. 28 Continuing and Distance Education courses end

DECEMBER

Fri. 1 Last day of classes for first term
Sat. 2 Fall Convocation
Sun. 3 Feast Day of St. Francis Xavier, Alumni Memorial Mass
Mon. 4 Continuing and Distance Education exams
Tue. 5 Term examinations begin
Fri. 15 Christmas recess begins after last examination
Wed. 20 Professors to submit term grades by 9 a.m.
Thu. 21 Offices closed for holidays

JANUARY 2018

Tue. 2 Offices re-open
Wed. 3 Second term classes begin
Continuing and Distance Education courses begin
Wed. 10 Last day to drop full-year courses or change second-term courses
Last day to receive full tuition refund for second-term courses, when applicable
Wed. 24 Final date for submission of application to the B.Ed. program

FEBRUARY

Fri. 2 April exam schedule available
Thu. 15 Last day for partial tuition refunds for second-term courses, when applicable
Mon. 19 Winter Study Break begins
Nova Scotia Heritage Day, offices closed
Mon. 26 Classes resume after break
Wed. 28 Second-term, three-credit mid-term grades available to students

MARCH

Wed. 7 Last day to drop second-term three-credit courses
Mon. 12 Formal academic advising period begins
Mon. 26 For Spring Convocation, final date for:
• seniors to submit senior theses
• graduate students to submit theses
Thu. 29 Final date for:
• BA and B.Sc. first-year students to declare majors
• BBA second-year students to declare majors and apply for honours and advanced major programs
• All other second-year students to apply for honours and advanced major programs
Student Research Day
Fri. 30 Good Friday, no classes, offices closed

APRIL

Tue. 3 Continuing and Distance Education courses end
Fri. 6 Last day of classes
Mon. 9 Continuing and Distance Education exams
Wed. 11 Final examinations begin
Tue. 24 Last day of examinations
Wed. 25 Spring term classes begin
Mon. 30 Professors to submit final grades by 9:00 a.m. for graduation candidates

MAY

Fri. 4 Spring Convocation list published
Sun. 6 Spring Convocation
Mon. 7 Professors to submit final grades for continuing students by 9:00 a.m.
Mon. 21 Victoria Day, offices closed

Refer to section 9.16.1 for Bachelor of Education program dates.

ST. FRANCIS XAVIER UNIVERSITY

A TRADITION OF EXCELLENCE

St. Francis Xavier University is widely recognized as one of the top post-secondary institutions in Canada. From its halls and classrooms have come prime ministers, provincial premiers, Rhodes scholars, scientists and religious and business leaders. Since its founding in 1853, StFX has helped shape the communities in which we live.

Today, StFX continues to offer what so many of Canada's top students want: a high quality education focused primarily on the undergraduate, in a vibrant residential setting. StFX continues to meet the needs of its students through outstanding teaching, exceptional hands-on research experience, the very best in residential living, and unique opportunities to make a contribution to communities at home and abroad.

Home to over 4,500 full and part-time students from across Canada and around the world, StFX students have the opportunity to excel in an intimate learning environment that nurtures the development of the whole person. Our professors rank among Canada's top teachers and researchers. These exceptional faculty members, almost all holding doctorates and many with teaching awards, inspire students to achieve their academic and personal potential. The unique StFX brand of education offers innovative teaching methods and exceptional opportunities for personal growth in a close-knit campus community. The result is individual attention, lively classroom discussions, and the opportunity for students to reach their personal best.

In addition to the teaching and learning process, our holistic approach to the educational experience requires a commitment to the quality of the cultural, spiritual, social, and recreational life of our students. The very nature of a StFX education inherently encourages students and faculty to be engaged with the world around them. Through internships, service learning experiences, international research and learning partnerships and community outreach initiatives, our students and professors make meaningful contributions as socially engaged citizens to communities at home and abroad.

It's all part of an educational experience built on StFX's long and honorable commitment to social justice and equality. As more evidence to its commitment to community and social development, StFX established the Coady International Institute in 1959, a world-renowned centre of excellent in community-based development, educating leaders from around the world to address global challenges and opportunities.

St. Francis Xavier University's Strategic Plan, which represents the ideals for which the university strives and reflects its proud traditions, emphasizes commitment to the highest standards for its faculty and students. Unlike mega-universities, StFX measures its quality on excellence in its teaching and research programs rather than the size of the institution. Our niche is to be Canada's premiere residential university, steeped in a liberal arts tradition, with high academic standards and a character attractive to those who hold and respect social values. The university takes pride in the Catholic heritage and character that have formed a vital part in its history and mission, and is dedicated to providing its students with a post-secondary education that is intellectually stimulating and personally enriching within an atmosphere of inclusiveness for students, faculty and staff of diverse backgrounds.

Today, StFX is in the midst of the most ambitious academic and facilities renewal program for StFX in its history. We continue to enhance teaching and research facilities and strengthen the residential campus experience. This investment is further evidence of our commitment to create a university experience as it's meant to be

Arts

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

Business

The Faculty of Business is the home of the Gerald Schwartz School of Business. StFX keeps pace with the changing way the world does business by connecting theory with practice as a vital component of the learning process. This is why the Schwartz School offers a variety of hands-on learning experiences, international exchanges and a co-op option. The business program is uniquely integrated in the liberal arts tradition. Graduates of the BBA program are consistently sought out by major firms and corporations.

Education

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

Science

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

History of StFX

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

By 1856, an ambitious curriculum had been developed in nine subjects, taught by six professors to 49 students, and the institution was then known as St. Francis Xavier's College. The original building stood at the centre of the Antigonish community and served for 25 years as the home of the college. Dr. Cameron's appointment to the Diocesan See in 1877 spurred further

development, including a relocation to the southern boundary of Antigonish and the erection of the first wing of Xavier Hall in 1880. These 100 plus acres are the university's home today.

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

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

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

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

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

A decade after the First World War, influential priest faculty, led by Dr. J.J. Tompkins, became concerned that StFX should relate more closely to the circumstances of ordinary people. Their view was that those outside the formal academic setting could, by study and co-operative action, find the power to solve economic and other problems through social reform. The product of their effort became known as the Antigonish Movement. The formal structure within the movement crystallized as the university's Extension Department in 1928. Its first director was Dr. M.M. Coady. As a result of this work, by the end of the Second World War, a formidable number of co-operative projects, leadership training programs, consumer, producer and credit co-operatives, and agricultural associations developed, bringing with them a new measure of social and economic vitality. Leaders from the developing world began to come to the university to study in the Extension program. To satisfy this quest for information the Coady International Institute was established in 1959. To date, over 7,500 graduates of the institute have held economic and social development positions around the globe.

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

The Next Chapter

Many changes have impacted StFX, but perhaps there has never been so much optimism as there is today. In 2014 the Nova Scotia Legislature passed the new St. Francis Xavier Act (2014). The Act clearly defined the four objectives of the University. They are:

1. Provide students with a post-secondary education that is intellectually stimulating and personally enriching within an atmosphere of inclusiveness for all students, faculty and staff;
2. Promote academic excellence, service to society and innovation in teaching and research;
3. Provide opportunities to enrich the cultural, spiritual, social and recreational life of students; and
4. Respect the catholic heritage and character that have formed a vital part of the University's history.

Over the coming decade StFX is transforming its footprint as a clean energy environmentally sustainable campus; in fact, aiming to become a leader in Canada in this regard. Further the university has reaffirmed its commitment to be Canada's premiere undergraduate residential university. The demand comes from awareness around the world that StFX provides a unique, personal, high quality learning community that is unparalleled in Canada and since its founding, it remains committed to the development of the whole person in service to humanity.

UNIVERSITY PERSONNEL

University Officers

Kent MacDonald, Ph.D.	President
Kevin Wamsley, Ph.D.	Academic Vice-President & Provost
Andrew Beckett, CPA, CA	Vice-President, Finance & Administration
June Webber, Ph.D.	Director, Coady International Institute & Vice President International Development
Murray Kyte, BBA, M.Ed., LL.B.	Vice-President, Advancement
Bob Hale, BBA	Head of Student Services
Richard Isnor, D.Phil.	Associate Vice-President Research & Graduate Studies
Karen Brebner Ph.D.	Dean of Arts
Timothy W. Hynes, Ph.D.	Dean of Business
Jeff Orr, Ph.D.	Dean of Education
Petra Hauf, Ph.D.	Dean of Science
Tara Buksaitis, BA, MLIS	Registrar & Director Enrollment Planning
Lou Duggan, MLIS	University Librarian

BOARD OF GOVERNORS

Officers of the Board

Mark Wallace, LL.B.	Toronto, ON
Mary Lou O'Reilly	Toronto , ON
Andrew Beckett, CPA, CA	Antigonish, NS

Other Officers

Kent MacDonald, Ph.D.	Antigonish, NS
Susan E. Crocker, B.Sc.	Toronto, ON
Most Reverend Brian J. Dunn, D.D., MDiv., MA, J.C.L.,J.C.D, Ph.D.	Antigonish, NS
Kevin Wamsley, Ph.D.	Antigonish, NS
June Webber, Ph.D.	Antigonish, NS

Members of the Board

Larry Andrea, B.Sc., BBA	Hillside Boularderie, NS
Joe Apaloo, Ph.D.	Antigonish, NS
John Caplice, BBA, CA	Toronto, ON
Taylor Chase	Calgary, AB
Stefanie Couture, BA, MBA	Ottawa, ON
Maddie Gillmeister	Toronto, ON
James R. Gogan, CPA, CA, LL.B.	Sydney, NS
Danny Graham, LL.B.	Halifax, NS
Glenn Horne, BBA, BA, MA	Antigonish, NS
Tom Langley, B.Com., M.S., F.C.G.A., F.C.P.A	Antigonish, NS
Father Thomas A. MacNeil, BA, B.TH., S.T.B, M.P.S	New Glasgow, NS
Jennifer Mitton-Kukner, Ph.D.	Antigonish, NS
Kevin Morris, BA, LL.B., LL.M(Cantab)	Toronto, ON
Maureen Moynagh, Ph.D.	Antigonish, NS
Connor O'Brien	Yellowknife, NT
Kevin O'Brien, Ph.D.	Antigonish, NS
Michael O'Brien, MD, FRCPC	Antigonish, NS
Peter Poole, Ph.D.	Antigonish, NS
PJ Prosper, Chief Paqtnkek Mi'kmaw Nation	Afton, NS
Nikki Robar, CPA, CA, CBV	Halifax, NS
Judy Steele, FCPA	Halifax, NS
Carolyn Toomey, BA, MSW	Sydney, NS
Frank van Schaayk, BE	Naples, FL

Invited Members

Bob Hale, BBA	Antigonish, NS
Murray Kyte, BBA, M.Ed., LL.B.	Antigonish, NS

UNIVERSITY SENATE

Members Ex-Officio

Kent MacDonald, Ph.D.	President
Kevin Wamsley, Ph.D.	Academic Vice-President & Provost
Andrew Beckett, CPA, CA	Vice-President, Finance & Administration
June Webber, Ph.D.	Director, Coady International Institute & Vice President International Development
Richard Isnor, D.Phil.	Associate Vice-President Research & Graduate Studies
Karen Brebner, Ph.D.	Dean of Arts
Timothy W. Hynes, Ph.D.	Dean of Business
Jeff Orr, Ph.D.	Dean of Education
Petra Hauf, Ph.D.	Dean of Science
Tara Buksaitis, BA, MLIS	Registrar & Director Enrollment Planning
Bob Hale, BBA	Head of Student Services
Lou Duggan, MLIS	University Librarian
Ryley Erickson	Vice-President, Students' Union

Officers of Senate

Donna Trembinski, Ph.D.	Chair
Laurence Yang, Ph.D.	Secretary
Rod Bantjes, Ph.D.	Past Chair

Elected Faculty Members

Term Expires September 2017
Jacques Boucher, Ph.D.
Frank Comeau, Ph.D.
Lisa Kellman, Ph.D.
Donna MacDougall, Ph.D.
Jennifer Mitton-Kukner, Ph.D.

Term Expires September 2018
Elsa Jensen, Ph.D.
V. Karunakaran, Ph.D.
Edward Langille, Ph.D.
Stephen Marmura, Ph.D.
Leslie Jane McMillan, Ph.D.
Brendan Murphy, Ph.D.
Zepnep Ozkok, Ph.D.
Cory Rushton, Ph.D.

Term Expires September 2019
Doug Al-Maini, Ph.D.
Patricia Cormack, Ph.D.
Neil Foshay, Ph.D.
Monica Lent, Ph.D.
Opal Leung, Ph.D.
Anne Murray-Orr, Ph.D.
Dan Robinson, Ph.D.
Barry Taylor, Ph.D.
Vijay Vishwakarma, Ph.D.
Other Member: Kathleen MacKenzie

Elected Student Members

Term Expires September 2017
Bry Crabbe
Nicholas Favero
William Gatchell
Matthew MacDonald
Victoria Sandre

1. ADMISSION PROCEDURES AND REQUIREMENTS

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

1.1 ADMISSION PROCEDURES

Address all applications and inquiries concerning admission to:

Admissions
St. Francis Xavier University
PO Box 5000
Antigonish, NS B2G 2W5
Phone: 1-877-867-7839, 902-867-2219
Fax: 902-867-2329
Email: admit@stfx.ca

Applications for admission should be made on the appropriate form. A non-refundable application fee of $40 (subject to change) is required. All applicants must submit a school transcript. StFX may grant transfer credit equivalency for academic work previously completed at other accredited universities or colleges. Transfer students must submit official university or college transcripts.

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 2.6 for information on university scholarships.

Transfer Students

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

Mature Students

Candidates who have not fulfilled the normal admission requirements and who have been out of school at least three years may be considered for admission. Candidates are required to submit transcripts of all previous academic work, letters of reference from employers, and an outline of future plans. Each applicant is considered on an individual basis.

Program for Students with Disabilities

StFX welcomes students with disabilities and offers a student-centred program of support. Students with disabilities are responsible for identifying and providing documentation of their disability to the co-ordinator of the program. Students are encouraged to make contact as soon as possible. For further information, call the Centre for Accessible Learning at 902-867-5349.

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 enrolment 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 REQUIREMENTS FROM GRADE 12

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

Nova Scotia

i) A minimum average of 70 in grade XII, to include English each year; no grade less than 65 in a course required for admission
ii) Credit for five university preparatory courses in each of grade XI and grade XII.
iii) Some programs may require a higher average; contact the Admissions office for more information.

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.

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

Ontario secondary school students must have a minimum of five grade XII courses of U and M levels (preferable four U level courses) to include the program-specific requirements outlined on page 3, and must have completed the Ontario Secondary School Diploma (OSSD) or equivalent to be considered for admission.

Quebec

Applicants who have completed senior matriculation or one year of CEGEP will be considered for entry into the first year of a four-year program. Students, who have completed more than one year of CEGEP, may be eligible to receive transfer credits for courses in which they have received a passing grade. Only courses that apply to the intended program of study will be transferred.

General Requirements

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. Some university preparatory courses may not be listed above. Please contact the Admissions office if you have any questions.

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 enroled in the music program. Successful candidates receive letters of acceptance from both the university and the music department.

d) Students are initially admitted to the Bachelor of Arts (BA) with major undeclared:

i) Majors are offered in anthropology, aquatic resources, Catholic studies, development studies, Celtic studies, computer science, economics, English, French, history, mathematics, music, philosophy, political science, psychology, public policy and governance, religious studies, sociology, Spanish, and women's and gender studies.
ii) Students are expected to declare major and minor subjects prior to second year registration. Students may choose the four-year BA advanced major or honours program during their first year of study.

e) Students are initially admitted to the Bachelor of Business Administration (BBA) program in the Faculty of Business with major undeclared. Students declare a major prior to registering for their third year.

The BBA degree with major, advanced major or honours is offered in accounting, entrepreneurship, enterprise systems, finance, management and leadership, and marketing.

FACULTY OF ARTS

Program (four-years)	**Description**	**High School Requirements**
Bachelor of Arts with Major	Offered in anthropology, aquatic resources, Catholic studies, Celtic studies, computer science, development studies, economics, English, French, history, mathematics, music, philosophy, political science, psychology, religious studies, sociology, Spanish, women's and gender studies. Students may choose the advanced major or honours degree during their second year of study.	English and four university preparatory courses in grade 12. See 1.3 d.
Bachelor of Arts in Human Kinetics	The study of human movement from an arts (humanities and social sciences) perspective prepares students for a variety of options: employment and careers in health and fitness, or further studies in education, occupational therapy, sport sociology, sport history, sport philosophy or sport psychology. Students must choose a major, advanced major or honours in kinesiology, or a major, advanced major or honours in pre-education during their second year of study.	English; one of math, biology, chemistry or physics; and three other university preparatory courses in grade 12 (grade 11 physics highly recommended). Limited enrolment
Bachelor of Arts in Music (Jazz Studies) Diploma in Jazz Studies (two years)	Students in the BA in Music often continue their studies in education. This program combines composition, arranging and performance. The diploma is for students who wish to enter the field of commercial music. The first and second years of the Bachelor of Arts in Music, the Bachelor of Music and the Diploma in Jazz follow a common curriculum in jazz studies. Students apply for admission to the Bachelor of Arts in Music with Advanced Major or Honours, or the Bachelor of Music with Honours during their second year of study.	Academic entrance requirements for both music programs are the same as those described above for the BA. Admission depends on the student's performance during an audition, which may be performed in person or submitted on a CD or tape. See 1.3 c. Limited enrolment

FACULTY OF ARTS AND SCIENCE

Program (four-years)	**Description**	**High School Requirements**
Bachelor of Arts and Science in Health	A program for students interested in the ever-broadening field of health, including scientific, social and humanistic dimensions. Students in the BASc in Health will take courses in a wide range of disciplines and have the opportunity to focus on either the biomedical or social determinants and health equity field as they customize their degree.	English; two of math, chemistry, biology or physics; and two other university preparatory courses in grade 12

FACULTY OF BUSINESS

Program (four-years)	**Description**	**High School Requirements**
Bachelor of Business Administration	Majors, advanced majors and honours programs are offered in accounting, entrepreneurship, enterprise systems, finance, management and leadership, and marketing. A joint honours in business administration and economics option is available. Co-op programs are available in all streams.	English, math and three other university preparatory courses in grade 12. Limited enrolment

FACULTY OF EDUCATION

Program (two-years)	**Description**	**Entrance Requirements**
Bachelor of Education	A professional degree program that prepares graduates to enter the school system as teachers, at either the elementary or the secondary level.	Completion of an undergraduate degree (BA, B.Sc. or equivalent). Normally a minimum average of 70 in senior year of the undergraduate program. Limited enrolment

FACULTY OF SCIENCE

Program (four-years)	**Description**	**High School Requirements**
Bachelor of Science with Major	Major degree program offered in: aquatic resources, biology, chemistry, computer science, earth sciences, environmental sciences, mathematics, physics, psychology. During their second year of study, students may choose the advanced major, joint advanced major, honours or joint honours program. See section 7 for additional information.	English; pre-calculus math; two of biology, chemistry or physics; and one other university preparatory course in grade 12. See 1.3 f.
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 12 (grade 11 physics highly recommended). Limited enrolment
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 Internship program and for the Graduate Dietetic Internship programs.	English; math; two of biology, chemistry or physics (normally biology and chemistry); and one other university preparatory course in grade 12. Limited enrolment
Bachelor of Science in Nursing	The program combines academic and professional theory with nursing practice to prepare nurses to think critically and creatively by providing a sound education in nursing science, related sciences, and the humanities. Graduates practice nursing across the health illness continuum, the life course, and health care settings. See 1.7 for other program options.	English, academic math, chemistry, biology, and one other university preparatory course in grade 12. A minimum average of 70 in the five preparatory courses is required for admission. Admission is competitive. Limited enrolment See 1.3 g.
Engineering Diploma (two years)	Upon completion of the diploma, students continue their studies at Dalhousie University, or transfer the credits earned to any other university of their choice, to complete the remaining requirements for the Bachelor of Engineering degree.	English; pre-calculus math; chemistry; one of physics or biology; and one other university preparatory course in grade 12. Limited enrolment

f) The Bachelor of Science (B.Sc.) degree with advanced major or honours is offered in biology, chemistry, computer science, economics, earth sciences, mathematics, physics, and psychology. A B.Sc. major degree is also offered in these subjects and aquatic resources, but not in economics or psychology. Students may choose the B.Sc. advanced major or honours before their second year of study.

g) Students accepted into any B.Sc. Nursing option are required to provide proof of: current certification in Health Care Provider (HCP) and Standard first aid; screening through the child abuse register in their home province (if this service is available in their home province); current (within three months of start of classes) criminal records check completed at their nearest detachment of the RCMP or local police department; current certification in WHMIS (within 12 months); a copy of their birth certificate, valid driver's license (or provincial health card) and required immunization records (Hepatitis B immunization and tuberculin-two step Mantoux testing is also required). Annual recertification of HCP is mandatory for clinical practice. Students from outside of Nova Scotia will be screened through the Nova Scotia Child Abuse Register during first semester.

h) Students are admitted into the Bachelor of Arts and Science in Health (BASCH) program with concentration undeclared. Students declare a concentration in either biomedical ors ocial determinants and health equity. Students typically declare their concentration prior to registering for their third year of the program.

i) Advanced Placement (AP): The AP program is accepted for admission on the same basis as Nova Scotia grade 12. Students who have completed courses in the AP program may be eligible for up to 30 transfer credits for selected AP courses with national exam results of 3, 4 or 5.

j) International Baccalaureate (IB): Students admitted to StFX with a score of 30 or higher on the IB Diploma and who have received a minimum score of 5 on all higher level and standard level courses, will be granted up to 30 transfer credits. Students, who have any one minimum score falling below 5 will have their courses individually assessed for possible transfer credits. Students who have completed IB courses but who do not possess the diploma or who scored less than 30 on the IB Diploma may be eligible to receive individual university course credit if they have achieved a grade of 5, 6 or 7 in higher-level courses.

k) Early fall admission: Students who have a grade 11 average of at least 80 may be considered for early fall admission before their first set of grade 12 marks is available. Students applying for early fall admission should include their final grade 11 marks and a school-approved list of courses they are taking in grade 12 (both semesters) with their application. Grade 12 courses must be consistent with the guidelines listed above. Students applying to B.Sc. Nursing must also send first semester grade 12 grades because early admission does not apply to this program. However, students are encouraged to submit their grade 11 grades with a second choice of program if they wish to be considered for a second choice before nursing decisions are processed. For further information, contact the admissions office.

1.4 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 chart.

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

1.5 ADMISSION FROM OTHER SYSTEMS OF EDUCATION

International applications will be considered on an individual basis.

For applicants from a British system of education, students must complete English and four other academic courses at the Ordinary level as well as four GCE AS level examinations or two GCE A level examinations with a minimum grade of A, B, or C for admission to any program. A student who has received exceptional results at the ordinary level may be considered for admission. Students who achieve a final grade of A, B, or C in approved Advanced 'A' level courses may be eligible to receive transfer credit. 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 IELTS test is preferred and strongly recommended. Students with an IELTS score of 6.5 and no band below 6.0 will be deemed to have satisfied the English language requirements for admissions to undergraduate programs. Students with IELTS scores below 6.5 may be considered for admission conditional on the completion of a program designed to improve English language competency to an IELTS 6.5 equivalent. Other acceptable tests include: MELAB (minimum score required is 90), TOEFL (minimum score required is 92), CAEL (minimum score required is 70).

1.6 ADMISSION TO THE BACHELOR OF SCIENCE IN NURSING

Besides the traditional four-year degree program for students applying from high school, other students may apply for the accelerated two-year option or the part-time post-RN option. Admission is competitive and enrolment is limited. Students seeking re-admission must contact the Assistant Director, School of Nursing, prior to June 30. Transfer student should contact the Admissions office for options.

Program	**Description**	**Admission Requirements**
Accelerated two-year	University students who hold the required prerequisite courses may complete the B.Sc.Nursing program in a full-time two-year option. This program begins in January.	This program is available to transfer applicants who must have the following 30 credits completed prior to admission with a minimum grade of 65 in each of the mandatory courses and an overall average of 65 in the combined 30 university credits below: anatomy & physiology (6 credits), microbiology (3 credits), English (3 credits), statistics (3 credits), and 15 credits of open electives.
Post-RN 63 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 to B.Sc. in Nursing Pathway	A bridging program designed for LPNs to earn credit for their education and experience. Students who are successful in this program will join the accelerated option students in the semester beginning in May.	Two-year Diploma from Nova Scotia Community College (NSCC). Graduated 2008 or later. Grades-minimum 75% overall average in both years of the diploma program. Total of 1800 hours work experience within the last two years (require a letter of verification from employer(s)). Current LPN License

1.7 ADMISSION TO THE BACHELOR OF EDUCATION PROGRAM

Admission to the B.Ed. program is limited. Consideration is given to those who have successfully completed an undergraduate degree, provided references, and had experience related to a career in teaching. Admission is competitive and the possession of minimum requirements does not ensure acceptance into the program. See chapter 6 for admission and program requirements.

1.8 ADMISSION TO GRADUATE PROGRAMS

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

2. GENERAL INFORMATION

2.1 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

2.3 Student Services
2.3.1 Athletic and Recreational Programs
2.3.2 Student Career Centre
2.3.3 Chaplaincy Services
2.3.4 Counselling Services
2.3.5 Student Life Office
2.3.6 Financial Aid Office
2.3.7 Health Services
2.3.8 Student Life Advisors
2.3.9 Tramble Rooms Centre for Accessible Learning
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2.3.11 Student Success Centre

2.4 Human Rights and Equity

2.5 Safety & Security

2.6 University Scholarships and Bursaries

2.7 University Prizes

2.1 UNDERGRADUATE REGISTRATION FEES

2.1.1 Tuition Fees

The tuition fees shown here are for 2016-2017 in Canadian dollars and are subject to change. An addendum to this Academic Calendar will show the fees for 2016-2017. For the most current and up to date information on tuition fees and refunds please refer to the accounting services online resources at http://sites.stfx.ca/financial_services/StudentAccounts

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

Fewer than 24 credits	$ 268.39 per credit
24 to 30 Credits	$7626.00
Above 30 Credits	$7626.00 plus $243.84 per credit

For nursing students the tuition fees including tuition, laboratories, library, and university health service are:

Fewer than 24 credits	$ 278.86 per credit
24 to 30 Credits	$7920.00

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

2.1.2 Other Registration Fees

Up to 18 credits, a pro-rated students' union fee is assessed at $5.17 per credit hour. For 18 or more credits, the fee is a flat rate of $155.00.

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

Students registered in 18 or more credits are automatically enroled in the St. Francis Xavier Students' Union Health and Dental Plans. This plan supplements provincial health care plans, it does not replace them. The fees for 12 months are:

Canadian students	$220.00 (single), $440.00 (family)*
International students	$915.00 (single)*
Dental Plan	$130.00*

*Fees are subject to change from year-to-year dependent on changes to insurance premiums.

If a Canadian student is already covered under an extended health plan (this does not mean a provincial health plan), they may opt out of the students' union health and dental plan(s). To opt out of the students' union health and dental plan(s), students can go online to www.studentbenefits.ca and select the StFX Students' Union logo and follow the steps to complete the opt out process. Students must have a digital copy of their proof of coverage to complete this process. Opt out's must be completed online each year between August 1 - September 30. Opt out requests made after September 30 will be assessed a $75.00 late opt out fee.

International students attending StFX are automatically enroled in the StFX students' union health and dental plans. International students are provided through this plan, the coverage that Canadian students receive provincially, as well as additional health and dental coverage. International students cannot opt out of the health and dental plans unless proof of provincial medical coverage can be shown. Students with permanent residence outside of Canada are considered International students for the purpose of the health and dental plans, regardless of Canadian Citizenship.

While a member of the StFX students' union health and dental plans, a student's StFX ID number, name, gender and date of birth are used by the health and dental plan administrator to determine eligibility for benefits and are used for this purpose only. Personal data is stored securely, and is used only in relation to the health and dental plans. Without this information, a student would still be covered for benefits; however, claims may not be adjudicated. For information on the health and dental plan contact 902-867-5371 or email jmattie@stfx.ca

Up to 24 credits, a pro-rated technology fee is assessed at $12.37 per credit. For 24 or more credits, the fee is a flat rate of $371.00.

Students who are not Canadian citizens or permanent residents are required to pay an international student fee in addition to tuition. Up to 24 credits, a pro-rated fee is assessed at $268.39 per credit. For 24 or more credits, the fee is a flat rate of $7,626.00.

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

All fees are subject to change. A summary of tuition and registration fees from 2016-2017 in Canadian currency is as follows:

Description	Residency	From Credit Hrs	To Credit Hrs	Per Credit Charge	Flat Charge
Part-time Tuition		0.01	23.99	$268.39	
Full-timeTuition		24.00	30.00		$7626.00
Overload Tuition		30.01	99.00	$243.84	
Part-time NURS		0.01	23.99	278.86	
Full-time NURS		24.00	30.00	7920	
M.Ed. Tuition		3.00	3.00		$805.17
M.Ad.Ed. Tuition			36.00		$10,000.00
M.Sc., MA Tuition			36.00		$7692.00
Ph.D. Tuition			42.00		$9854.00
Travel - B.Ed.		3.00	30.00		$270.00
Photocopy - NURS		3.00	30.00		$30.00
NS Tuition Bursary	In-province/ Canadian Citizen	0.01 24.00	23.99 99.00	($42.76)	 ($1283.00)
Student Assistance Program Fee					$6.00
Students Union Fee		0.01 18.00	17.99 30.00	$5.17	 $155.00
Capital Campaign		18.00	30.00		$25.00
Facilities Renewal Fee		0.01 24.00	23.99 30.00	$6.00	 $180.00
International Student Fee	International on VISA	0.01 24.00	23.99 30.00	$268.39	 $7626.00
Recreational Facilities Fee		18.00	30.00		$106.00
Information & Technology Fee		0.01 24.00	23.99 30.00	$12.37	 $371.00
M.Ad.Ed.			36.00		$433.00
Health Care Plan	Canadian Citizenship	18.00	99.00		$220.00
	International on VISA	18.00	99.00		$915.00
Dental Plan		18.00	99.00		$130.00

2.1.3 Refunds

For students who drop one or more course(s) or withdraw from the university, refunds are applied according to the date, within the applicable term, on which the drop(s) occur(s) or the student withdraws. The percentage of the refund reduces on a weekly basis until the end of the applicable refund period. The final dates on

which students will receive refunds are indicated in the calendar of events at the front of the Academic Calendar, for first term, second term and full year courses.

The refunding process applies the appropriate refund percentages to the credit-hour value of courses that are dropped and then sums all of the student's credit hours to determine the correct tuition and fee assessment. For examples of refunding, select the links at student accounts, then refunds on the accounts receivable web page at www.stfx.ca/campus/admin/accounting-services/

2.1.4 Students' Union Fees

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

Students' Union fees fund the following:

	full-time	part-time per credit
Students' union general budget	144.00	4.88
Athletic fee	7.00	0.29
Refugee student support	4.00	--
	$ 155.00	$ 5.17

The general budget covers: student societies; Drive U, Food Resource Centre; orientation; activities and events; student newspaper; radio station; lobbying and publicity; issue awareness campaigns; elections; and general operations.

2.1.5 Payment Regulations

St. Francis Xavier University discontinued the mailing of paper statements effective December 1, 2012. Notification of the balance owing on the student account will be sent to the students St. Francis Xavier University e-mail account on a monthly basis. Students can check their student fee account online at http://mesamis.stfx.ca/reports/login.asp by using their student number and PIN to access this information. Refunds on student accounts will reflect the method of payment. Cheques should be made payable to St. Francis Xavier University. All fees are subject to change at any time. Payment can also be made by debit card in person. Students can also pay by telebanking or online banking by setting up St. Francis Xavier University as a payee and the account number is the student ID number. A portion of the fees is due and payable at registration in September and the balance at registration in January. New students are required to pay first-term fees during the orientation session at the Keating Centre in September.

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

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

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

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

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

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

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

A late payment fee of $50 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. The university is not responsible for deadlines missed by students who do not pay their fees on time.

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

2.1.7 Other Undergraduate Fees

All fees are subject to revision.

Application fee for admission to undergraduate and B.Ed. programs	$40.00
Late payment fee (each term) (see 2.1.6)	50.00
Confirmation payment (non-refundable)	
B.Ed. students	300.00
New studentss	100.00
Transcript of record (each copy)	10.00
Letter of permission (per 3 credit course)	20.00
NSF cheque fee	20.00
Unwarranted breakage of or damage to StFX University property will be charged to the student responsible.	

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 of Conduct and the residence contract and to assume responsibility for their own actions or those of their guests, for their room and, along with other residents, for the common areas and assets of their house.

No refunds of fees for residence or food service will be made if students are temporarily absent from residence. This includes absences for academic reasons. All inquiries about residence or meal plan contracts should be made to Residence Services, Morrison Hall, email: residence@stfx.ca, phone: 902-867-5106.

2.2.1 Application for Residence

New, Re-Entry, Mature, Exchange and Transfer Students

When a student applies to attend StFX, they are given the opportunity to apply for residence. New students direct from high school are guaranteed a space in residence if they confirm their acceptance to the university by paying a $100 confirmation fee and submit a residence application by May 15. Once offered a space in residence, students have until June 1 to pay their $400 residence fee to confirm their space. This $400 non-refundable fee is applied towards the student's cost for residence and meal plan. Students may continue to apply for residence after May 15.

Returning Students

Returning students may apply for residence using the online application. Information about the room assignment process can be found in the residence services website (https://www.stfx.ca/student-life/residence-life). Once a room assignment is offered to a student and a student accepts their room and selects their meal plan, a $400.00 non-refundable residence fee (room forfeiture fee) will be applied to the student's account if a student cancels their residence contract before August 15. Refer to the residence contract for details about cancelling after August 15. Students wishing to return to residence must be in good standing with the Community Code of Conduct. Students can continue to apply to live on campus during an academic year.

2.2.2 Residence and Meal Fees and Regulations

All students living in residence are required to participate in a combined room and meal plan. There are minimum meal plans and or declining cash balance (DCB) associated with each residence. Students can always increase their meal plan option at any time; however, no meal plans can be downgraded after October 7. Off-campus students may purchase a meal plan and/or DCB or buy meals. Visit the residence website for details https://www.stfx.ca/student-life/residence-life

2.2.3 Duration of Residence Occupancy

New, Re-Entry, Mature, Exchange and Transfer Students

The university shall permit new students to occupy their assigned room from Saturday, September 2, 2017 until 24 hours after their final exam in December or by noon the day after the final exam period, whichever date and time is earlier. Students may return to residence second term on January 2, 2018 until 24 hours after their final exam in April or by noon on the day after the final exam, whichever date and time is earlier.

Returning Students

The university shall permit returning students to occupy their room from Monday, September 4, 2017 until 24 hours after their final exam in December or by noon the

day after the final exam, whichever date and time is earlier. Students may return to residence second term on January 2, 2018 until 24 hours after their final exam in April or by noon on the day after the final exam, whichever date and time is earlier.

Note: Students, in extenuating circumstances, may apply to occupy their room on dates outside of those identified above; however, they will be required to sign additional contract(s) and will be subject to additional charges. Pre-approval by residence services is required.

2.2.4 Cancellation of Residence Application and Contract

Where the resident notifies the university in writing prior to his/her scheduled arrival that he/she does not intend to take their assigned room in residence, the university will process the cancellation fee according to the residence contract. The $400.00 residence fee is non-refundable.

Where the resident notifies the university in writing that they wish to decline their room assignment either after the resident takes up his/her room (this includes an off campus move) or after the day when the resident was expected to take occupancy (this includes an off-campus move), then the resident assumes full responsibility for room and meal plan fees for the academic year, except in the following cases:

a) In the case of the resident withdrawing from the university up to and including November 1, they will receive an 85% credit for the remaining room and meal plan fees from the date they vacate the premises. If the resident withdraws in the first term after November 1 they will be charged room and meal plan fees for the first term. If the resident withdraws in the second term up to and including February 1, the resident will receive an 85% credit for the remaining room and meal plan fees from the date the resident vacates the premises. If the resident withdraws in the second term after February 1, the resident will be charged room and meal plan fees to the end of the academic year according to the StFX Academic Calendar. Residents are required to vacate their residence within 24 hours of academic withdrawal; or
b) In the case where the resident is released from this contract due to compassionate or other grounds at the sole discretion of the university.

The university reserves the right to cancel any residence contract on the basis of violation of policies outlined in the University Community Code and/or residence ontract for residence and dining hall.

2.3 STUDENT SERVICES

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

2.3.1 Athletic and Recreational Programs

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

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

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

2.3.2 Student Career Centre

The Student Career Centre (SCC) offers three primary services: career coaching, career information and employment services. Career coaching services are provided on an individual and group basis. The SCC can incorporate the Strong Interest Inventory in students' career decision-making process and further educational opportunities.

Throughout the academic year, the centre offers a variety of events and programs that help students make informed career decisions and develop effective job search strategies. Some examples include workshops on career planning, resumé writing, job search, interview skills and job fairs. Employment related services include advertising new graduate, summer and on-campus jobs as well as employer and school information sessions which help students gain an understanding of the skills required in today's workplace.

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 and spiritual expression. Part-time ministers of the Anglican and United Church co-ordinate activities for students of their denomination.

2.3.4 Counselling Services

The StFX counselling centre provides a variety of services to help students handle the personal challenges of university life. Professional counsellors can work with students on all personal issues which may include homesickness, anxiety, depression, stress, eating disorders, relationship problems, academic struggles and career preparation - any issue big or small.

The counselling centre offers individual and group counselling. Counsellors can make referrals to other services as required. All contact with the counselling centre is strictly confidential, students may self refer or referrals may be made by others.

The counselling centre is located on 3rd floor Bloomfield Centre (Room 305). To contact us, please visit our website at http://www.sites.stfx.ca/counseling/ or phone (902) 867-2281.

2.3.5 Student Life Office

The Student Life Office works closely with other areas on and off campus to enhance student success. The office strives to provide a positive space for all students to feel welcome and included in the wider StFX and Antigonish community. Academic success is always the number one priority while attending university however, a close second is engaging with and being involved in all the things the campus community has to offer.

The office is responsible for non-academic student advising for LGBTQ, Aboriginal, International and Student of African Descent, as well as the Student Career Centre. The office acts as the primary liaison with the Students' Union and works collaboratively to offer programming on student leadership, off campus resources and university transition. The Student Life Office is responsible for the administration of the Community Code of Conduct which deals with all matters of non-academic student conduct.

The office is located on 3rd floor Bloomfield Centre (Room 306). To contact us, please visit our website at http://www.sites.stfx.ca/student_life or phone (902) 867-3934.

2.3.6 Financial Aid Office

The university maintains a financial aid office to advise students regarding Canadian and American 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. For further information, visit the website at http://sites.stfx.ca/financial_aid/

2.3.7 Health Services

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

The Health Centre is located on 3rd Floor Bloomfield Centre (Room 305). To contact us please visit our website at www.mystfx.ca/services/healthcentre or phone (902) 867-2263.

2.3.8 Student Life Advisors

StFX offers advising which aids students transitioning into and through university and recognizes that students have a variety of needs in the many distinct communities within the broader StFX community. The university aims to foster an environment of cultural competency and diversity through a variety of programs and one-on-one assistance which encourages student academic and personal success. These include LGBTQ, Aboriginal and Students of African Descent and mature student advisors. More information is available at http://sites.stfx.ca/student_life/

2.3.9 Tramble Rooms Centre Accessible Learning

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

The program is located on the 4th floor of Bloomfield Centre in the Tramble Rooms. Contact us at (902) 867-5349 or visit the website at http://sites.stfx.ca/accessible_learning

2.3.10 Wellspring Centre

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

2.3.11 Student Success Centre

Student Success Centre services complement course work by assisting students in developing their academic communication skills and assisting them in accessing the other academic supports they require, including locating subject tutors. StFX students can arrange free one-to-one appointments by registering through the Centre's web page (http://sites.stfx.ca/ssc/), by calling the Centre at (902)867-5221, or by walking in to the Centre in the Angus L. Macdonald library. Student Success Centre instructors discuss with students ways to improve writing and general academic skills and habits. Writing consultations are valuable at any stage of the writing process. Appointments may also focus on improving academic writing and communication skills such as note-taking, oral presentations, and exam preparation. In addition, the instructors at the Centre assist students through the following programs:

Academic Skills Workshops

No matter how well students perform in high school, university presents a new set of challenges, and these are sometimes not apparent until students have been at university for several months. This program of workshops introduces students to strategies that will help them receive the highest quality university education possible. These workshops are not a tutorial service or a remedial program. Instead, they enable students to develop or enhance their skills and become self-directed, responsible learners. Workshops deal with skills such as time management, note taking, and academic writing. Students at any stage of a degree are welcome, though those entering from high school will find the full program especially valuable. Registration in individual workshops is available (see the Student Success Centre website for fees and details), and those who register for and attend all six workshops in a term will earn the Certificate in University Learning.

APEX: Academic Program of Excellence

This is a free, mandatory university program for students accepted and placed on probation by StFX or another institution and for students re-admitted after suspension or dismissal as a result of a previous year's academic performance. See section 3.12. Students are required to register for and participate in six workshops in the fall term. In addition to attending workshops, students must meet with a Learning Skills instructor at least twice per term in fall and winter, including once in September. The one-to-one appointments provide opportunities for students to focus on their specific academic needs. Details are available on the Student Success Centre's website. Upon application by a student, the Committee on Studies of the appropriate faculty may excuse the student from taking APEX.

LEAP: Learning English for Academic Purposes

These interactive classes and practical sessions are designed for students at StFX whose first language is not English and who are now living and studying in English. LEAP is not an English-as-a-second-language (ESL) course; rather, the LEAP curriculum concentrates on reading critically, writing analytically, and applying these skills to academic material. Classes provide students with the opportunity to listen, learn, and put their academic skills into practice. LEAP is a four-week intensive course in August, continuing during the fall term as a twice-weekly course. Students who wish to join the class in the fall may register for it as normal without completing the August component. Additional support is available during the winter term for those students who need it. Course fees and other details are available on the Student Success Centre's website.

2.4 HUMAN RIGHTS & EQUITY

All members of the university including students, staff and faculty have the right to study, work and learn in an environment that promotes equity and that is free from harassment and discrimination on human rights grounds (as described in the Nova Scotia Human Rights Act, 1991). In support of ensuring a campus free of discrimination and harassment, and of creating a collegial study, work and living environment where all individuals are treated with respect and dignity, the StFX Human Rights & Equity Advisor assists with the resolution of discrimination and harassment issues, including arranging for informal or formal procedures for resolving concerns and complaints. The Human Rights & Equity Advisor also offers education and training on a wide variety of human rights and diversity issues, and advocates for educational and employment equity. The Discrimination and Harassment Policy can be found on the human rights' office website at http://www.mystfx.ca/campus/stu-serv/equity/ or on the Human Resources website at http://sites.stfx.ca/hr/policies

2.5 SAFETY AND SECURITY

Safety & Security Services fosters and safeguards a healthy, safe and welcoming campus community that supports the well-being of students, faculty, staff and guests. Partnerships within the university and active collaboration with local law enforcement and community emergency response teams ensures essential services are in place and ready to respond.

Safety & Security Services provides 24-hour coverage 365 days per year via the Safety & Security Operations Centre (SOC). In addition, our team of dedicated Safety & Security Officers conduct regular vehicle and foot patrols of campus instilling confidence that everyone is able to LIVE, LEARN, WORK and PLAY in a supportive and safe environment.

The Student Safety & Security Services Leadership Team, known as "X-PATROL", work side by side with Safety & Security Services Officers to provide campus event supervision, evening foot patrols and a walk home service.

2.6 UNIVERSITY SCHOLARSHIPS AND BURSARIES

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

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

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

J. Fraser Chisholm Scholarship
Rev. John W. Chisholm Fund
Joseph D. Chisholm Scholarship
Mary Ann Chisholm Nursing Bursary Award
Rod Chisholm Scholarship
CIBC Scholastic Award
Rosemary Landry Clark Memorial Award
Rev. Dr. E.M. Clarke Scholarship in Pure and Applied Sciences
Class of 1954 Bursary
Class of 1955 Bursary
Class of 1956 Bursary
Class of 1962 Bursary
Class of 1963 Scholarship
Class of 1965 Fund
Class of 1970 Bursary
Class of 1971 Scholarship
Class of 1973 Service to Others Award
Paul Cogger Memorial Scholarship
Gerald P. Coleman Q.C. Award
Louis Connolly Fund
Jean E. Cooke Bursary
Daniel Cordeau Scholarship
Arleen Power Corey Memorial Fund
Rev. Cornelius B. Collins Scholarship
Rev. Cornelius J. Connolly Bursary
Rev. Cornelius J. Connolly Scholarship
General Romeo Dallaire African Leadership in Education Award
John & Selena Daly Scholarship
James E. & Mary D. Deagle Endowment
Edward P. Delaney Bursary
Edward P. Delaney Scholarship
Democracy 250 Leadership Bursary
Development Studies Internship Bursary
Alphonse Desjardins Commemorative Scholarship
L.A. DeWolfe Memorial Scholarship
Diploma in Ministry Bursary
Dr. John Dobson Memorial Award in Adult Education
Rev. John Dougher Bursary
Alexander Doyle Memorial Scholarship
Rev. D.A. Doyle Scholarship
The Sir James Dunn Foundation Internship Scholarship
Trudy Eagan Women in Business Award
Faculty Staff Scholastic Award
J. Wallace Farrell Memorial Scholarship
Margaret Martell Farrell Scholarship
Margaret Martell Farrell B.Ed. Award
The Audrey Fenwick Memorial Award for Studies in Adult Education
Rev. Peter Fiset Fund
Florida Alumni Bursary in Memory of Jim Kenney
Irene & Joseph Francis Memorial Award
Roger Franklin Memorial Scholarship
Hugh Allen Fraser Scholarship
Fund for French Scholarships
Douglas P. Furlott Award
Gaelic Scholarship Fund
Danny Gallivan Memorial Scholarship
Wilfred J. Garvin Scholarship
General Motors of Canada Ltd. Women in Science Bursary
General Motors of Canada Ltd. Women in Science Scholarship
Dr. A. Marie Gillan Award in Adult Education
Anne Gillis (of Glen Alpine) Award
Donald and Margaret Gillis (of Glen Alpine) Award
Sister Henrietta Gillis Award for Education
Hugh and Celia Gillis Bursary
Joseph and Tessie Gillis Fund
Margaret Gillis (of Glen Alpine) Award
Mary Gillis (of Glen Alpine) Award
John and Sarah Gillis-Campbell Award
Mary Margaret Gillis-Campbell Award
Colin and Christine Gillis-Chisholm Award
Joan Gillis-Lang Award
Margaret C. Gillis-MacDonald Award
Mary Ann Gillis-MacIsaac (of Glen Alpine) Award
Glen Scholarship
Fred Gormley Scholarship
Jeff Graham Memorial Scholarship
Mary Jane Graham Bursary
Catherine (MacLeod) Grant Scholarship
Daniel and Emeline Grant Scholarship
Rev. J. Edward Grant Bursary
Ray Greening Memorial Scholarship
Shirley (Martinello) Grinnel Scholarship
The Gulf Canada Scholarship
Dr. H.B. Hachey Scholarship
A.G. Hamilton Scholarship
Thomas J. Hayes Scholarship
Dr. H. Stanley and Doreen Alley Heaps Scholarship
Heaslip/Macdonald Award Fund
Bernard M. Henry Scholarship
Dr. Mary G. Hickman Scholarship
Rosemary & Stephen A. Holton Scholarship
Mitch Hudson Memorial Scholarship
Phil Hughes Leadership Award
Philip H. Hynes Memorial Scholarship
IBEW Local 625 Nursing Award
Dr. A.A. Johnson History Award
Julie Anne Award
B.J. Keating Memorial Award
Gisela Keck Outstanding Achievement Award
Rev. George Kehoe Memorial Bursary
Alexander and Mary Kell Memorial Scholarship
Angus Kell Memorial Bursary
Thelma May Kempffer Award
M. Colleen Kennedy Memorial Bursary
Margaret Kennedy Scholarship
Killam American Bursary
Rev. Martin Luther King, Jr. Award
Rev. John B. Kyte Scholarship
Dr. & Mrs. Francis E. Lane Scholarship
Joan Gillis Lang Fund
Livingstone-Topshee Award
MacBain-Riley International Fund
Don Loney Scholarship
Rev. Dr. Dan MacCormack
Senator John MacCormick Scholarship
MacDonald-MacIntyre Scholarship
Anastasia MacDonald Bursary
Angus R. MacDonald Memorial Bursary
Rev. B.A. MacDonald Scholarship Fund
Rev. Hugh John MacDonald Memorial Fund
James M. MacDonald Bursary
Kathryn M. MacDonald Scholarship
Linda MacDonald Humanitarian Bursary
M. & N. MacDonald Bursary
The Honourable Hugh J MacDonnell Memorial Bursary
John H. MacDougall Engineering Bursary
Allan J. MacEachen Fellowship in Celtic Studies
Angus MacGillivray Bursary
Cotter MacGillivray Bursary
Katherine MacGillivray Maloney Nursing Award and Bursaries
Rev. Rod MacInnis Bursary
Roddie MacInnis Memorial Bursary
Rev. R.K. MacIntyre Scholarship
Hon. Angus MacIsaac Democracy 250 Veteran's Memorial Leadership Bursary
Rev. Charles MacIsaac Memorial Bursary
Donald F. MacIsaac Memorial Scholarship
John C. MacIsaac Foundation Scholarship
Mary McNair MacIsaac Bursary
Minnie MacIsaac Award
J. Elizabeth Mackasey Memorial Award for Education
Michael and Jean MacKenzie Award
Hugh MacKinnon Scholarship
Ron MacKinnon BIS Scholarship
Dr. Cecil MacLean Award

Donald and Ethel Lyle MacLean Scholarship
Monsignor Donald A. MacLean Scholarship
Rev. Leonard (Butch) MacLean Bursary
Neil MacLean Memorial Gaelic Teacher Award
Roderick D. MacLean Award
The Duncan Hugh and Millie MacLellan Bursary
Joseph & Mary (MacNeil) MacLellan Bursary
Rev. J.D. MacLeod Bursary Fund
Joan M. and Douglas MacMaster StFX University Award
Daniel and Mary MacNeil Fund
John V. MacNeil Fund
Archie and Catherine MacPhee Memorial Bursary in Catholic Studies
Joseph B. MacSween Award
Rev. Rod J. MacSween Scholarship
The Noreen Manthorne Memorial Bursary
Married Students Bursary
James A. Martin Award
Emerson Mascoll Bursary
Dr. James McArthur Memorial Fund
Harrison McCain Foundation Scholarship
Senator J.P. McCarthy Scholarship
Dr. Daniel McCormick Scholarship
Irene McFarland Memorial Bursary
Dr. J. William McGowan Scholarship
Frederick J. McInerney Scholarship
Rev. Roderick McInnis Fund
Rev. Leo G. McKenna Scholarship Fund
Jack McLachlan Fellowship in Biology
Mary McNair MacIsaac Bursary
William Ian Meech and Lloyd Remington Meech Memorial Scholarships
Memorial Scholarship for a Woman in Engineering
Dr. Edward J. Meyer Memorial Scholarship
Yancy Meyer Memorial Bursary
Dr. Marguerite Michaud Scholarship
Myles Mills Class of 1959 Leadership Award
Moncton Student Fund
Alexander Moore Chisholm Bursary
Morrisey Sisters Endowment Fund
Benedict M. Mulroney Scholarship
Donald and Barbara Munroe Scholarship
Robert J. and Gertrude Gillis Munroe Scholarship
Dr. Frederick Murdock Scholarship
Daniel Joseph Murphy Fund
Nasha Murphy Memorial Award
William and Jenny Murphy Award
Rev. J.B. Nearing Scholarship
Rev. Dr. P.J. Nicholson Scholarship
Paul and Miki Norris Bursary
Nova Scotia Power Scholarships
Daniel and Margaret O'Brien Bursary
Dr. Ed O'Connor Scholarship
Commodore Bruce S. Oland Scholarship
Philip W. Oland Scholarship
Barry O'Leary Leadership Award
Rudy Pace Memorial Jazz Bursary
The James and Marguerite (Murphy) Pistone Bursary
Pluta Family Bursary
Prodigy Consulting Scholarship
Rev. Donald M. Rankin Scholarship
RBC Leadership Award
Ken Reashor Bursary
Dr. Abraham Risk Award
Helen & Cyril Ross Bursary
Bruce and Dorothy Rossetti Scholarship
Dr. Ria Rovers Memorial Scholarship
Royal Bank Scholarship
Noah Rossell "Return-to-University" Bursary
B.A. Ryan Scholarship
Claire Sampson Nursing Scholarship
Loretta Saunders Memorial Bursary
James P. Sawler Scholarship
Tom & Lieselot Scales Bursary
Schwartz School Scholarship/Bursary
T.J. Sears Family Scholarship
Service Learning Bursary
Dr. William Shaw Bursary in Earth Sciences
Sisters of St. Martha Scholarship in Nursing
Sisters of St. Martha Single Mothers Bursary
C. Gordon Smith Scholarship
St. Francis Xavier University Alumni Scholarships
St. Francis Xavier Association of University Teachers Bursary
St. Martha's Hospital School of Nursing Alumnae Bursary
J. Jarvis Stewart Bursary
Hon. John B. Stewart Scholarship for Politcal Science
StFX Halifax Alumni Kehoe Bursary
John L. Stoik Scholarship
Students for Life Bursary
Students' Union Bursary
Marjorie McLeod Sullivan Bursary
Tannenbaum Canada Israel Exchange Student Scholarship.
Fred L. Taylor Memorial Scholarship
TD Bank Scholarship in Jazz Studies
Allard Tobin Fund
Dr. J.J. Tompkins Memorial Scholarship
Rev. John F. Toomey Bursary Fund
Rev. John F. Toomey Scholarship Fund
Toronto Alumni Bursary
Judge D. Tramble Bursary
Arthur P.H. Tully Fund
Katherine Tully Scholarship
Paul Wacko Scholarship
Walker Wood Foundation Bursary
Walker Wood Foundation Bursary for Bachelor of Arts
Walker Wood Foundation Bursary for Bachelor of Science in Nursing
Ada MacNeill Wallace Bursary
Martin J. Walsh Bursary
Katherine Wdowiak Memorial Award
Kathie Wdowiak Bursary
Westbury Family Scholarship
James and Mary Whelan Scholastic Award
Rev. Robert Wicks Fund
XEDC Entrepreuneurship Bursary
Angus F. and Jean A. Young Award
John H. Young Award
Young Family Award

2.6.1 Major and Entrance Scholarships

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

All scholarships are awarded on the grade 12 average of either December exams or first-semester final grades in grade 12. Scholarship averages are based on available marks of the five required courses for the program to which the student is applying. The deadline for all entrance and major scholarship applications listed below is March 1. To be eligible for any guaranteed entrance renewable scholarships you are required to submit the following:

a) An application for admission to the University;
b) A final first term/semester grade 12 high school transcript with an average of 85% or higher prior to March 1;

To apply for any of the major renewable scholarships you are required to submit the following:

a) An application for admission to the University
b) A final first term/semester grade 12 high school transcript with an average of 85% or higher prior to March 1;
c) Complete all required tasks for major scholarships and upload application materials through the online scholarship application site, awards.stfx.ca. Application materials include a detailed résumé containing a description of extra-curricular activities and awards and two letters of recommendation, one of which must be from a high school teacher from your current year of high school.

If a student is eligible for more than one university nominated scholarship, s/he will receive the largest to which s/he is entitled. Students must be enroled at least 24 credits in the Fall/Winter terms combined, with a minimum overall average of

80%, at StFX to maintain scholarship offer. All scholarships are tenable at StFX over four consecutive years of study. Beginning in September 2017, any new, incoming undergraduate students who do not meet the renewal terms stated above will not be eligible to renew their entrance or major scholarships in subsequent years.

$32,000 StFX President's Scholarships

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

$28,000 International Baccalaureate (IB) Scholarships

These scholarships are awarded to students who successfully complete the IB Diploma program, renewable for four years at $7000 per year. The application deadline is March 1.

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

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

$24,000 StFX Canadian Scholarships

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

$24,000 StFX International Scholarships

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

$12,000 StFX Merit Scholarships

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

$7,000 StFX Guaranteed Scholarships

These entrance scholarships are awarded to all applicants with an average of 90% or higher, based on grade 12 December exams or first-semester grade 12 results. These scholarships are renewable for four years at $1,750 per year. The application deadline is March 1.

$5,000 StFX Guaranteed Scholarships

These entrance scholarships are awarded to all applicants with an average of 85 to 89.9 per cent, based on grade 12 December exams or first-semester grade 12 results. These scholarships are renewable for four years at $1,250 per year. The application deadline is March 1.

2.6.2 University In-Course Scholarships

In-course scholarships are awarded to students who have completed at least one academic year of 24 credits in the fall and winter terms combined towards a first degree. They are awarded on the basis of academic performance at StFX University. A minimum average of 80 in each scholarship group is required. No application is necessary. The scholarships, ranging in value from $1,000 to $5,000, 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
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 ranked first in each scholarship group will qualify for the amount of $5000.
b) A student ranked in top 5% in each scholarship group will qualify for the amount of $2000.
c) A student with average of 80% or higher will qualify for the amount of $1000.
d) If a student is eligible for more than one university nominated scholarship, s/he will receive the largest to which s/he is entitled.

2.6.3 Bursaries

A number of university bursaries are available, usually ranging in value from $250 to $3500. Awards 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; a new application must be made each year.

Application forms for university bursaries may be obtained from the financial aid website http://sites.stfx.ca/financial_aid/. Each bursary has a separate due date. The bursary program runs from September to March of each year. Bursary applications can be submitted beginning two weeks prior to the start of each term until the deadline date for each bursary. Bursaries are based primarily on financial need, satisfactory academic standing, and may include other criteria as specified by the donor(s).

2.7 UNIVERSITY PRIZES

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

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

Onex Corporation Gold Medal
Dr. Leo P. Chiasson Award for Biology to the Outstanding Advanced Major or Honours Student
Centre for Marine Biology Prize
Dr. Marguerite Michaud Prize for Canadian Studies
Angus L. Macdonald Memorial Scholarship for Celtic Studies
Flora MacDonald Prize
Rev. Malcolm MacDonell Award in Celtic Studies
Chemistry Industry Merit Award
Employer's Choice Award for X-cellence in Co-operative Education
Dr. D.J. MacDonald and Dr. A.B. MacDonald Memorial Prize for Economics
Engineering Department Medal
Association of Professional Engineers of Nova Scotia Scholarship
Association of Professional Engineers of Nova Scotia Award
J. Wallace Farrell Memorial Award for Engineering
Nova Scotia Power Centennial Scholarship for Engineering
English Department Cape Breton Creative Writing Prize
Margaret MacGillivray-MacDougall Prize for English
Rev. R.J. MacSween Prize for English
Ambassador of France Book Prize for French
Ambassador of Switzerland Book Prize for French
Jean Babin Prize for Excellence in French
Consulate of Argentina Prize for Spanish
Angus Dan Gillis Prize in Gaelic
Professor Donald J. MacNeil Memorial Award for Earth Sciences
Mining Society of Nova Scotia Centennial Scholarship Medal
Dr. Randall F. Cormier Award for Best Thesis in Earth Sciences
Mary Tramble Memorial Award for Field Earth Sciences
Ambassador of Germany Book Prize for German
Ambassador of Austria Book Prize for German
Ambassador of Switzerland Book Prize for German
German Consulate General Montreal Prize
Hogan/Phillips Prize in History
Rev. A.A. Johnston History Award for Diocesan History
Ita MacDonald Prize for Canadian History
Dairy Farmers of Canada Award for Further Study in Dietetics/Nutrition
Nova Scotia Home Economics Book Award
Nova Scotia Health Research Foundation Award
Dr. H. Stanley and Doreen Alley Heaps Prize for Computing Science
Dr. A.A. MacDonald Prize for Mathematics
Canadian Academy of Recording Arts and Sciences Award for Music
Chevrolet High Note Student Bursary
Paul Groarke Philosophy Prize
Rev. Charles R. MacDonald Memorial Medal for Philosophy

Dr. M.S. Gautam Memorial Prize for Physics
Wallbank/Weingartshofer Prize for Experimental Physics
Yogi Joshi Prize for Excellence in Physics
G.P. Brooks History of Psychology Prize
Craig McDonald Mooney Prize for Psychology
Walter Kontak Prize in Political Science
Hon. John B. Stewart Scholarship for Political Science
John and Mary Fraser Memorial Prize for Senior Religious Studies
Rev. F. J. Mifflen Sociology Prize
Allard Tobin Travel Endowment Fund Award
Dr. G.H. Murphy Prize for Proficiency in Pre-medical Studies
St. Francis Xavier Association of University Teachers Book Prizes
Nominations to the Kappa Gamma Pi Honour Society
Katherine Wdowiak Memorial Award in Nursing
Women's and Gender Studies Prize

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

Gaelic Scholarship for Summer Study in Scotland
Honourable Allan J. MacEachen Fellowship for Celtic Studies
Rev. Donald M. Rankin Scholarship for Celtic Studies
Rev. 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
Dr. Winston Jackson Honours Nursing Prize
David Davis Prize for First-Year Physics
David Davis Prize for Third-Year Physics
Charles Jordan Memorial Prize for Second-Year Physics
Bishop Campbell Prize for Second-Year Religious Studies
Camille LeBlanc Prize for First-Year Religious Studies
Flying Officer Wallace MacDonald Memorial Prize for Third-Year Religious Studies

3. ACADEMIC REGULATIONS

3.1 Registration and Course Load
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3.3 StFX Degree or Diploma Requirements
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3.22 Obligations of Students
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3.1 REGISTRATION AND COURSE LOAD

a) Students are responsible for the accuracy of their course registrations and for ensuring that the courses they select are appropriate to their degree programs. They are responsible for dropping any second term courses if they have failed or dropped any required prerequisite course(s) in the first term. Students who are uncertain about their course selection are encouraged to seek assistance from the academic advisors or the department chair or program co-ordinators.

b) The regular academic year at StFX runs from September to April and is divided into two terms. The Fall term runs from early September to mid-December and the Winter term from early January to late April. A course taught three hours a week over the regular 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.

c) In most programs the normal full course load is 30 credits each academic year. Students are encouraged to maintain a balanced course load between the Fall and Winter terms, whenever possible. Students enroled in 60% of a normal full course load, or 18 credits, for the regular academic year are considered to be full-time students.

d) Students may drop a course, online in Banner, on or before the relevant deadline. Please see the calendar of events for deadline dates for dropping full-year, first-term and second-term courses. A course dropped within the first week of class will be removed from the transcript. After this free-drop period, a student may drop a course prior to the deadline. A DC (dropped course) will appear on the students' official transcript but is not used in the calculation of the average. Once the drop deadline has passed, students who stop attending class will receive a final grade based on the work completed to date with a zero grade for those components not completed. This final grade will appear on students' transcripts and is used in the calculation of the average. Students who cannot complete a course due to medical or other extenuating circumstances must contact the Dean's Office and provide appropriate documentation. 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 eligibility, in-course scholarship eligibility, athletic eligibility, or other StFX bursaries or awards.

e) Students who wish to enrol in more than a full course load per term must apply to the Registrar. Letter of Permission (LOP) courses are counted as part of the course load. A minimum average of 65 is required, either for the previous academic year or for the first term if the application is submitted at the start of the second term. Students will not be permitted to enrol in more than 36

credits in one academic year, (September-April). For spring and summer terms, students may not enrol in more than 6 credits in either term. Students who wish to enrol in more than this, must apply to the Registrar and meet the 65 minimum grade average. The maximum number of credits permitted in either the spring or summer term is 9, however students are reminded that spring and summer courses are offered in a compressed time frame and are advised to carefully consider enroling in more than the recommended 6 credits each term. First-year students will not be permitted to carry an overload. See section 2.1 regarding fees for extra courses.

f) Credit will not be granted for any course in which a student is not formally enroled.

g) Students are permitted to repeat a course or register in a course deemed equivalent, or cross-listed, with one that they have already completed. However, credit will only be granted once; see course descriptions for additional information. e.g., Credit will be granted for only one of HIST 232 or HIST 230. The final grade for the first instance the course was taken will remain on the transcript and be denoted with an (R) to indicate a repeat grade. The credit hours will be removed but no adjustment will be made to the end of year average.

h) Courses in business administration, education, engineering, human kinetics, human nutrition or nursing normally may be applied only to those programs respectively. See the individual faculty regulations for exceptions.

i) A "pair" is 12 credits in one subject with at least six credits at the 200-level or higher. As exceptions, language pairs in French, Celtic Studies and Classics may be composed of 12 credits at the 100-level. A student may complete only one pair from a department, and may not complete a pair in the major or minor subject. A pair may not be completed in any of the professional or applied program disciplines: AQUA, BSAD, ENGR, HKIN, HNU or NURS.

j) Students who wish to audit a course must receive approval from the course instructor. See glossary definition.

k) Registration start times or time tickets are determined based on a student's year of study, program and then on total credits earned, see section 3.6.

3.2 TRANSFER CREDIT

a) Transfer credit will be granted for all courses for which credit has been earned at an accredited university, if the associated courses can be used to meet the student's program requirements at StFX. See section 1.1 for transfer credit from colleges. Minimum grade and average requirements, as specified in the faculty regulations, apply to all transfer courses. Official transcripts from all post-secondary institutions are required at time of admission. Failure to submit official transcripts could result in academic dismissal upon later disclosure.

b) Restrictions may apply to the transfer of credit for business administration courses at the 300 and 400 level.

c) Normally, transfer credit will not be granted for courses taken 10 years or more before the date of application.

d) Transfer credits may be granted for distance courses in recognized academic disciplines taken at Canadian universities. Transfer credit will not be granted for distance courses if the StFX equivalent has a laboratory component. Unless expressly permitted by the Deans, distance courses may only be used as electives or to meet requirements for pairs. Upon completion of the Coady Diploma in Development Leadership, students will be eligible to transfer up to 12 credits as open electives towards a StFX degree

e) To enrol in any course at another university, students must first obtain a letter of permission from the appropriate Dean; section 3.1e also applies.

f) Students on probation or in in good standing are eligible to enrol in spring or summer courses at StFX or at another university.

3.3 STFX DEGREE OR DIPLOMA REQUIREMENTS

In order to obtain a first degree or diploma from StFX, at least half of the credit hours required for the degree or diploma must normally be completed at StFX. Additionally, of the credit hours required for the major, advanced major, honours or joint honours, at least 2/3 of these credit hours at the 300/400 level, must normally be completed at StFX.

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 must be completed within 10 years of the initial date of registration.

c) Courses taken for credit 10 years before acceptance into a degree program will be assessed by the appropriate Dean.

d) A student who has had no course registration at StFX for 12 months or more, or withdraws from StFX must re-apply for admission.

e) If a student is suspended or dismissed from the university and successfully appeals this decision and is permitted to return, the student will be placed on probation for one year, and be required to enrol and complete the APEX program. See section 2.3.11. Upon re-admission to the university, students will be eligible to register in courses at StFX and elsewhere during the spring and summer terms preceding their term of re-admission.

3.5 DIRECTED STUDY & SELECTED TOPICS COURSES

a) Directed study courses permit students of exceptional ability and motivation to pursue, on a tutorial basis, individual programs of study in areas not normally offered by a department. Directed study courses are normally restricted to no more than two students. Normally a faculty member may offer no more than two directed study courses per year. A directed study course may earn no more than six credits. To be eligible for a directed study, students must have:
   i) completed 12 credits in the department;
   ii) attained a minimum average of 70 in the 12 credits;
   iii) obtained written consent from the department.

   Students interested in a directed study course should consult with the Department Chair and the appropriate Faculty member before September 1 of the academic year in which they wish to complete the course. Formal application must be submitted by the Department Chair to the appropriate Dean four weeks before the start of the term in which the course is to be offered.

b) Subject to approval of the appropriate Dean, departments may offer selected topics courses in their discipline. A selected topics course may be offered twice before the department must seek regular approval through the appropriate Committee on Studies and the University Senate. Selected topics courses may be offered in any department or interdisciplinary program at the 100-, 200-, 300- or 400-level and may be offered for three or six credits. The actual course number will be assigned by the Registrar's Office.

3.6 STUDENT CLASSIFICATION

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

Students who are six credits short of the next level in a degree program will be placed in the next classification on a conditional basis.

Year of Study	Credits Earned
First Year	less than 24
Second Year	24; 27 in nursing
Third Year	54; 63 in nursing
Fourth Year	84; 93 in nursing

3.7 CLASS ATTENDANCE AND WITHDRAWAL

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

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

Students wishing to withdraw from the university must give formal notice to the appropriate Dean in person or through mesAMIS. Formal notice of withdrawal is required for tuition refunds. See 2.1.3. The notice of withdrawal will be sent to: Campus Post Office, Financial Aid, Library, Registrar's Office, Residence Office, Safety & Security Office, Student Accounts, Student Life Office, and Students' Union (for health insurance).

3.8 ACADEMIC INTEGRITY POLICY

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

3.8.1 The Code of Academic Conduct

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

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

3.8.2 Offenses Against Academic Integrity

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

a) Plagiarism

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

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

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

b) Cheating

Some examples of cheating are:

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

c) Falsification

Some examples of falsification are:

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

d) Tampering

Examples of tampering are:

i) unauthorized access to, use of, or alteration of computer data sets, including course, student, faculty, alumni, public, and corporate records;
ii) gaining unfair advantage by using software and computer tools that inhibit the use of the resources by others;
iii) damage to or destruction of library materials or laboratory resources; and
iv) willful or negligent damage to the academic work of another member of the university.

e) Miscellaneous

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

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

3.8.3 Academic Integrity Policy and Procedures

Any member of the University Community make act as a complainant or reports another's academic dishonesty. The academic integrity policies and procedures document, available at http://www.stfx.ca/services/registrar/academic-integrity-document.pdf, provides guidelines to follow in reporting an offence.

3.9 MID-TERMS AND EXAMINATIONS

All mid-terms are written during class time. October mid-term grades must be entered in Banner for all courses; mid-term grades are not entered in Banner in February. See calendar of events for the deadlines.

December and April examinations are written during the examination periods as indicated in the calendar of events. Designated times are 9:00am, 2:00pm and 7:00pm.

Normally, final examinations for a three-credit course are 2 ½ hours in length. December examinations in a six-credit course are 2 hours in length and April examinations are 3 hours in length.

Take-home examinations may not be distributed before 1:00pm on the last day of classes.

Students should be aware that their examinations could be scheduled on any of the days in the examination period and should be available to write their examinations at the scheduled time. Students unable to write an examination at its scheduled time due to illness or due to a serious, unexpected circumstance must notify the Deans' office prior to the examination. Students must provide an original doctor's certification of the condition for a medical problem or other supporting documentation.

Normally, no student will be required to write more than two examinations in 25 hours. No written tests or examinations (excluding lab exams) worth 10% or more of a students' final grade should take place during the two weeks prior to the last day of classes of the academic term (September - April).

3.10 GRADING SYSTEM FOR UNDERGRADUATE PROGRAMS

a) The passing grade is 50.

b) The student's average is a weighted calculation for full-time students. The average is included on the transcript at the end of each academic year. A six-credit course has a weight of one; a three-credit course has a weight of one-half. The average is based on final grades in all courses attempted. Grades for courses completed in the spring or summer terms are not included in the average.

c) The grade and average requirements for major, advanced major and honours degrees are stated in chapter 4 for arts degrees, chapter 5 for business degrees and chapter 7 for science degrees. Failure to achieve grade and average requirements may result in academic penalties and may affect students' eligibility to proceed in some degree programs.

Students must obtain an average of at least 55% and receive credit for 60% of attempted courses, in their final year, to be granted a degree or diploma.

d) With the exception of nursing courses with clinical components, at least 75% of the final grade in all courses will be based on written (not oral) work; further, at least 40% of the final grade in a six-credit 100- or 200-level course will be based on invigilated written December and April examinations, and at least 40% of the final grade in a three-credit 100- or 200-level course will be based on invigilated mid-term quizzes and December or April examinations.

e) Performance in nursing clinical courses will be evaluated based on a combination of assignments, the development of major plans of care and an evaluation of clinical practice performance. A grade of pass/fail will be awarded for the clinical practice portion of the course. Students must successfully complete the clinical practice in order to receive credit for the course.

f) When a student repeats a course, the original grade remains on the transcript and in the student's average. However, the credits originally earned are removed from the student's transcript. The final grade from the second instance the course was taken will be used in the average calculation for the year in which the course was completed.

3.11 ACADEMIC PENALTIES

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

i) earn a year end average of 55 or better, and
ii) earned credit for at least 60% of the courses completed. See chart below.

Credits								
Completed	30 or 30+	27	24	21	18	15	12	9
Earned, at least	18	18	15	12	12	9	9	6

Assessment is based on a minimum of two final grades. Students who fail to meet one or two of these requirements will incur an academic penalty as listed below. Students who require fewer than 30 credits to complete their degrees will not be subject to academic penalties but will be required to meet the grading and average requirements in order to be granted a degree or diploma.

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

Students on probation must enrol in APEX unless, upon application by the student, the Committee on Studies of the appropriate faculty excuses the student on the grounds that the student would not benefit in a meaningful way from the program.

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

Students who are suspended from the university may return the next spring term following the term of their suspension.

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

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

See section 6.4 for Faculty of Education regulations.

3.12 APPEAL OF AN ACADEMIC PENALTY

Academic penalties of suspension or dismissal may be appealed to the Committee on Studies of the appropriate faculty. Appeals of suspension must be received by June 15 of the calendar year in which the suspension was imposed. Appeals of dismissal must be received by June 15 of the calendar year in which the student wishes to return to studies. The decisions of the Committee on Studies are final.

3.13 GRADE APPEAL PROCEDURE

a) Only final grades, including grades of course work used to calculate a final grade may be appealed.

b) All appeals must be made in writing through the appropriate Dean. The letter must state the reason for the appeal. There is a fee of $10 for each grade appealed. This fee is refunded if the appeal results in a change of grade.

c) Appeals must be made before January 15 for first-term courses; before May 30 for full-year and second-term courses; before July 15 for spring courses; 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 must pay a fee of $25 if an appeal committee is established; this fee is refunded if the committee decides in his or her favour.

3.14 CONVOCATION

StFX confers degrees and/or diplomas at two convocations per year; Spring (May) and Fall (December). Please refer to the calendar of events for dates. All students who expect to receive their degree or diploma must complete an application for degree or diploma. Students submit their intention to graduate through the application for graduation form on mesAmis. Applications must be made no later than the deadline dates listed in the calendar of events. Students who are completing their degree requirements in the fall term are not eligible to graduate at fall convocation with the exception of students in those programs whose requirements are all completed well in advance of the end of the term.

The name printed on the parchment must be the student's legal name as recorded on his/her academic record and the name provided on the admission application. Any change to this name must be supported by official documentation and submitted to the Registrar's Office.

StFX degrees are printed in Latin and show the academic designation (i.e., Bachelor of Arts with Major) but not the specific major, concentration, or minor. However, this information is included in the students' official academic record and appears on any transcript issued. StFX diplomas are printed in English.

Graduates who are unable to attend convocation will have their degrees mailed to their home address on file.

Students graduating with an undergraduate degree may be awarded the designation Distinction or First Class Honours. See section 3.20.

Candidates who receive degrees, diplomas and certificates from St. Francis Xavier University become members of the StFX Alumni Association. As members, alumni are eligible to receive the *Alumni News*, benefits and promotions exclusive to alumni, and information regarding development programs. Additional graduation information is available at http://www.sites.stfx.ca/registrars_office/graduation.

3.15 ACADEMIC RECORDS

3.15.1 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. This right does not extend to letters of reference given in confidence by the author. A member of the Registrar's Office staff will be present during the inspection.

b) Students have the right to receive transcripts of their own marks. 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 at the discretion of the Registrar. Students' personal and academic information is stored securely and used solely for the university's normal course of business.

Disclosure to Third Parties

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) Statistics Canada
Statistics Canada is the national statistical agency. As such, Statistics Canada carries out hundreds of surveys each year on a wide variety of matters, including education.

It is essential to be able to follow students across time and institutions to understand, for example, the factors affecting enrolment demand at postsecondary institutions. The increase emphasis on accountability for public investment means that it is also important to understand "outcomes". In order to conduct such studies, Statistics Canada asks all colleges and universities to provide data on students and graduates. Institutions collect and provide to Statistics Canada, student identification information (student's name, student ID number), student contact information (address and phone number), student demographic characteristics, enrolment information, previous education, and labour force activity.

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

Students who do not wish to have their information used can ask Statistics Canada to remove their identifying information from the national database. On request by a student, Statistics Canada will delete an individual's contact information from the PSIS database. To make such request, contact Statistics Canada:

Via mail: Institutional Surveys Section Centre for Education Statistics
Statistics Canada
100 Tunney's Pasture Driveway
R.H. Coats Building, Floor 13 G
Ottawa, (ON) K1A 0T6
Via email: statcan.PSIS-SIEP.statcan@canada.ca

Maritime Provinces Higher Education Commission (MPHEC)
The MPHEC collects data described above on behalf of Statistics Canada. In addition, it archives this data and uses it to generate basic statistics, research products, as well as the sampling frame for its graduate survey. These activities support its mandate, which is to assist institutions and governments in enhancing the post-secondary learning environment. The legal authority for these activities is provided by the Maritime Provinces Higher Education Commission Act. The Act also requires that all data received by the Commission be kept confidential to ensure protection of personal information. More information about the MPHEC and its standard for maintaining confidentiality may be found at www.mphec.ca.

For students who do not wish to have their information used, Statistics Canada will notify MPHEC of any student choosing to have their personal information removed from the national database, and their information will subsequently be removed from MPHEC's database.

e) Other than in the above situations, personal information about a student will only be released to third parties with the written consent of the student, or in accordance with the purposes for which it was collected or as required by law. A student's academic record will only be released to third parties at the written request of the student, or when the student has signed an agreement with a third party, a condition of which is access to his or her record (e.g., financial aid), or as required by law. This restriction applies to requests from parents, spouses, credit bureaus and police.

3.15.2 Retention of Student Files

Academic records, that is, paper files in the Registrar's Office, will be held for five years from the date of last attendance, and then destroyed. Former students who wish to re-apply after their files have been destroyed may have to re-submit academic transcripts from other institutions.

3.15.3 Transcript Requests

Requests for transcripts must be made in writing by students and accompanied by the required fee. Requests by phone cannot be accepted. Requests are to be made on the appropriate form obtainable from the office of the registrar or online at www.mystfx.ca/services/registrar/transcripts/ Transcript requests are processed in the order in which they are received. Normal processing time is 3-5 business days, but additional processing time may be required in January and May. Same-day service is available for an additional fee. Transcripts include the following information, where appropriate:

a) The student's program
b) Courses and numeric grades (failed as well as passed) for all academic work attempted or completed at StFX. Approximate conversion to letter grades is: A = 99-80, B = 79-70, C = 69-60, D = 59-50, F = less than 50.
c) The rank and year-end average if the student is enroled in a full-time undergraduate program. The average is calculated by weighing each grade by the credit value; see section 3.10. The decile is a student's ranking (10 high, 1 low) in a course with a least 15 registrants.
d) Transfer credits granted; grades for transfer credits are not shown
e) Degrees and diplomas awarded and dates conferred
f) Academic penalties, including notations of academic dishonesty
g) Distinctions, including placement on the Dean's List

Transcripts will be issued only if all financial obligations to the university have been met.

Transcripts are considered official only when original on secured paper bearing the signature imprint of the Registrar and either mailed directly from the Office of the Registrar to an institution or agency, or provided to the student in a sealed envelope. Additional information is available on the website at http://sites.stfx.ca/registrars_office/

3.16 REGULATIONS FOR A SECOND STFX DEGREE

To receive a second degree from StFX, a graduate of the university must complete at least 30 credits towards the second degree at StFX and must comply with all course requirements of the second degree. Candidates for a second degree may not choose a major, joint major, advanced major, joint advanced major or honours in the same subject as the first degree.

A StFX graduate who previously earned a BA, B.Sc. or BBA below the honours level may subsequently qualify for and receive an honours degree in the same major as that of the first degree. The student must qualify by meeting all faculty and department course, residence, grade, and average requirements for the honours degree, and must complete a minimum of 18 additional credits at StFX towards the second degree.

3.17 CONTINUING AND DISTANCE EDUCATION

The continuing and distance education department offers degree and non-degree learning opportunities onsite and online during fall, winter, spring and summer sessions.

For degree-credit courses, see specific departments in chapter 9; section 9.28 for information on the part-time B.Sc.Nursing program; chapter 8 for programs leading to master's degrees in education. Non-degree and non-credit courses offered through continuing and distance education are normally concentrated in two areas: general interest and professional development. For information on the Diploma in Intellectual Disability Studies see section 4.2. Non-credit workshops may also be offered on campus and online.

Current listings may be obtained from the continuing and distance education department's website at http://sites.stfx.ca/continuingeducation or by phone at 902-867-3906 or toll-free at 1-877-867-3906.

3.18 EXCHANGE AND STUDY ABROAD

StFX has exchange agreements with a number of universities, normally for a third year international study experience. Most of these universities are listed below. Where English is not the general language of instruction, usually some courses are taught in English and might suit StFX students.

Aalborg University, Denmark
American University of Ras Al Khaimah, UAE
Bangor University, Wales
Bond University, Australia
CEU Universidad San Pablo, Madrid, Spain
Charles University, Czech Republic
ESB Reutingen, Germany
ESC Amiens Business School

ESDES, Université Catholique de Lyon, France
ESSCA School of Management, France, Hungary, China
Griffith University, Australia
HAN-University of Applied Sciences
HANKEN School of Economics, Finland
Heriot-Watt University, Scotland
ICLA Yamanashi Gakuin University, Japan
IESEG, School of Management - Lille, France
Institut d'Etudes Politiques de Lille, France
Interdisciplinary Centre Herzliya, Israel
International School of Management, Germany
King Mongut's University of Technology-SIT, Thailand
Korea University. Soeul, Korea
Leeds Trinity University, England
NS-New England Partnership, USA
Pontificia Universidad Catolica del Peru, Peru
St. Mary's University College, London
Universidad de Guanajuato, Mexico
Universidad del Salvador, Argentina
Universidad Iberoamericana, Mexico
Universidad Iberoamericana UNIBE, Dominican Republic
Universität Koblenz-Landau, Germany
Universität Stuttgart, Germany
Université Catholique de l'Ouest, Angers, France
L'Universite de Toulouse II – Jean Jaures, France
University of Exeter, England
University of Limerick, Ireland
University of Newcastle, Australia
University of Southern Denmark, Denmark
University of the Highlands and Islands, Scotland
University of the West Indies, Barbados
Warsaw School of Economics, Poland
Yeditepe University, Turkey

Students on exchange pay full-time tuition to StFX and any other applicable fees to the host institution. A student may also apply to study abroad as a visiting student at any accredited university and pay tuition directly to that university. Exchange and study abroad students must apply to the International Exchange Office and be approved by StFX in order to have these courses credited towards their StFX degree. Students in some programs may need additional semesters in order to complete their degree.

Students must:

a) be enroled in a four-year program;
b) be in good academic standing prior to the exchange semester/year;
c) earn an average of at least 70, based on a minimum of 15 credits, in the semester prior to submitting the exchange application;
d) submit an application to the International Exchange Co-ordinator.

Second year students applying by the January 15 deadline will be considered for host university spaces available in the following academic year. After January 15, students may only apply to do an exchange during the winter term of third year for remaining exchange spaces at host universities. For more information contact Brenda Riley, International Exchange Co-ordinator at briley@stfx.ca or 902 867-4532.

3.19 DEAN'S LIST

At the end of each academic year students who have earned at least 24 credits, and have earned an average of at least 75%, will be named to the Dean's List if they rank in the top 25% of their class in their Faculty.

Students who participate in international education (e.g., exchange and study abroad) and co-op programs will be eligible for the Dean's list provided that the student has a completed a minimum of 12 credits at StFX in the year of eligibility.

3.20 DISTINCTION AND FIRST CLASS HONOURS

Faculty of Arts and the Faculty of Business

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 and Business 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. Students who return to complete 18 credits toward an honours degree are not eligible for the First Class Honours designation.

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.Nursing for Registered Nurses by Distance program, the average of at least 80 will be calculated on the best 33 credits completed at StFX if the student's program is 63 credits. Of the grades considered in calculating the above average, none shall be below 75.

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

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

3.21 CORRESPONDENCE FROM THE REGISTRAR'S OFFICE TO THE STUDENT

Upon registration at StFX, all official correspondence from the Registrar's Office, with the exception of academic penalty letters, is sent to students via their StFX email account. Students are responsible for checking their StFX email regularly and to keep their inbox open for delivery.

3.22 OBLIGATIONS OF STUDENTS

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

i) the StFX Academic Calendar available at http://sites.stfx.ca/registrars_office/academic_calendar or from the Registrar's Office
ii) the StFX Community Code of Conduct, available at http://sites.stfx.ca/student_life/student_conduct or from the Student Life office
iii) the Academic Integrity Policy available at http://www.stfx.ca/services/registrar/academic-integrity-document.pdf

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

3.23 RESEARCH ETHICS

All faculty and student researchers at StFX who wish to carry out research involving human participants, whether on campus or elsewhere, must have their projects approved by the University Research Ethics Board (REB) or one of its department sub-committees. Researchers must submit electronically a completed application form and any supporting documentation. Researchers must have REB approval prior to beginning the study. The REB operates within the *Tri-Council Policy Statement Guidelines*; researchers may consult these or the REB website http://sites.stfx.ca/research_ethics_board/ for additional information.

4. FACULTY OF ARTS REGULATIONS

4.1 General Regulations
4.1.1 Degrees and Diploma Offered
4.1.2 Subjects Available
4.1.3 Degree and Diploma Patterns
4.1.4 Declaration of Major, Advanced Major, or Honours
4.1.5 Advancement & Graduation Requirements by Degree
4.1.6 Co-operative Education Program in Arts
4.2 Bachelor of Arts and Science in Health
4.3 Humanities Colloquium
4.4 Social Justice Colloquium
4.5 Diploma in Intellectual Disability Studies

4.1 GENERAL REGULATIONS

4.1.1 Degrees and Diploma Offered

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

Under the arts heading there are seven degrees:

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

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

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

Under the music heading, there are five degrees and one diploma:

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

The Faculty of Arts, jointly with the Faculty of Science, offers

Bachelor of Arts and Science in Health with Major, see section 4.2.
Bachelor of Arts and Science in Health with Honours, see section 4.2.

4.1.2 Subjects Available (see chart below)

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

Subjects Available Chart 4.1.2 M1 = Major 1; M2= Major 2; Mi = Minor; P = Pair; E = Elective; S = Subsidiary.		BA Major	BA Joint Major	BA Adv Major	BA Joint Adv Major	BA Honours	BA Honours Subsidiary *	BA AQUA
ANTH	Anthropology, see 9.2	M1, Mi, P, E	M1, M2, P, E	M1, Mi, P, E	M1, M2, P, E	M1, P, E	M1, S, P, E	—
CSCI	Computer Science, see 9.11	M1, Mi, P, E	M1, M2, P, E	M1, Mi, P, E	M1, M2, P, E	M1, P, E	M1, S, P, E	—
ECON	Economics, see 9.15	M1, Mi, P, E	M1, M2, P, E	M1, Mi, P, E	M1, M2, P, E	M1, P, E	M1, S, P, E	—
ENGL	English, see 9.18	M1, Mi, P, E	M1, M2, P, E	M1, Mi, P, E	M1, M2, P, E	M1, P, E	M1, S, P, E	—
FREN	French, see 9.26	M1, Mi, P, E	M1, M2, P, E	M1, Mi, P, E	M1, M2, P, E	M1, P, E	M1, S, P, E	—
HIST	History, see 9.21	M1, Mi, P, E	M1, M2, P, E	M1, Mi, P, E	M1, M2, P, E	M1, P, E	M1, S, P, E	—
MATH	Mathematics, see 9.25	M1, Mi, P, E	M1, M2, P, E	M1, Mi, P, E	M1, M2, P, E	M1, P, E	M1, S, P, E	—
PHIL	Philosophy, see 9.29	M1, Mi, P, E	M1, M2, P, E	M1, Mi, P, E	M1, M2, P, E	M1, P, E	M1, S, P, E	—
PSCI	Political Science, see 9.31	M1, Mi, P, E	M1, M2, P, E	M1, Mi, P, E	M1, M2, P, E	M1, P, E	M1, S, P, E	—
DEVS	Development Studies, see 9.13	Mi, P, E	M1, M2, P, E	Mi, P, E	M1, M2, P, E	P, E	M1, S, P, E	—
CELT	Celtic Studies, see 9.8	M1, Mi, P, E	M1, M2, P, E	Mi, P, E	P, E	M1, P, E	M1, S, P, E	—
PSYC	Psychology, see 9.32	M1, Mi, P, E	M1, M2, P, E	Mi, P, E	P, E	M1, P, E	M1, S, P, E	—
RELS	Religious Studies, see 9.34	M1, Mi, P, E	M1, M2, P, E	Mi, P, E	P, E	M1, P, E	M1, S, P, E	—
SOCI	Sociology, see 9.35	M1, Mi, P, E	M1, M2, P, E	Mi, P, E	P, E	M1, P, E	M1, S, P, E	—
PGOV	Public Policy and Governance, see 9.33	M1, Mi, P, E	M1, M2, P, E	Mi, P, E	P, E	P, E	M1, S, P, E	—
MUSI	Music, see 9.27	M1, Mi, P, E	M1, M2, P, E	M1, Mi, P, E	M1, M2, P, E	P, E	S, P, E	—
WMGS	Women's and Gender Studies, see 9.36	M1, Mi, P, E	M1, M2, P, E	M1, Mi, P, E	M1, M2, P, E	P, E	S, P, E	—
CATH	Catholic Studies, see 9.7	M1, Mi, P, E	M1, M2, P, E	Mi, P, E	P, E	P, E	S, P, E	—
SPAN	Spanish, see 9.26	M1, Mi, P, E	M1, M2, P, E	Mi, P, E	P, E	P, E	S, P, E	—
ART	Art History, see 9.4	Mi, P, E	P, E	Mi, P, E	P, E	P, E	S, P, E	—
ART	Studio Art, see 9.4	Mi, P, E	P, E	Mi, P, E	P, E	P, E	P, E	—
BIOL	Biology, see 9.5 and note 5	Mi, P, E	P, E	Mi, P, E	P, E	P, E	P, E	—
CHEM	Chemistry, see 9.9 and note 5	Mi, P, E	P, E	Mi, P, E	P, E	P, E	P, E	—
ESCI	Earth Sciences, see 9.14 and note 5	Mi, P, E	P, E	Mi, P, E	P, E	P, E	P, E	—
PHYS	Physics, see 9.30 and note 5	Mi, P, E	P, E	Mi, P, E	P, E	P, E	P, E	—
CLAS	Classical Studies, see 9.10	P, E	P, E	P, E	P, E	P, E	P, E	—
GERM	German, see 9.26	P, E	P, E	P, E	P, E	P, E	P, E	—
AQUA	Aquatic Resources, see 9.3	E	E	E	E	E	S, E	M2 see note 4
BSAD	Business Administration, see 9.6 and note 1	Mi, E	E	Mi, E	E	E	E	—
ENGR	Engineering, see 9.17 and note 2	E	E	E	E	E	E	—
HKIN	Human Kinetics, see 9.22 and note 3	E	E	E	E	E	E	—
HNU	Human Nutrition, see 9.23 and note 3	E	E	E	E	E	E	—
IDS	Interdisciplinary Studies, see 9.24	E	E	E	E	E	E	—
MIKM	Mi'kmaq, see 9.26	E	E	E	E	E	E	—
NURS	Nursing, see 9.28 and note 2	E	E	E	E	E	E	—
HLTH	Heatlh, see 9.20, see note 6	E	E	E	E	E	E	—

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

Note 1 Students may normally complete a maximum of 12 credits in BSAD but only students who transfer out of BBA may count these as a pair. Only students completing a major or advanced major in Economics may complete a minor in Business Administration.
Note 2 Students who transfer out of the engineering or nursing program may count a maximum of 6 credits in ENGR or NURS.
Note 3 A maximum of six credits in HKIN and/or HNU may be used as open electives; they may not be taken in the first year; permission of the professor and the department chair are required.
Note 4 The degree is BA Major in Economics or Public Policy and Social Research, and Major in Aquatic Resources.
Note 5 In addition to using science courses as electives, students may complete a minor or one pair in a science discipline.
Note 6 Students who transfer out of BASc in Health may use the HLTH courses as electives
* A subsidiary may normally be done only in a subject in which a major is offered in the BA program with exceptions as noted.

4.1.3 Degree and Diploma Patterns (see chart below)

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

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

First-Year Pattern

Students in the first year of the BA normally follow the pattern of courses listed below. Group I and Group II refer to departments that offer the full range of BA degree options, namely, majors, advanced majors, and honours programs. All courses are introductory with numbers in the range 100-199 (e.g., ENGL 100). The normal academic load is 30 credits per year. In first year, students in the BA carry courses as follows:

Group I	6 credits from Catholic studies, Celtic studies, computer science, English, history, mathematics, philosophy, religious studies
Group II	6 credits from anthropology, development studies, economics, modern languages (French, Spanish), political science, psychology, public policy and governance, sociology, women's and gender studies
Group I or II	6 credits
Arts/Science electives	6 credits (may not be a course from a professional program such as aquatic resources, business administration, engineering, human kinetics, human nutrition or nursing)
Open electives	6 credits

4.1.4 Declaration of Major, Advanced Major, or Honours

Students meet with faculty advisors in their major, advanced major, or honours departments to discuss future course selection. In the first year of study, a student applies for admission to the desired program by completing and submitting the appropriate application form, signed by the chair, to the Dean's office by March 29. Students are advised of acceptance to their programs in the summer following submission of their forms. Students in the advanced major or honours programs must be registered full time in their final year of study. The forms are available at http://sites.stfx.ca/dean_of_arts/

4.1.5 Advancement & Graduation Requirements by Degree (see chart next page)

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.

4.1.6 Co-operative Education Program in Arts

This optional academic program is for BA in computer science or mathematics or students in the BASc in Health. Students have the opportunity to gain 12 months of professional, paid work experience in a range of opportunities in industry, government and not-for-profit across Canada. Students obtain valuable technical and professional experience to reinforce classroom-based instruction. See section 9.12 for further information.

4.2 BACHELOR OF ARTS AND SCIENCE IN HEALTH

The BASc in Health is designed to allow students to approach health and health-related issues from an interdisciplinary perspective. The program aims to provide students with a contemporary education in health by drawing on knowledge from a number of disciplines. Since the field of health is most fully understood with scientific, social, and humanistic contributions to its definition, the program is developed within the BASc structure - a four-year combined degree in both arts and science. The program will be suitable for students who come to University with a desire to pursue a career in selected health-related field or who want to pursue a graduate degree. This is not a professional program that prepares students to become practitioners, but rather provides students who have an interest in health with the opportunity to explore health from multiple disciplinary perspectives. This program will prepare students for the topics covered in the MCAT exams.

4.3 HUMANITIES COLLOQUIUM

The Humanities Colloquium (HC) is an optional and interdisciplinary way of studying three first-year courses, usually ENGL 100, HIST 100, and PHIL 100. Three sections of these courses are taught in a historically co-ordinated way with a focus on the great books of Western Civilization. Students who enrol in the Humanities Colloquium are co-enroled in all three of the HC sections, and these sections are restricted to HC students. The three courses present an intensive introduction to four historical periods: The Ancient World; The Middle Ages; The Renaissance to the Enlightenment; and The Modern Age. In each period, students learn the history while simultaneously reading the philosophy and literature of the same era. Assignments, essays, and examinations are co-ordinated to reflect common themes across the three courses.

Please see the website at http://sites.stfx.ca/humanities_colloquium/ for additional information and update for the specific courses offered each academic year.

Degree and Diploma Patterns Chart 4.1.3 Req = Required; Elec = Electives

Bachelor of Arts	Major 1	Major 2	Minor	Pair	Elective			
BA Major	36 credits	—	24 credits	3 x 12 credits	24 credits			
BA Joint Major	36	36 credits	—	2 x 12	24, See note 2	Each of these six degrees		
BA Advanced Major	36	—	24	3 x 12	24	requires a minimum of 36 credits		
BA Joint Advanced Major	36, see note 4	36	—	2 x 12	24, See note 2	at the 300- or 400-level.		
BA Honours	60	—	—	2 x 12	36			
BA Honours with Subsidiary (See note 3)	min 48	min 24	—	1 x 12	24-36, See note 3			
BASc in Health	**Core**	**Concentration 1**	**Concentration 2**	**Humanities**	**Electives**			
BASc in Health Major	24	48	24	12	12			
BASc in Heath Honours	24	54	24	12	6			
Human Kinetics	**HKIN Req**	**HKIN Elec**	**BIOL**	**Arts A**	**Arts B**	**Arts/Sci Elec**	**Approved**	**Elective**
BA HKIN Major Kinesiology	33	21	6	24	12	12	6	6
BA HKIN Major Pre-Education	42	12	6	24, See note 1	12	12	6	6
BA HKIN Advanced Major or Honours Kinesiology	36	18	6	24	12	12	6	6
BA HKIN Advanced Major or Honours Pre-Education	51	3	6	24, See note 1	12	12	6	6
Music	**MUSI Req**	**Pair**	**Arts/Sci Elec**	**Elective**				
Diploma in Jazz Studies	48		12	—	—	—	—	—
BA in Music (Jazz Studies), Advanced Major & Honours	72	3 x 12 credits	—	12	—	—	—	—
Bachelor of Music (Jazz Studies)	87	2 x 12	—	9	—	—	—	—
BA Major in Music (same as BA in Music above)								

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

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

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

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

Note 5 A pair is 12 credits in one subject, with requirements and restrictions as outlined in the glossary section of this academic calendar.

Advancement & Graduation Requirements by Degree Chart 4.1.5

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
BA Advanced Major	average 65 in each of first two years; grade of 65 in each major and minor course	average 70; average 70 in the major courses; average 70 in the minor courses	average 70; average 70 in the major courses; average 70 in the minor courses
BA Joint Advanced Major	average 65 in each of first two years; grade of 65 in each course in each major	average 70; average 70 in each major	average 70; average 70 in each major
BA Honours	average 75 on 60 credits completed in the first two years; average 75 in all courses completed in the honours subject during the first two years; grade of 70 in each course in the honours subject	average 75 ; average 75 in the honours courses; grade of 70 in each course in the honours subject	average 75; average 75 in the honours courses; grade of 70 in each course in the honours subject
BA Honours with Subsidiary	same as above for BA Honours, and applied to both subjects	same as above for BA Honours, and applied to both subjects	same as above for BA Honours, and applied to both subjects
Bachelor of Arts in Music (Jazz Studies)	grade of 60 in each of MUSI 190 and 290	—	average 55
Bachelor of Arts in Music (Jazz Studies) with Advanced Major	average 65 in each of first two years; grade of 65 in each MUSI course	average 70; average 70 in MUSI courses	average 70; average 70 in MUSI courses
Bachelor of Arts in Music (Jazz Studies) with Honours	average 75 on 60 credits completed in the first two years; average 75 in MUSI courses completed during the first two years; grade of 70 in each MUSI course	average 75; average 75 in MUSI courses; grade of 70 in each MUSI course	average 75; average 75 in MUSI courses; grade of 70 in each MUSI course
Bachelor of Music (Jazz Studies) with Honours	average 75 on 60 credits completed in the first two years; average 75 in MUSI courses completed during the first two years; grade of 70 in each MUSI course	average 75; average 75 in MUSI courses; grade of 70 in each MUSI course; submit a thesis in the third year as a component of MUSI 390	average 75; average 75 in MUSI courses; grade of 70 in each MUSI course
Diploma in Jazz	grade of 60 in MUSI 190 to advance to second year;	—	grade of 60 in MUSI 290
BA Human Kinetics	—	—	average 55
BA Human Kinetics with Advanced Major	average 65 in each of first two years; grade of 65 in each HKIN course	average 70; average 70 in HKIN courses	average 70; average 70 in HKIN courses
BA Human Kinetics with Honours	average 75 in each of first two years; average 75 in HKIN courses completed during first two years; grade of 70 in each HKIN course	average 75; average 75 in HKIN courses; grade of 70 in each HKIN course	average 75; average 75 in HKIN courses; grade of 70 in each HKIN course

4.4 SOCIAL JUSTICE COLLOQUIUM

The Social Justice Colloquium (SJC) is a first-year option for Bachelor of Arts students. Participants are enroled in dedicated sections of anthropology, global history and women's and gender studies. The instructors work together to coordinate their teaching so that students learn about social justice from various perspectives. In addition, students will complete a service learning experience that will be interwoven with academic learning. Through theory and practice participants will become better students and more engaged community members.

Further information is available on the website at http://sites.stfx.ca/sjc/

4.5 DIPLOMA IN INTELLECTUAL DISABILITY STUDIES

The Diploma in Intellectual Disability Studies is a professional/personal development non-credit online program. This is an opportunity for individuals who have some training and/or experience working or living with people who have an intellectual disability. Students must complete five 12-week courses to receive the diploma, however courses are offered individually for interest (contact the Program Office for details; inds@stfx.ca). Each course requires 10 to 12 hours per week of study.

Course*		Offered
INDS110	Foundations of Disability & Caregiving	Fall
INDS120	Relationships, Advocacy & Vision	Winter
INDS130	Human Development	Fall
INDS140	Building Community	Winter
INDS150	Practicum	Open access

*Not all courses may be offered each year.

5. FACULTY OF BUSINESS REGULATIONS

5.1 General Regulations
5.1.1 Degrees Offered
5.1.2 Degree Requirements
5.1.3 Electives
5.1.4 Application for Advanced Major or Honours
5.1.5 Advancement and Graduation Requirements by Degree
5.1.6 Co-operative Education Programs in the Schwartz School of Business

The Faculty of Business is located in the Schwartz School of Business. The Gerald Schwartz School provides students with skills and knowledge to meet the challenges of managing effectively in the 21st century. The major benefactor of the school is Mr.Gerald Schwartz, founder and CEO of Onex Corporation, and distinguished Canadian business leader. The Schwartz School offers Bachelor of Business Administration (BBA) majors, advanced majors and honours degrees.

5.1 GENERAL REGULATIONS

5.1.1 Degrees Offered

The following degrees are offered in Business Administration:

Bachelor of Business Administration with Major in accounting, entrepreneurship, enterprise systems, finance, management and leadership, or marketing

Bachelor of Business Administration with Advanced Major in accounting, entrepreneurship, enterprise systems, finance, management and leadership, or marketing

Bachelor of Business Administration with Honours in accounting, entrepreneurship, enterprise systems, finance, management and leadership, or marketing

Bachelor of Business Administration with Joint Honours in business administration and economics

5.1.2 Degree Requirements

Beginning in 2016-17, all students in the BBA program will choose their area of concentration at the end of their second year of studies. Students will declare their major in one of the six streams identified above. Students who qualify academically for the advanced major or honours programs will be able to apply for these degree streams at that time. For more specific requirements for the advanced major and honours degrees see Section 9.6. Chart 5.1.2 shows the structure of the BBA major, advanced major and honours degree programs.

BBA Degree Requirements Chart 5.1.2

Requirements	Major	Adv Major	Honours
BSAD core credits	27	27	27
BSAD stream prescribed credits	21	27 (including capstone course)	27 (including a methods course and thesis)
BSAD electives	15	9	9
Total BSAD credits	63	63	63
Arts/Science prescribed credits	12*	12*	12*
Arts/Science electives	36**	36**	36**
Total Arts/Science credits	48	48	48
Open credits	9	9	9
Total credits	120	120	120

* For the finance stream: Art/Sc credits prescribed total 18

** For the finance stream: Arts/Sc electives total 30.

5.1.3 Electives

a) Arts and Science Electives

i) BBA students must earn 36 credits of arts/science electives (with the exception of students in the finance stream who need to earn 30 credits). Normally these credits are completed prior to the fourth year of study. The arts/science electives must include a pair (12 credits) in each of two different subjects offered by the Faculty of Arts or the Faculty of Science with exceptions noted below. The remaining credits of arts/science electives may be additional courses in paired subjects or courses in other subjects.

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

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

iv) The following professional and applied subjects are not permitted as arts/science electives: Adult education, aquatic resources, education, engineering, human kinetics, human nutrition and nursing.

v) Economics courses beyond ECON 101 and 102 may count as an arts pair except for BBA students enroled in the joint honours in business administration and economics program.

b) Earning a Minor in an Arts or Science Subject (BBA programs)

Any BBA student earning 24 credits in one arts or science subject may qualify for a minor in that subject. Any specific departmental requirements for the minor must be met. Students must also complete a pair (12 credits) in another subject. To have a minor officially recognized, a student must advise the Dean's office of the desire to have the minor noted on the academic record.

i) Students wishing to complete a minor in economics must complete 24 credits in addition to ECON 101 and 102.

ii) Students wishing to complete a minor in mathematics/statistics/computer science must complete 24 credits in addition to MATH 105 and STAT 101.

c) Open Electives

Most BBA programs include nine 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, courses in selected subjects not normally permitted as arts/science electives including engineering, human kinetics, human nutrition and nursing.

5.1.4 Application for Advanced Major or Honours

In the second year of study, students apply for admission to an advanced major or honours program when they complete the appropriate application form and submit the form to the Dean's office by March 31. Students are advised of their acceptance to the program in the summer following submission of the form. Students in the advanced major or honours programs must be registered full-time in their final year of study. The forms are available at http://sites.stfx.ca/dean_of_business/

5.1.5 Advancement and Graduation Requirements by Degree (see chart below)

All students must fulfill the pattern and credit requirements as specified for the major, advanced major or honours programs. For BBA joint honours degrees, students submit only one honours thesis to the business administration or economics department.

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 of Business.

Advancement and Graduation Requirements by Degree Chart 5.1.5

Degree	Admission End of Second Year	Advancement End of Third to Fourth Year	Graduation and Fourth-Year Requirements
BBA Major	-	-	average 55
BBA with Advanced Major	average 65 in courses taken in the first two years; average 65 in the required first- and second-year BSAD, ECON, MATH and STAT courses	average 70; average 70 in the BSAD and required ECON courses taken in year three in the majors subject	average 70; average 70 in the BSAD and required ECON courses taken in year four in the majors subject
BBA with Honours	average 75 in courses taken in the first two years; average 75 in the required first- and second-year BSAD, ECON, MATH and STAT courses; grade of 70 in each of these required courses	average 75; average 75 in all BSAD and required ECON courses; grade of 70 in each course in the honours subject	average 75; average 75 in all BSAD and required ECON courses; grade of 70 in each course in the honours subject and the honours thesis
BBA with Joint Honours in Business Administration and Economics	average 75 in courses taken in the first two years; average 75 in the required first- and second-year BSAD, ECON, MATH and STAT courses; grade of 70 in each of these required courses	average 75; average 75 in BSAD and ECON courses; grade of 70 in each BSAD and ECON course	average 75; average 75 in BSAD and ECON courses; grade of 70 in each BSAD and ECON course; grade of 70 on the honours thesis

5.1.6 Co-operative Education Programs in the Schwartz School of Business

This optional academic program allows students have the opportunity to gain 12 months of professional, paid work experience in a range of opportunities in industry, government and not-for-profit across Canada. Students obtain valuable hands-on professional experience to reinforce classroom-based instruction. The BBA Co-op Program is accredited by the Canadian Association for Co-operative Education (CAFCE). See section 9.12 for further information.

6. FACULTY OF EDUCATION REGULATIONS

6.1 B.Ed. Admission Requirements
6.1.1 Admission Process
6.1.2 Admission Timeline
6.1.3 Elementary Education (P-6) Requirements
6.1.4 Secondary Education (7-12) Requirements
6.2 B.Ed. Physical Education Specialization
6.3 B.Ed. Mi'kmaq Focus
6.4 B.Ed. Progression Requirements and Academic Penalties
6.5 B.Ed. Professional Conduct
6.6 B.Ed. Certification
6.7 Diploma in Adult Education
6.8 Certificate in Elementary Mathematics Education
6.9 Certificate in Outdoor Education

6.1 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 with an additional middle years option available in either stream. Specialist programs in teaching physical education and French as a second language are available in all streams and options.

6.1.1 Admission Process

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

a) File Review
During the file review process, applicants are initially evaluated on four equally weighted criteria.
   i) Academic record: Normally applicants must have a senior-year average of at least 70 or a GPA of 2.5. Consideration is also given to the applicant's performance throughout the entire undergraduate program.
   ii) Life experiences and community involvement: Both breadth and depth of involvement are evaluated, as is the applicant's experience with diversity and with inclusive practices.
   iii) Letters of reference: Evaluation of the applicant's personal and professional qualities as presented by three referees who know the individual well as a student, worker and community member-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 area, 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, middle years 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.

d) Criminal Records and Child Abuse Checks & Updates
Applicants for the Bachelor of Education Program must submit Criminal Records Checks and Child Abuse Registry Checks to the StFX B.Ed. Admissions Coordinator following confirmation of enrollment into the program; these checks will be shared with the participating School Board(s) for EDUC 471; EDUC 472; EDUC 481; EDUC 482 (Field Practicum). While enrolled in the B.Ed. program students are responsible to inform the Chair of the Department of Teacher Education of any changes that occur to the Criminal Records Check or the Child Abuse Registry Check that are submitted as part of the Admissions requirements; changes in this status could result in denial of practicum and/or denial of teaching license.

6.1.2 Admission Timeline

Jan 24	Completed applications are submitted for the year in which admission is sought.
Feb 1-10	Applications are reviewed by Faculty of Education.
Feb 10-Mar 15	Selected applicants are invited for interviews by stream and by subject field throughout this period.
Feb 25-Mar 30	Letters are mailed to applicants either making an offer, placing individuals on a wait list, or expressing regret.

6.1.3 Elementary Education (P-6) Requirements

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

Social Studies: Nine credits are required in social studies from any one or combination of the following disciplines: history (with a preference for local and Canadian history), geography, economics, political science, anthropology, sociology, law, classics, Acadian studies, African-Canadian studies, Mi'kmaq studies, and/or philosophy.

Mathematics: Six credits are required in the subject field of mathematics. Three of the six credits must include the investigation of fundamental concepts and ideas.

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.

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 recommended and is required for teacher certification in some Canadian provinces outside of Nova Scotia.

Developmental Psychology: Three or six credits are required.

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

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

6.1.4 Secondary Education (7-12) Requirements

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

a) Major Subject Field
A minimum of at least 30 credit hours of university coursework in one discipline of a subject field taught in Nova Scotia secondary schools. A maximum of 6 credit hours of cognate university coursework may be included in fulfillment of this requirement.

b) Minor Subject Field
A minimum of at least 18 credit hours of university coursework in one discipline of a second subject field taught in Nova Scotia secondary schools. A maximum of 6 credit hours of cognate university coursework may be included in fulfillment of this requirement.

Cognate coursework refers to coursework in which the content is consistent with the content in the discipline for which credit is being allocated, for example, classics as history, communications as English. Final decisions on cognates are

determined by the Faculty of Education in consultation with the NS Department of Teacher Certification.

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

Secondary education students must prepare to teach two subject fields normally taught in the public secondary schools of Nova Scotia (English, French, social studies, mathematics, science, physical education/health education, fine arts, Gaelic, family studies, Spanish, business). Information on subject fields and related disciplines:

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

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

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

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

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

Physical Education/Health Education: See section 6.2.

Gaelic: Applicants must have a concentration in one of the following related disciplines: Celtic studies, Scottish Gaelic, or Irish Gaelic.

Fine Arts: Applicants must have a concentration in one of the following related disciplines; art, drama, music or theatre studies.

Family Studies: Applicants must have a dual concentration which covers two of the three threads of the family studies program: food and nutrition; textile arts and family dynamics. Applicants' transcripts will be assessed individually for suitability for the family studies field, but generally, a concentration in human nutrition, family studies, sociology, psychology, and consumer education is recommended.

Spanish: Applicants must have a concentration in Spanish with an emphasis on oral and written communication.

Business: Applicants must have a background in one of the related disciplines of business administration or commerce.

6.2 BACHELOR OF EDUCATION PHYSICAL EDUCATION SPECIALIZATION

As a specialist discipline, physical education requires that prospective students normally meet recognized CCUPEKA standards. In addition to the general requirements for either the elementary or secondary stream, applicants must have a minimum of 30 credits in the major subject for their first degree in the related disciplines of physical education, human kinetics, or kinesiology, with at least half consisting of courses beyond the introductory level. In addition, students should present among their required courses the following:

a) Courses illustrating knowledge of disciplinary content, including but not limited to, human anatomy/physiology, motor learning and control, biomechanics, and psychology of physical activity.
b) Courses related to the curriculum of the provincial school system including basic movement, gymnastics, dance, and team/individual sports, recreation and leisure pursuits, outdoor pursuits, and exercise and health-related fitness.
c) Courses in health education and growth and development.
d) A course in special populations in physical education.

Consideration may be given to applicants with unique skill sets or experiences.

6.3 BACHELOR OF EDUCATION MI'KMAQ FOCUS

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

6.4 BACHELOR OF EDUCATION PROGRESSION REQUIREMENTS AND ACADEMIC 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. Students are expected to pass all of their academic courses and practicum each term.

a) Students who fail one academic course in one term will normally be placed on academic probation and may be withheld from practicum.
b) Students who fail more than one academic course in a term will normally be suspended.
c) Students who fail practicum (i.e. a student who receives two unsatisfactory reports in any single practicum term) will normally be suspended.
d) If a student is re-admitted to the program after the suspension period and fails one or more courses or receives two more unsatisfactory practicum reports in a single practicum term, the student will normally be dismissed from the program.

The procedure for appealing two unsatisfactory practicum reports is given in Section VI (G) of the Faculty of Education Field Experience Handbook.

The procedure for appealing an academic penalty is given in section 3.12. Students who successfully appeal will be permitted return to the B.Ed. program as soon as course availability permits. Consideration for alternative arrangements to complete coursework will be made at the discretion of the department chair. A student who is suspended from the B.Ed. program may re-apply after a period of one year. Other regulations in 3.11 may apply.

6.5 BACHELOR OF EDUCATION PROFESSIONAL CONDUCT

The Department of Teacher Education has adopted guidelines for the conduct of preservice teachers enroled in the Bachelor of Education program. As students and aspiring teachers, all B.Ed. program members must adhere to the guidelines as outlined in the B.Ed. Handbook and the Nova Scotia Teachers' Union Code of Ethics.

In the event of unprofessional conduct of a Bachelor of Education student, a faculty advisor or faculty member is required to bring it to the immediate attention of the B.Ed. Chair. The B.Ed. Chair shall call a meeting of the B.Ed. Professional Committee which will examine the circumstances of the reported incident(s). Based on the advice of the committee, the B.Ed. Chair may recommend the imposition of penalties including probation and/or a letter a warning, or suspension from the B.Ed. program. In some cases, violation of professional conduct guidelines may result in the B.Ed. Chair will recommending dismissal of the pre-service teacher to the Faculty of Education Committee on Studies.

6.6 BACHELOR OF EDUCATION 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, ITC, awarded by the Nova Scotia Department of Education.

6.7 DIPLOMA IN ADULT EDUCATION

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

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

Upon completion of the first five modules, the 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.

6.8 CERTIFICATE IN ELEMENTARY MATHEMATICS EDUCATION

This program has been developed in response to a need identified by the Nova Scotia Department of Education and school board partners. The Certificate in Elementary Mathematics Education is recognized for a licensing upgrade in Nova Scotia. The certificate consists of a sequence of ten courses focusing on content and pedagogy suitable for the elementary and middle years and is offered to cohorts of in-service teachers on a part-time basis.

6.9 CERTIFICATE IN OUTDOOR EDUCATION

This program is designed to fulfill a need identified by practitioners across the province in response to curriculum changes in the Physical Education curriculum in Nova Scotia. The Certificate in Outdoor Education is recognized for a licensing upgrade in Nova Scotia and consists of a sequence of eleven courses which focus on the skills and pedagogy required to offer outdoor pursuits to students of all ages in Nova Scotia schools. This certificate is offered to cohorts of in-service teachers on a part-time basis.

7. FACULTY OF SCIENCE REGULATIONS

7.1 General Regulations
7.1.1 Degrees Offered
7.1.2 Subjects Available
7.1.3 Degree Patterns
7.1.4 Declaration of Major, Advanced Major, or Honours
7.1.5 Advancement and Graduation Requirements by Degree
7.1.6 Bachelor of Science with Joint Advanced Major
7.1.7 Bachelor of Science with Joint Honours
7.1.8 Co-operative Education Program in Science
7.2 Engineering
7.2.1 Bachelor of Science with a Diploma in Engineering
7.3 Possible Pathways in the Sciences
7.3.1 Architectural Science
7.3.2 Pre-Medical Studies
7.3.3 Pre-Dental Studies
7.3.4 Pre-Veterinary Studies
7.3.5 Graduate Studies
7.3.6 Education and Teaching

7.1 GENERAL REGULATIONS

Each degree in the Faculty of Science requires 120 credits, with the exception of the B.Sc. Nursing and B.Sc.Human Nutrition with IDI degrees. The four-year B.Sc. in Nursing requires 120 credits; the accelerated option for post-degree students is 69 credits; and the option for RNs requires 63 credits. The B.Sc.Human Nutrition with IDI degree requires 138 credits. The Diploma in Engineering requires 69 credits. Courses for each degree and diploma must follow the pattern required by the program chosen.

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

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

7.1.1 Degrees and Diploma Offered

The Faculty of Science offers undergraduate degrees in the natural and applied sciences (biology, chemistry, computer science, earth sciences, environmental sciences, mathematics, physics, psychology) and in the health sciences (human kinetics, human nutrition, nursing) and the diploma in engineering.

Under the science heading there are several degree options:

Bachelor of Science with Major: in one of seven majors listed below. An optional minor is available in an arts or science subject.

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 chart 7.1.6 for combinations

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

Bachelor of Science with 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 chart 7.1.7 for combinations

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

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

Bachelor of Science in Human Kinetics

Bachelor of Science in Human Kinetics with Advanced Major

Bachelor of Science in Human Kinetics with Honours

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

Under the human nutrition heading there are six degrees (with or without IDI):

Bachelor of Science in Human Nutrition

Bachelor of Science in Human Nutrition with Advanced Major

Bachelor of Science in Human Nutrition with Honours

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

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

Bachelor of Science in Nursing with Advanced Major

Bachelor of Science in Nursing with Honours

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

Certificate in Gerontological Nursing

Certificate in Continuing Care

The Faculty of Arts, jointly with the Faculty of Science, offers

Bachelor of Arts and Science in Health with Major, see section 4.2.

Bachelor of Arts and Science in Health with Honours, see section 4.2.

Under the engineering heading there is one diploma*:*

Diploma in Engineering

The Diploma in Engineering can be completed concurrently with the Bachelor of Science degree; see section 7.2.1.

7.1.2 Subjects Available (see chart next page)

The following chart lists the subjects available for study in the science degrees within the Faculty of Science, where each subject may be used within the degree pattern, and where two subjects may be combined in a joint advanced major or joint honours degree.

7.1.3 Degree Patterns (see chart next page)

Listed in the chart on the next page are the degrees and the diploma in the Faculty of Science with the course patterns and credit requirements for each. In science, the acceptable arts subjects are anthropology, art, Canadian studies, Catholic studies, Celtic studies, classical studies, development studies, economics, English, French, German, history, music, philosophy, political science, psychology, religious studies, sociology, Spanish, and women's and gender studies. Certain restrictions apply; see chart 4.1.2.

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

7.1.4 Declaration of Major, Advanced Major, or Honours

Students meet with faculty advisors in their major, advanced major, or honours departments to discuss future course selection. In the first year of study, a student applies for admission to the desired program by completing and submitting the appropriate application form, signed by the chair, to the Dean's office by March 29. Students are advised of acceptance to their programs in the summer following submission of their forms. The forms are available at http://sites.stfx.ca/dean_of_science/

Science Degrees Offered Chart 7.1.2 A = Science A; B = Science B; C = Science C; E = Elective

Code	Subject	B.Sc. Major	B.Sc. Advanced Major	B.Sc. Joint Advanced Major (See chart 7.1.6)	B.Sc. Advanced Major Science with Business	B.Sc. Honours	B.Sc. Joint Honours (See chart 7.1.7)
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	A, B, C, E	A, B, C, E	A, B, C, E	A, B, C, E	A, B, C, E	A, B, C, E
CSCI	Computer Science	A, B, C, E	A, B, C, E	A, B, C, E	A, B, E	A, B, C, E	A, B, C, E
ENSC	Environmental Sciences	—	A	—	—	A	—
ESCI	Earth Sciences	A, B, C, E	A, B, C, E	A, B, C, E	A, B, C, E	A, B, C, E	A, B, C, E
MATH	Mathematics	A, B, C, E	A, B, C, E	A, B, C, E	A, B, E	A, B, C, E	A, B, C, E
PHYS	Physics	A, B, C, E	A, B, C, E	A, B, C, E	A, B, C, E	A, B, C, E	A, B, C, E
AQUA	Aquatic Resources	See note *	See note *	—	—	See note*	—
ECON	Economics	—	A, E	—	—	A, E	—
PSYC	Psychology	A, E	E	E	—	A, E	A, B, E
HKIN	Human Kinetics	—	—	A, B, E	—	—	—

* Note The Aquatic Resources program is available with biology, earth sciences or mathematicis/statistics/computer science.

Pattern and Credits Required in Each Degree and Diploma Chart 7.1.3 Req = Required; Elec = Electives

Bachelor of Science (see notes 1-3)	Science A	Science B	Science C	Arts X	Arts Y	Other Req	Approved Elec	Elec	—
B.Sc. Major (no minor)	36 credits	12 credits	6 credits	12 credits	6 credits	—	18	30 credits	—
B.Sc. Major with arts minor, see note 9	36	12	6	24	6	—	18	18	—
B.Sc. Major with science minor, see note 10	36	24	6	12	6	—	6	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 with Business Administration (see note 4)	36 plus BSAD 30	12	6	12	6	ECON 6	9 plus CSCI 3	—	—
B.Sc. Honours	60	12	6	12	6	—	18	6	—
B.Sc. Joint Honours	Total of 84 in A & B		6	12	6	—	12	—	—
BASc in Health	**Core**	**Concentration 1**	**Concentration 2**	**Humanities**	**Electives**				
BASc in Health Major	24	48	24	12	12				
BASc in Heath Honours	24	54	24	12	6				
Human Kinetics	**HKIN Req**	**HKIN Elec**	**Biology**	**Science A**	**Science B**	**Arts X**	**Arts Y**	**Approved Elec**	**Elec**
B.Sc. HKIN Major Kinesiology (see note 5)	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 or Honours Kinesiology (see note 5)	36	18	6	24	6	12	6	6	6
B.Sc. HKIN Advanced Major or Honours Pre-Education	51	3	6	24, see Note 6	6	12	6	6	6
Human Nutrition (see note 7)	**HNU Req**	**HNU Elec**	**BIOL**	**BSAD**	**CHEM**	**STAT**	**Humanities**	**Social Science**	**Elec**
B.Sc. HNU and Advanced Major	33 with HNU 491	24	12	3	12	3	12 (or 6)	6 (or 12)	15
B.Sc. HNU Honours	39	24	12	3	12	3	12 (or 6)	6 (or 12)	9
Nursing	**NURS Req**	**NURS Elec**	**BIOL**	**CHEM**	**HNU**	**PSYC**	**PHIL/RELS**	**Arts/Sci Elec**	**Elec**
B.Sc. Nursing	72	—	12	6	6	9	6	9	6
B.Sc. Nursing Advanced Major	75	—	12	6	6	9	6	6	6
B.Sc. Nursing Honours	75	3	12	6	6	9	6	6	3
B.Sc. Nursing for RNs	33	12	12	6	—	—	—	—	—
B.Sc. Nursing, Post-Degree option (see note 8)	72	—	—	—	—	—	—	—	—
Engineering	**ENGR Req**	**Discipline Elec**	**CHEM**	**PHYS**	**Arts Elec**	—	—	—	—
Diploma in Engineering	45	9	6	6	6	—	—	—	—

Note 1 Of science A, B and C, one must be mathematics/statistics/computer science, and six credits from this department must be calculus. In the B.Sc. Advanced Major in Science with Business, either science A or B must be mathematics/statistics/computer science, and must include six credits of calculus.

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

Note 3 Students may use up to 30 credits of courses from professional programs (business administration, information systems, engineering, human kinetics, human nutrition, nursing) as open or approved electives.

Note 4 If science A is not mathematics/statistics/computer science, science B must be, and must include six credits of calculus. If science A is computer science, neither science B nor science C may be mathematics/statistics/computer science (and vice versa) because science A, B and C must each be from different departments.

Note 5 For students pursuing the human nutrition minor, there are 15 credits fewer of human kinetics electives and 15 credits of additional science requirements. See section 9.22.

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

Note 7 The 12 credits art subject in all human nutrition programs must constitute a pair. See the glossary for definitions of pair, humanities and social sciences.

Note 8 Honours and advanced major options are not available in the post-degree B.Sc. Nursing program.

Note 9 Available minors in arts are anthropology, art, art history, Catholic studies, classics, Celtic studies, development studies, economics, English, French, history, music, philosophy, political science, psychology, religious studies, sociology, Spanish, women's and gender studies.

Note 10 Available minors in science are biology, chemistry, computer science, earth sciences, mathematics, and physics.

7.1.5 Advancement and Graduation Requirements by Degree (see chart below)

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 degrees for which they have applied may be eligible for other degrees, provided those degree requirements are met. Exceptions to these requirements need the approval of the Dean and the department chair.

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

7.1.6 Bachelor of Science with Joint Advanced Major

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

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

Advancement and Graduation Requirements by Degree Chart 7.1.5

Degree	Admission End of Second Year	Advancement End of Third to Fourth Year	Graduation and Fourth-Year Requirements
B.Sc. Major	—	—	average 55
B.Sc. Advanced Major	average 65 in each of first two years; grade of 65 in each course in Science A	average 70; average 70 in Science A	average 70; average 70 in Science A
B.Sc. Joint Advanced Major	average 65 in each of first two years; grade of 65 in each course in Science A and B	average 70; average 70 in Science A: average 70 in Science B	average 70; average 70 in Science A; average 70 in Science B
B.Sc. Advanced Major Science with Business	average 65 in each of first two years; grade of 65 in each course in Science A	average 70; average 70 in Science A; average 70 in all BSAD courses to date	average 70; average 70 in Science A; average 70 in BSAD courses over the program
B.Sc. Honours	average 75 in each of first two years; average 75 in Science A courses completed during the first two years; grade of 70 in each course in Science A	average 75; average 75 in Science A courses; grade of 70 in each course in Science A	average 75; average 75 in Science A courses; grade of 70 in each course in Science A
B.Sc. Joint Honours	average 75 in each of first two years; average 75 in Science A courses and average 75 in Science B courses completed during the first two years; grade of 70 in each course in Science A and B	average 75; average 75 in Science A courses; average 75 in Science B courses; grade of 70 in each course in Science A and B	average 75; average 75 in Science A courses; average 75 in Science B courses; grade of 70 in each course in Science A and B
B.Sc. Human Kinetics	—	—	average 55
B.Sc. Human Kinetics with Advanced Major	average 65 in each of first two years; grade of 65 in each HKIN course	average 70; average 70 in HKIN courses	average 70; average 70 in HKIN courses
B.Sc. Human Kinetics with Honours	average 75 in each of first two years; average 75 in HKIN courses completed during the first two years; grade of 70 in each HKIN course	average 75; average 75 in HKIN courses; grade of 70 in each HKIN course	average 75; average 75 in HKIN courses; grade of 70 in each HKIN course
B.Sc. Human Nutrition	—	—	average 55
B.Sc. Human Nutrition with Advanced Major	average 65 in each of first two years; combined average 65 in HNU and science courses in first year; grade of 65 in each HNU course	average 70; average 70 in HNU courses	average 70; average 70 in HNU courses
B.Sc. Human Nutrition with Honours	average 75 in each of first two years; combined average 75 in HNU and science courses in first year; average 75 in HNU courses in first two years; grade of 70 in each HNU course	average 75; average 75 in HNU courses; grade of 70 in each HNU course	average 75; average 75 in HNU courses; grade of 70 in each HNU course
B. Sc. Nursing, new curriculum 2016	Successful completion of all mandatory courses; 65 average in mandatory non-nursing courses; minimum grade of 65 in nursing courses; Pass for all clinical practice portions of courses; (see note 1)	Successful completion of all mandatory courses; 65 average in mandatory non-nursing courses; minimum grade of 65 in nursing courses; pass for all clinical practice portions of courses	Successful completion of all mandatory courses; 65 average in mandatory non-nursing courses; minimum grade of 65 average in nursing courses; pass for all clinical practice portions of courses
B.Sc. Nursing, previous curriculum	grade of 60 in each NURS course; (see note 1)	grade of 60 in each NURS course	grade of 60 in each NURS course
B.Sc. Nursing with Advanced Major	average 65 in each of first two years; grade of 65 in each NURS course; no nursing practice alert in second year; (see note 1)	average 70; grade of 70 in each NURS course; no nursing practice alert	average 70; grade of 70 in each NURS course; no nursing practice alert
B.Sc. Nursing with Honours	average 75 in each of first two years; average 75 in NURS courses completed during the first two years; grade of 70 in each NURS course; no nursing practice alert in second year (see note 1)	average 75; average 75 in NURS courses; grade of 70 in each NURS course; no nursing practice alert	average 75; average 75 in NURS courses; grade of 70 in each NURS course; no nursing practice alert
B.Sc. Nursing for Registered Nurses	grade of 60 in each NURS course	—	grade of 60 in each NURS course
BASc Major	—	—	average 55
BASc Honours	average 75; grade of 70 in all core and primary concentration courses	average 75; grade of 70 in all core and primary concentration courses	average 75; grade of 70 in all core and primary concentration courses
Diploma in Engineering	average 60 to advance to second year	—	average 60 over length of program

Note 1 To progress to third year, all first and second year courses must be successfully completed.

7.1.7 Bachelor of Science with Joint Honours

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

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

7.1.8 Co-operative Education Program in Science

This optional academic program allows students have the opportunity to gain 12 months of professional, paid work experience in a range of opportunities in industry, government and not-for-profit across Canada. Students obtain valuable technical and professional experience to reinforce classroom-based instruction. Students enroled in biology, computer science, health, human nutrition, or mathematics are eligible to apply. See section 9.12 for further information.

7.2 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 StFX Engineering Diploma consists of 69 credits normally taken over two academic years. During the second term of the first year, students apply for conditional acceptance into one of the following engineering programs at Dalhousie University: chemical, civil, electrical, environmental, industrial, mechanical, or mineral resource engineering. Conditional acceptance into a program allows the student to choose the appropriate courses to take in the second year of the diploma program at StFX.

Dalhousie and the associated universities form a unified system of engineering education. Therefore, all diploma graduates from the associated universities are guaranteed admission into the Faculty of Engineering at Dalhousie University. However, it is not possible for Dalhousie to guarantee that students will gain entry to the program of first choice, since all programs are subject to a maximum number of admissions. Thus in the second half of the first year, students are required to specify their choices of programs, in preferential order. The Dalhousie Faculty of Engineering notifies the chair of the StFX department of engineering of conditional admission to specific programs. The notification is normally sent in June. Placement of students into programs is based on academic performance. StFX, along with the other associated universities, has a formal Memorandum of Understanding (MOU) with Dalhousie University that addresses admissions. Article 4.0/1 of the MOU states that "The Faculty of Engineering at Dalhousie University will treat students from the Associated University programs on an equal basis with students who entered the program as freshmen at Dalhousie University. Academic merit will be the only deciding factor on admission to disciplines." Students who do not gain entrance to their preferred programs or do not wish to continue their studies at Dalhousie University may apply to an engineering program at any other institution and transfer the credits earned.

Students who transfer to the StFX diploma program from other universities must obtain at least 36 credits taken at StFX in order to receive a diploma from StFX. Students cannot normally use a distance or online course to satisfy the requirement of an engineering science course. An engineering science or design course may normally be taken during spring or summer only if the course was taken during the regular academic term but the student obtained a failing grade.

7.2.1 Bachelor of Science with a Diploma in Engineering

Students who wish to earn the engineering diploma and a B.Sc. degree can do so concurrently. This option exists for a major in mathematics/statistics/computer science. Students interested in completing this combined program with another major. should consult with the Dean of Science and appropriate department chair.

7.3 POSSIBLE PATHWAYS IN THE SCIENCES

7.3.1 Architectural Studies

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

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

7.3.2 Pre-Medical Studies

The field of medical studies has been evolving over the last few years. Most medical schools do not have specific course requirements. While familiarity in the natural sciences will help a student succeed in medical school, pathways to enter medical school are diverse. Students may enter medical school, for instance, with a BA, B.Sc., or a B.A.Sc. Students should elect to complete a broad, yet structured and rigorous academic degree. Often, medical school admissions committees look for a student that not only excels academically, but also contributes to societal wellbeing through volunteering, and engagement in a variety of social situations. It is important for students to demonstrate, through their experiences in both their academic and personal lives, professionalism, ethical behaviour, excellent communication skills, and empathy.

In 2015, the Medical College Admissions Tests (MCAT) were rewritten to require student familiarity in a broad array of disciplines. To prepare for the MCATs, students may want to complete the following courses: general biology, general chemistry, organic chemistry, biochemistry, physics, introductory psychology, and introductory sociology. Beyond these courses, their education should include a broad study in the physical, life and social sciences, and the humanities.

7.3.3 Pre-Dental Studies

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

Academic requirements:

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

7.3.4 Pre-Veterinary Studies

The Atlantic Veterinary College is located at the University of Prince Edward Island. Applicants are required to complete prerequisite courses and supply official Graduate Record Examination – General (GRE) results. A total of 50 points (or 50%) of the applicant score will be based upon grades attained in the 20 required courses (15 specified and 5 electives with the highest grades). "Course" refers to a one-term, three-credit class. The 50 points will be determined as follows:

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

7.3.5 Graduate Studies

Students with an excellent academic record may be interested in moving on to a master's degree. There are many graduate programs to choose from regionally, nationally, and internationally. Faculty are well poised to give advice on potential graduate schools and programs. Students who are interested in pursuing a master's degree at StFX should refer to chapter 8.

7.3.6 Education and Teaching

Students may be interested in moving into the field of education and becoming a teacher. StFX offers a Bachelor of Education degree and students majoring in sciences may pursue teaching specializations in sciences, mathematics, physical education and family studies. Science students may also pursue additional teaching areas in departments in the arts. An option also exists for a degree in elementary education. See chapter 6 for additional information.

8. GRADUATE STUDIES

8.1 Master of Arts and Master of Science
8.2 Master of Adult Education
8.3 Master of Education
8.4 Ph.D. in Educational Studies
8.5 Regulations

Graduate Studies is under the direction of the Associate Vice-President Research and Graduate Studies who is advised by the committee on graduate studies. Courses of study leading to the following graduate degrees are currently offered:

Master of Arts (MA)
Master of Science (M.Sc.)
Master of Adult Education (M.Ad.Ed.)
Master of Education (M.Ed.)
Ph.D. in Educational Studies

For fee information, see http://sites.stfx.ca/financial_services/StudentAccounts

8.1 MASTER OF ARTS AND MASTER OF SCIENCE

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

8.1.1 Admission Requirements and Procedures

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

Minimum admission requirements for these degree programs are:

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

Admission to these programs is based on the following factors:

a) The university must be able to provide a program of study and research that 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.

Applications for admission should be sent to the university admissions office at least two months before the date of proposed registration. Applicants are encouraged to contact the chair of the department to which they are applying prior to submitting an application. Applicants may be required to write the Graduate Record Examinations (GRE) administered by the Educational Testing Service.

8.1.2 Program Requirements

Master of Arts

a) A minimum residence of 12 months for candidates with an honours degree, and a minimum residence of 18 months for other candidates.
b) Students must earn a total of 36 credits in graduate work; the thesis will count for 18 credits.
c) Candidates must satisfy degree requirements as determined by the candidate's supervisory committee and approved by the department chair.
d) On the recommendation of the department chair, candidates may be required to demonstrate a reading knowledge of a second language relevant to your studies, and an examination in the designated language must be passed within six months after registration.

Master of Science

a) A minimum residence of 12 months for candidates with an honours degree, and a minimum residence of 18 months for other candidates.
b) Students must earn a total of 36 credits in graduate work; the thesis will count for 18 credits.
c) Candidates must satisfy degree requirements as determined by the candidate's supervisory committee and approved by the department chair.

8.2 MASTER OF ADULT EDUCATION

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

8.2.1 Admissions Procedures

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

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

Applications for admission should be sent to the university admissions office. This program has continuous intake; there is no admission deadline. Upon acceptance to the M.Ad.Ed. program, candidates are assigned to begin their studies in one of the foundations institutes which are held in the spring and summer.

8.2.2 Program Requirements

Students must earn a total of 36 credits in graduate work. Students may not use courses taken elsewhere toward the M.Ad.Ed. degree.

The program requires completion of ADED 505 during the three-week residential institute; completion of ADED 510 in year 1; completion of ADED 520 in year 2; completion of ADED 530 and ADED 600/601 in year 3. There are two routes by which a student may complete the requirements for the M.Ad.Ed.: a synthesizing examination route or a thesis route.

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

a) design a learning program that includes
   i) a learning plan;
   ii) a professional portfolio;
   iii) a comprehensive reading list; and
   iv) a critical review of relevant literature;
b) plan, complete, present, and defend a research project and synthesizing examination or complete and submit an academic thesis to demonstrate that the learning objectives of the program have been achieved;
c) evaluate the program learning experience with reference to the learning plan.

Graduating students should note that a final copy of the successful thesis must be approved and all grades submitted, no later than April 15 for Spring Convocation and November 15 for Fall Convocation.

8.3 MASTER OF EDUCATION

8.3.1 Admission Requirements and Procedures

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

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

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

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

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

Meeting the minimum admission requirements does not ensure acceptance into the program. Admission decisions are final.

8.3.2 Program Requirements

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 and six elective credits.

There are two options by which a student may complete the requirements for the M.Ed.: a thesis route and a course-based route; see section 9.16. Students who choose the thesis route must complete 24 credits in graduate education courses and a thesis worth 12 credits. Those in the course-based route must complete 36 credits in graduate education courses.

This degree fulfills the requirements of the Nova Scotia Department of Education for an increase in level of teacher certification. Graduate courses which may be taken for credit towards a M.Ed. are listed in section 9.16.

8.4 PH.D. IN EDUCATIONAL STUDIES

The Ph.D. in Educational Studies is offered in partnership by St. Francis Xavier University, Mount Saint Vincent University, and Acadia University. This research-oriented doctoral program is jointly administrated by the Inter-University Doctoral

Administrative Committee (IDAC). Applicants are admitted to one university and graduate from that home institution of record.

Doctoral students can focus their studies on one or more of six interrelated themes: curriculum studies, educational foundations and leadership, inclusive education, lifelong learning, literacies, and the psychological aspects of education.

Regulations for students enroled in the Interuniversity Ph.D. in Educational Studies are determined jointly by the partner institutions. Additional information is available at http://www.nsphdeducation.ca/en/home/default.aspx

8.4.1 Admission Requirements and Procedures

Applicants are encouraged to review the research interests of education faculty members at all three participating universities, available at their respective websites. An average of 14 students will be admitted each year: six at MSVU, four at StFX, and four at Acadia. The IDAC may consider applicants on a case-by-case basis and waive the fixed application date, if deemed warranted and if space is available in the program for that year.

Minimum admission requirements are:

a) A master's level degree from a recognized university in education or in a related field of study (a cognate discipline);
b) Normally, a graduate thesis in a field related to the proposed doctoral studies. Those applicants who have not completed a thesis are required to submit evidence of their ability to undertake research in education through the completion of a qualifying research paper of sufficient depth and scope to reflect their research competence;
c) Evidence of scholarly preparation to conduct research, normally including graduate level courses in quantitative and/or qualitative research methods and design;
d) Three letters of reference, normally including two academic and one professional;
e) A recent curriculum vitae indicating current initiatives in education and any academic, scholarly work to date;
f) A letter of intent indicating a proposed area of study from among the six interrelated themes of educational studies;
g) A minimum of A- or 80% average in his or her highest degree.

Qualified applicants will only be admitted if a suitable supervisor and program can be provided. To achieve success in this doctoral program, applicants must demonstrate strong reading, writing and comprehension skills in the English language.

The application package is available from the doctoral program office in the faculty of education and online at the Inter-University Ph.D. website www.educationphd.ns.ca

a) Applicants apply for their institution of choice (Acadia, MSVU or StFX) through the doctoral program office by November 15 for July 1 entry;
b) The IDAC will review all applications and, by majority agreement, recommend acceptance of applicants to the participating institutions;
c) The StFX admissions office will inform the applicant, in writing after March 1, regarding the decision of the IDAC. StFX becomes the institution of record for all doctoral students formally admitted to StFX.
d) In addition to specific doctoral program requirements and regulations, StFX students are bound by the regulations and procedures pertaining to graduate studies at StFX
e) Each dissertation supervisor will arrange for an entry meeting for his/her student(s) to develop a preliminary program plan and an initial outline of the proposed research area. This preliminary plan will be submitted in writing to the IDAC for approval (within a time frame specified by the IDAC), through the Doctoral Program Co-ordinator. Normally, this plan is completed before the July 1 start date.

8.4.2 Program Requirements

Students must complete EDUC 9001-9005 and 9010 during four consecutive semesters (14-month residency). Students normally defend their dissertation within two years after the portfolio examination, but no later than six years after entering the doctoral program, unless an extension has been granted. Students must register in a minimum of one course per year. Active students in the program are considered full-time throughout the program.

Students enrol in EDUC 9001 and 9002 on site in July at one of the three universities. The site for these two courses will rotate amongst the three universities from year-to-year. Students complete EDUC 9010 and 9100 with their dissertation advisor and their committee at their home institution of record. The remaining courses are delivered using an e-learning platform. In some instances, doctoral students may arrange to enrol in an existing topic-related Master level course, augmented with doctoral level analysis and applications. Doctoral students have the right to take courses and seminars and use the academic facilities of any of the three participating universities in accordance with their approved plan of study.

The required courses are: 9001; 9002; 9003; 9004, 9005; 9010, and 9100. At the time of admission, students will be advised if they are required, and they may choose, to complete (in consultation with pro-tem advisor and with approval from IDAC): EDUC 9006, 9007, 9008, and 9009. See section 9.16.3 for course information.

8.5 REGULATIONS

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

8.5.1 Program Types and Fees

Graduate programs at StFX are classified as either:

a) Flat-fee programs
   Students pay a flat fee for their program (based on an expected time to completion). The fee is charged once at the beginning of the program, and is paid in instalments at designated intervals. Flat-fee programs at StFX currently include the Masters in Adult Education, Masters of Arts, Masters of Science and the Ph.D. in Educational Studies.
b) Per credit fee programs:
   Students pay fees based on the number of credits in which they are enrolled in a given semester. Currently, the Masters in Education is the only per-credit fee program at StFX.

8.5.2 Residency, Expected Time to Completion, Maximum Time to Completion

Each graduate program at StFX has a defined minimum residency, and defined expected and maximum times to completion. The residency period is the length of time during which the student is expected to be on campus working full-time toward the completion of program requirements. These timeframes are outlined in the following table:

Program	Minimum Residence	Expected time to complete	Maximum time to complete
MA	12 or 18 months*	24 months	5 years
M.Sc.	12 or 18 months*	24 months	5 years
M.Ad.Ed.	N/A	36 months	36 months
M.Ed.	N/A	24 months	6 years
Ph.D. in Educational Studies**	14 months	4 years	6 years

*12 months for candidates holding an honours degree and 18 months for all other candidates.

** Regulations for students enrolled in the Inter-university Ph.D. in Educational Studies are determined jointly with the partner institutions. Please consult http://www.nsphdeducation.ca/en/home/default.aspx for registration and fee information.

8.5.3 Enrolment Status and Withdrawal

Students remain enrolled in the program and are charged all relevant fees until they formally notify the Dean's office that they are withdrawing from the program. Students who have withdrawn from a program must re-apply for admission before returning.

8.5.4 Continuing Status and Continuation Fees

Students in the MA and MSc who have passed the expected time to completion (24 months) are automatically registered as part-time, continuing students. The status of students in the Ph.D. in Educational Studies program is determined by the Interuniversity Doctoral Progam in Educational Studies.

Continuing students are charged an annual continuation fee until they have completed their degree requirements or until they reach the maximum time to completion.

Students who have outstanding fees at the beginning of a continuation period will not be eligible for continuation status and will, if the situation is not resolved, be designated inactive. Inactive students lose their rights and privileges as StFX students. The Registrar's Office will notify students who are not eligible for continuation status through the student's webFX email account; students will have 7 days to resolve the issue with the Business Office.

International and domestic students pay the same continuation fee.

Program	Continuation Fee
MA, M.Sc.	The equivalent of tuition for a 6-credit course for a 12-month continuation period
M.Ed.	Tuition paid at course enrolment
Ph.D. in Educational Studies	As determined by the Interuniveristy Ph.D. Committee, see the website: www.educationphd.ns.ca

8.5.5 Full-time and Part-time Status

Students in flat fee programs, such as the MA and M.Sc. programs maintain full-time status for the first 24 months. After the first 24 months, students are automatically classified as part-time until they have reached the maximum time to completion. Students in the MAdEd program maintain part-time status throughout the program. Ph.D. in Educational Studies students are considered full-time students throughout their program.

In exceptional cases and for a limited period of time, MA and M.Sc. students may apply to the AVPRGS to be considered full-time after the first 24 months. In order for full-time status to apply, students must demonstrate all of the following:

a) They are geographically available to campus.
b) They visit the campus regularly.
c) They are not engaged in full-time employment on or off campus.
d) They are engaged in their academic work full-time.

If any of these conditions changes, the student will no longer be considered full-time. The continuation fee for full-time students is the same as the continuation fee for part-time students.

Students in per-credit fee programs (M.Ed.) are considered full-time or part-time based on the number of credits in which they are enrolled in a given period. The full- or part- time status is assessed on a term-by-term basis, so a student can be full-time for part of the year and part-time for the remainder. A student is considered full-time when enrolled in 18 or more credits during the period of September to May. Students are also considered full-time when registered in six credits for the period May-June or for the period July-August.

8.5.6 Academic Standing

To maintain satisfactory standing, graduate students must achieve a passing grade of 60 in each course and must maintain an average of 70 throughout the program.

Students who fail any course or do not maintain the required average will receive notification from the Registrar's Office that they have been placed on probation. A student who subsequently fails a second course or does not achieve a program average of 70 will be dismissed; in progress courses will be dropped (with DC entered on the transcript) and refund rules applied.

For Master of Arts or Master of Science students, evaluation of in-progress thesis work is carried out through the annual review process and the completion of the annual progress report form (See 'Forms" section of the Graduate Studies website). A student whose thesis progress is rated as 'not acceptable' following the annual review may be subject to dismissal.

Notification of dismissal will be sent to the student (copied to the appropriate Dean and Graduate Student Coordinator/ Chair) by the Registrar's Office.

A student may elect to appeal a dismissal to the Committee on Graduate Studies. To submit an appeal, students follow the steps described in Sections 3.12 and 3.13 of the Academic Calendar, as applicable to graduate students. The appeal must be received by the AVPRGS, as Chair of the COGS, within three weeks of receiving notification of dismissal.

If a student believes that the work is not proceeding satisfactorily for reasons outside of his/her control, the student may make representation to his/her Supervisory Committee, the department Chair, the Dean, and if the matter remains unresolved, to the Chair of the Committee on Graduate Studies.

8.5.7 Extension

Students who have not completed their program requirements by the maximum time to completion (see section 8.5.2) may apply to the AVPRGS for a maximum one-year program extension.

An application for an extension will normally be submitted at least two months before the maximum time to completion. Extensions are deliberated on a case-by-case basis. They require a plan to outline how the program requirements will be completed in the extension year. If an extension is denied, no further registration or reinstatement will be permitted.

If the extension is approved, students in program-fee based programs will be charged an extension fee (the equivalent of 6-credit tuition) for the extension period. A student who does not complete the degree requirements by the end of the extension period will be declared inactive and removed from the program. Students on extension are normally considered part-time.

8.5.8 Inactive Status

Students who have not met the requirements for graduation by the maximum time for completion are automatically designated inactive unless they have applied for and been granted an extension. Inactive students lose their rights and privileges as StFX students.

Once designated inactive, students must reapply for admission and are subject to all rules and procedures for new admissions. Students on approved leaves of absence are temporarily designated inactive; they need not reapply for admission at the end of the leave.

8.5.9 Leaves of Absence

Circumstances can lead to situations in which graduate students are obliged to step away from their study. A leave of absence may be granted for a specific length of time, up to a maximum of one year.

Examples of exceptional situations where a leave may be considered include: medical reasons; family duress or unforeseen family responsibilities (including parental leave; pursuit of an employment opportunity that makes a positive contribution to the student's graduate program. Requests for leaves of absence will be reviewed by the appropriate Graduate Studies Coordinator or Chair (and Supervisory Committee when appropriate) and approved by the relevant Dean. Leaves of absence are usually dependent upon students previously showing adequate progress in their program of studies. The request must be supported by documentation explaining the exceptional circumstances that would prevent continuation of the program during the period for which the leave applies. In addition, the request should include a plan for the return to the program.

Once an initial leave of absence has been granted, additional leaves are only possible in extraordinary circumstances and require special approval by the AVPRGS.

Students on leaves of absence are designated inactive, and the academic mentorship of the supervisor and access to laboratories is suspended. Students on leaves are charged a nominal fee of $100, which allows them to maintain a WebFX account.

Time that a student spends on a leave of absence does not count toward the maximum time for completion.

8.5.10 Graduation

Students are responsible for ensuring that they have registered for convocation by the required date and that they have fulfilled all degree requirements by the requisite deadline. Supervisors must ensure that all grades (including the thesis grade) have been submitted at least one week prior to convocation.

8.5.11 Non-degree Graduate-level Students

Students without previous admission to a degree program may be permitted to register in graduate courses offered in the MA, M.Sc. and M.Ed. programs provided they meet the program's admission requirements and obtain the approval of the instructor and department chair and notification of the chair of the committee on graduate studies. Non-degree students taking StFX courses are distinct from non-degree visiting research students as described in the Guide to Graduate Studies.

A student who has registered in courses in compliance with the previous paragraph, and who is later admitted to a degree program without condition, may, upon recommendation of the department chair, be granted advanced standing to a maximum of 6 credits provided they are acceptable as part of the program in which the student is enroled.

8.5.12 Visiting M.Ed. Students

Normally, only students who have been accepted into the StFX M.Ed. program are eligible to enrol 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 6 credits of M.Ed. courses at StFX. Such students are encouraged to contact the continuing and distance education office to determine course availability and eligibility. Students should apply for admission as non-degree students with a letter of permission from their home institution.

8.5.13 Transfer Credit

New applicants may request permission to transfer credits (a maximum of six credits) to the MA, M.Sc. or M.Ed. program prior to acceptance.

8.5.14 Letter of Permission

Once registered in the MA, M.Sc. or M.Ed. program, a student may request a letter of permission from the relevant department chair and Dean to complete a maximum of six credits from another university. These credits can be used to fulfil program requirements.

8.5.15 English Language Requirement

See section 1.5.

8.5.16 Thesis Regulations

Master of Adult Education

Students choosing to follow the thesis route are required to prepare a thesis based on original research under the guidance of the chair or faculty advisor. Theses are evaluated by two faculty members of the Department of Adult Education, and an external examiner. A final corrected copy of the successful thesis must be submitted to the supervisory committee for approval within a timeframe established by the examining committee in consultation with the candidate for approval at least two weeks prior to the date of the convocation at which the candidate expects to graduate. The final copy of any thesis based on a research project requiring ethics

approval must include a copy of the appropriate certificate of approval. Students are responsible for providing print and electronic copies of the approved thesis to be deposited with the StFX Library and Archives Canada. More details can be found in the 'Graduate Thesis Submission Guidelines' on the Graduate Studies website.

Master of Arts, Master of Science

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

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

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

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

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

A public presentation and defence of the thesis is presented by the candidate after receipt of the external examiner's report and following the approval of the supervisory committee. Normally, at least two weeks' notice is given (to the Chair of Graduate Studies) concerning the date, time, and place of the presentation and defence. Immediately following the public presentation, an examination of the candidate is held. Normally, the public presentation and examination will not exceed 120 minutes.

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

The decision of the examining committee, along with their names and signatures, will be recorded on the thesis examination form, with a copy retained by the department and a second copy sent to the Chair of Graduate Studies.

A final corrected copy of the successful thesis must be submitted to the supervisory committee for approval within a timeframe established by the examining committee in consultation with the candidate. Students are responsible for providing print and electronic copies of the approved thesis to be deposited with the StFX Library and Archives Canada. Students must also complete and submit the required StFX Thesis Non-exclusive License Form. More details can be found in the 'Graduate Thesis Submission Guidelines' on the Graduate Studies website.

8.5.17 Research Ethics Approval

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

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

8.5.18 Outstanding Graduate Student Research Award

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

COADY

INTERNATIONAL INSTITUTE

ST. FRANCIS XAVIER UNIVERSITY

Coady International Institute is an example of StFX's commitment to social justice in action. Named for one of Canada's great heroes, Rev. Dr. Moses M. Coady, the Institute has been educating community leaders from around the world since 1959. Coady's extensive global network includes graduates and partners working in 130 countries.

The Institute offers its flagship 20-week Diploma in Development Leadership along with specialized certificate courses based on three themes: strengthening local economies; building resilient communities; and promoting accountable democracies. There are also specialty courses designed for women, including: Global Change Leaders; Indigenous Women in Community Leadership; Community Development Leadership by Women; and Canadian Women's Foundation Leadership Institute.

Our focus on youth includes the Global Youth Leaders certificate for practitioners from the global south and the OceanPath Fellowship for select Canadian university graduates (Queen's, McGill, UOttawa and StFX.)

At times, community leaders benefit from courses and workshops offered in-country. For example, Coady collaborates with the Government of Canada to run a five-year leadership program to strengthen women's leadership for economic empowerment and food security in Ethiopia, Ghana and Zambia.

Here in Antigonish, Coady and StFX's Department of Adult Education jointly offer a community development stream in the Master of Adult Education program. Coady program staff also collaborate with the Faculty of Arts to offer the undergraduate program in Development Studies. Graduates of Coady's diploma program can apply 12 of their credits toward elective courses in a StFX undergraduate degree program.

Development professionals who study at Coady Institute add much to the multicultural atmosphere and learning exchange on campus. StFX students are welcome to use the Institute's Marie Michael Library, which houses one of the world's finest collections on international development and adult education.

In 2012 Coady and StFX established the annual Coady Chair in Social Justice to honour the spirit of Dr. Reverend Moses Coady and the leaders of the Antigonish movement. It has been designed as an interdisciplinary approach to bridging highly relevant local and global concerns involving StFX students, staff, Coady participants and Antigonish community members. Visit our website: coady.stfx.ca

9. DEPARTMENT AND PROGRAMS

9.1 Adult Education
9.2 Anthropology
9.3 Aquatic Resources
9.4 Art
9.5 Biology
9.6 Business Administration
9.7 Catholic Studies
9.8 Celtic Studies
9.9 Chemistry
9.10 Classical Studies
9.11 Computer Science
9.12 Co-operative Education
9.13 Development Studies
9.14 Earth Sciences
9.15 Economics
9.16 Education
9.17 Engineering
9.18 English
9.19 Environmental Sciences
9.20 Health
9.21 History
9.22 Human Kinetics
9.23 Human Nutrition
9.24 Interdisciplinary Studies and Service Learning
9.25 Mathematics/Statistics/Computer Science
9.26 Modern Languages
9.27 Music
9.28 Nursing
9.29 Philosophy
9.30 Physics
9.31 Political Science
9.32 Psychology
9.33 Public Policy and Governance
9.34 Religious Studies
9.35 Sociology
9.36 Women and Gender 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. Refer to the current timetable listing for course offering, as not all courses listed in the StFX Academic Calendar will be offered every year. 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.

9.1 ADULT EDUCATION

M. Coady, Ph.D.
L. English, Ph.D.
C. Roy, Ph.D.
Z. Tursunova, Ph.D.

StFX offers both a master's degree in adult education (M.Ad.Ed.) and a diploma in adult education (see section 6.7 for Diploma in Adult Education).

Graduate Program

The admission procedures and requirements for the M.Ad.Ed. degree are in chapter 8. Students have three years to complete 36 credits. Further details can be found on the department's web page: www.mystfx.ca/academic/adulted/ or in section 8.2.

Master of Adult Education Courses

505 Introduction to the Field, Research and Practice

This intensive three-week residential institute during which students become familiar with the foundations of, and requirements for, the master's program. This institute will require intensive readings in a broad range of foundational literature in adult education and learning, as well as the development of a detailed learning plan for completion of the program. Credit will be granted for only one ADED 505 and ADED 500. Six credits.

510 Professional Portfolio and Literature Review

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

520 Practical Research Project

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

530 Learning Program Evaluation

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

Alternate Routes to Graduation

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

1) complete and submit an academic thesis (ADED 600) or
2) complete, present, and defend a project and synthesizing examination which demonstrates that the learning objectives of the program have been achieved (ADED 601).

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. Credit will be granted for only one of ADED 600 or ADED 601. Six credits.

601 Synthesizing Examination

The synthesizing examination is the alternative route to complete the M.Ad.Ed. It follows satisfactory completion of the preceding phases of the program. The synthesizing examination is intended to provide an opportunity for students to reflect on their professional project and bring the relevant literature and student's research project together with the particular reference to practice. The synthesizing examination will be attended by two faculty members of the adult education department. Credit will be granted for only one of ADED 601 or ADED 600. Six credits.

9.2 ANTHROPOLOGY

C. Fawcett, Ph.D.
M. Haller, Ph.D.
L.J. McMillan, Ph.D.
S. Vincent, Ph.D.

Anthropology is the holistic study of human culture and biology in the past and present. Anthropologists teach about human evolution and global archaeology as well as contemporary cultures around the world. The Department of Anthropology offers honours, advanced major or major degrees. Students may select courses to meet their own interests in a general anthropology core area, or may choose to follow suggested patterns in the following core areas: Archaeology, the Anthropology of Development or Indigenous Peoples. These streams are described on the Department of Anthropology's website. Students not pursuing degrees in anthropology may take a minor, a pair or electives. For general program regulations, see section 4.1.

Minor and Subsidiary

Requirements include 24 credits as follows:

a) ANTH 111 and 112 (6 credits);
b) 3 credits from ANTH 243, 253;
c) 3 credits from ANTH 218, 223, 233, 234;
d) 12 additional credits in ANTH.

Major and Advanced Major

Requirements include 36 credits as follows:

a) ANTH 111 and 112 (6 credits);
b) 3 credits from ANTH 243, 253;
c) 3 credits from ANTH 218, 223, 233, 234;
d) ANTH 303 (3 credits);
e) 3 credits from ANTH 304, 305;
f) 18 additional ANTH credits, 12 of which must be at the 300/400 level;
g) Advanced major students are required to write a senior paper in a 400 level ANTH course.

Honours

Requirements include 60 credits as follows:

a) ANTH 111 and 112 (6 credits);

b) 3 credits from ANTH 243, 253;
c) 3 credits from ANTH 218, 223, 233, 234;
d) ANTH 303, 304 and 305 (9 credits);
e) 33 additional ANTH credits, of which 12 must be at the 300/400 level;
f) ANTH 400 (6 credits).

Social Justice Colloquium
The Social Justice Colloquium is a first-year option for Bachelor of Arts students. Participants are enroled in dedicated sections of anthropology, global history and women's and gender studies. See section 4.5 for further information.

111 Introduction to Physical Anthropology/Archaeology
Archaeology and physical anthropology provide a unique opportunity to examine the development of human society. With their long temporal depth, we can examine how humans, and their ancestors, evolved and populated the entire globe. The nature of modern archaeological and physical anthropological research including topics of hominid evolution, origins of agriculture, rise of state-level societies and First Nations archaeology will be discussed. Students will have an opportunity to apply this knowledge using real archaeological data. Credit will be granted for only one of ANTH 111 or ANTH 110. Three credits. Offered every year.

112 Introduction to Socio-cultural Anthropology
Socio-cultural anthropology involves the comparative study of societies throughout the world. Students will learn how societies differ from each other, as well as observing similarities among them. The course surveys traditional ways of understanding cultures while incorporating current insights and research. Topics include diverse political and economic systems, kinship patterns, religion, forms of ethnic and gender identity, health and medicine, development and migration. Department foci relating to First Nations, development and general anthropology are introduced. Credit will be granted for only one of ANTH 112 or ANTH 110. Three credits. Offered every year.

218 Anthropology of Health and Illness
An examination of global health and illness from an anthropological perspective, this course applies key anthropological concepts to topics such as the meaning of health and illness cross-culturally, cultural construction of the body, medical pluralism, cross-cultural psychiatry, critical medical anthropology and the health of Indigenous peoples in Canada and other parts of the world. Prerequisite: ANTH 110 or ANTH 111/112 or permission of the instructor. Three credits. Offered every year.

223 Anthropology of Globalization
Globalization has affected more than the world economy: people, politics and culture all travel globally, with wide-ranging consequences. This course will examine the history of global processes by focusing on how different peoples around the world have engaged in or resisted them. Ethnographic studies will be used to explore global diversity as well as the effects of efforts to impose global uniformity. Cross-listed as DEVS 223. Prerequisite: ANTH 110 or 111/112, or DEVS 201, 202 or permission of the instructor. Three credits. Next offered 2017-2018 and in alternate years.

233 Ethnographic Studies
This course explores the rich cultural diversity of human societies around the globe through an ethnographic lens. Using a variety of ethnographic works, students will analyse how anthropologists have represented this diversity. Course material will include classic and current texts about 'other' and 'own' societies, the representation of Indigenous peoples, ethnographic film, as well as portrayals of culture in new media. Prerequisite: ANTH 110 or 111/112 or permission of the instructor. Three credits.

234 Introduction to Indigenous Anthropology
The diversity and complexity of contemporary cultural, political and legal Indigenous issues are explored using anthropological methods and theories. Beginning with the historical antecedents of colonial relations and leading to contemporary ethnography, this course assesses the impacts of state policies and legislation on Indigenous treaty rights and livelihoods today. Students will study engaged anthropology and the relationships between the State and Indigenous peoples in areas of Indigenous rights, culture, law, governance, politics, environment, media, social development, gender, and health, and examine potential pathways and strategies toward reconciliation and equity. Credit will be granted for only one of ANTH 234 or ANTH 331. Prerequisite: ANTH 110 or 111/112 or permission of the instructor. Three credits.

243 Principles of Archaeology & Prehistoric Societies
This course offers an examination of modern archaeological research including how archaeologists work in the field, their analytical techniques, and some of the principal methodological and theoretical issues facing the discipline. A wide variety of archaeological examples (from lavish Egyptian tombs to simple nomadic settlements) will be used to illustrate the main themes of the course. Students will participate in the process of archaeological research through a series of practical exercises and assignments. Prerequisite: ANTH 110 or 111/112. Three credits. Next offered 2017-2018 and alternate years.

253 Origins of Cities
Urban living is an increasingly common experience for humans across the globe; city life, however, is not a modern phenomenon. This course is a broad introduction to the process of urbanism and the rise of early pre-industrial cities in both the New and Old Worlds. Specific cases are examined in order to elucidate the varying roles cities played in ancient states and how this knowledge can aid in our current understanding of modern urban life. Prerequisite: ANTH 110 or 111/112. Three credits.

303 Anthropological Theory
This course will give students an understanding of past and present trends in anthropological theory. Students will learn about the purpose of theory and the main elements of major theoretical frameworks. There will be an emphasis on how to apply theory to anthropological material. Prerequisites: ANTH 110 or ANTH 111/112 and at least 6 ANTH credits at the 200 level. Three credits. Offered every year.

304 Principles and Methods of Fieldwork
This course introduces students to qualitative field methods used by anthropologists and social scientists. Through lectures, seminars and field assignments, students will participate in a variety of research techniques including digital data gathering, video ethnography, participant observation, archival searches, oral and life histories, interviewing, sampling, mapping and focus group strategies. In addition to practical application of these skills, students will learn about Indigenous research methods, and collaborative and ethical research design. Prerequisite: ANTH 110 or ANTH 111/112. Three credits. Next offered 2017-2018 and alternate years.

305 Anthropological Data Analysis
This course introduces students to the basic principles of statistics and quantitative analysis of anthropological data. Through lectures, seminars and lab assignments students will learn skills such as quantitative research design and methods, data analysis, and computer applications in anthropological research. Prerequisite: ANTH 110 or ANTH 111/112. Three credits.

310 Anthropology of Tourism
Tourism is an important industry as well as a source of identity and meaning for individuals, local groups, and nations. 'This course examines tourism using a variety of theoretical frameworks. Students analyse various forms of tourism, such as historical tourism, cultural heritage tourism, eco-tourism, ethnic tourism and development tourism. Attention is given to gender, ethnicity, nationalism, class, environmental and economic impact, and the political importance of tourism in a globalizing world. Prerequisite: ANTH 110 or ANTH 111/112. Three credits. Offered every year.

320 People and Development
This course critically examines how development policy and practice have affected target populations. Students will develop critical analytical skills and knowledge by examining the strengths and weaknesses of strategies such as those promoting popular participation, gender equality, small-scale business, local knowledge and democratic reform, as well as of different forms of development institutions. The course uses case studies based on long-term, first-hand participant observation that place development processes in larger historical, political and economic contexts. Cross-listed as DEVS 321. Prerequisites: ANTH 110 or ANTH 111/112 or DEVS 201, 202; ANTH 223 is recommended. Three credits. Offered every year.

321 Celtic Art
Weave your way through Celtic knots and "horror vacui" fear of empty space," and discover the art of the Celts. From the Battersea Shield to the Book of Kells, we will trace our way through the extraordinary legacy of weaponry, jeweller, illuminated manuscripts, Celtic crosses, and Sheela-na-Gigs to arrive at a deeper understanding of the people who made them. Acceptable as a course in history. Cross-listed as ART 321 and CELT 321. Three credits. Not offered 2017-2018.

323 Feminist Anthropology
This course examines how past and present feminist anthropologists have used and problematized categories of difference and identity, such as, gender, class, sexuality, race, ethnicity, ability, religion and nationality as they pursue anthropological research. Focusing primarily on socio-cultural anthropological research, but also addressing work by linguistic and biological (physical) anthropologists and archaeologists, the course will highlight the theoretical, methodological, and empirical contributions of feminist anthropologists to anthropology and to women and gender studies. Credit will be granted for only one of ANTH 323 and ANTH 324 and WMGS 324. Cross-listed as WMGS 327. Prerequisite: ANTH 110 or ANTH 111/112 or WMGS 100 or WMGS 200 or permission of the instructor. Three credits.

326 Issues in the Anthropology of Kinship
This course explores current themes and debates about the constitution of families

cross culturally. It will examine topics such as: cultural understandings of kinship; historical transformations of kinship systems; current reconfigurations of marriage; partnering strategies; new reproductive technologies; transnational adoption; intra-familial conflict; the role of kinship for individuals and in societies; and the influence of the state on kin patterns. Course material will include ethnographic examples from around the world. Cross-listed as WMGS 326. Prerequisite: ANTH 110 or ANTH 111/112, or WMGS 100 or 200 or permission of the instructor. Three credits.

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

Using theories and methods relevant to researching Indigenous knowledge, self-determination, strategies of resistance and cultural sustainability of the Mi'kmaq Nation of Atlantic Canada, we explore Mi'kmaq oral histories, cosmology and sociocultural organization. In the second section, we look at the impact of colonization on Mi'kmaq cultural practices and governance. In the third section we look at contemporary issues such as the impact of court decisions on treaty implementation, customary law, economic development, resource use and cultural production. Prerequisites: ANTH 110 or ANTH 111/112 and ANTH 234/331 or permission of instructor. Three credits.

341 North American Archaeology

This course explores past and present Indigenous societies from North America and examines how these societies emerged, developed and were radically transformed by European colonization. Students will discover that even though great spans of time separate modern and ancient Indigenous cultures, cultural continuity exists. Prerequisite: ANTH 243 or 253. Three credits.

342 Ancient Mesoamerica

This course will use archaeological and ethnohistorical information to examine the people who lived in Mesoamerica (currently, Mexico, Belize, Honduras and Guatemala) prior to and at the time of early contact with Europeans. Students will use archaeological data to study the Aztecs, Maya and Zapotecs and their predecessors. Students will also refine their knowledge of archaeological inquiry and methods through practical assignments based on actual archaeological data. Prerequisite: ANTH 243 or 253. Three credits. Next offered 2017-2018 and alternate years.

371 Archaeological Field Methods

This course teaches students the basic archaeological field methods of site survey and excavation through participation in an actual archaeological field project either locally or in another part of Canada or abroad. The course will examine a range of archaeological techniques and methodological approaches. It will also introduce students to the ethical issues they need to consider when conducting archaeological field research in Canada and abroad. Prerequisite: ANTH 243 or permission of the instructor. Three credits. Not offered 2017-2018.

372 Archaeological Laboratory Methods

This course teaches students methods of analysing, cataloguing and reporting on materials recovered from archaeological site survey and/or excavation. Students will learn how to disseminate information to professional and public audiences. Prerequisite: ANTH 371 or permission of the instructor. Three credits. Not offered 2017-2018.

400 Honours Thesis Research

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

415 Anthropology of HIV/AIDS

This course examines global HIV/AIDS from an anthropological perspective. Using a holistic and cross-cultural approach, students will think about how kinship systems, gender, class, sexual orientation, nationality, ethnicity and global economic and political structures affect how individuals in different populations learn about and give meaning to HIV/AIDS, the risks they face, and the degree to which they can protect themselves and receive treatment if infected. Prerequisite: ANTH 211 or 218 or DEVS 201 and 202 or permission of the instructor. Three credits.

425 Power and Change

Power and change can be volatile processes. This course allows students to understand and analyse them from an anthropological point of view. Topics may include topics as the tension between indigenous collective rights and individual human rights; the tortuous local politics of constructing identity; the effects of and reactions to globalization; the cultural causes and consequences of terror and war. Prerequisite: 12 credits ANTH or permission of instructor. Three credits. Next offered 2017-2018 and alternate years.

435 Advanced Indigenous Issues

A course for senior students wanting to use Indigenous research methods and theories to engage anthropologically with specific issues of concern to Indigenous peoples. Topics may include in-depth analyses of Indigenous legal traditions, treaty and Aboriginal rights, politics and governance, natural resource management, cultural production and sustainability, decolonization and reconciliation. Prerequisite: ANTH 234 or 331 or permission of the instructor. Three credits.

445 Advanced Archaeological Seminar

This seminar develops on the foundation of archaeological method and theory introduced in previous courses. Through an examination of various topics, students will engage in an in-depth analysis of key concepts and ideas. Past topics have included: Archaeology of Death and Dying; Ancient Colonization and Acculturation in the Mediterranean; Archaeology of Ancient Egypt. Prerequisite: ANTH 341 or 342 or permission of the instructor. Three credits. Next offered 2017-2018 and alternate years.

492 Selected Topics in Anthropology

Three credits.

499 Directed Study

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

9.3 AQUATIC RESOURCES, INTERDISCIPLINARY STUDIES IN

J. Williams, Ph.D., ISAR Co-ordinator
L. Patterson, M.Sc., ISAR Program Assistant

Advising Faculty	Department
D. Garbary, Ph.D.	Biology
M. Haller, Ph.D.	Anthropology
L. Harling Stalker, Ph.D.	Sociology
R. Lukeman, Ph.D.	Mathematics, Statistics & Computer Science
D. Risk, Ph.D.	Earth Sciences
L. Stan, Ph.D.	Political Science
P. Withey, Ph.D.	Economics

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

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

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

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

Students may enter the ISAR program in their 1st or 2nd year of study at StFX. Students entering the program in 2nd year will complete AQUA 100 and AQUA 201, 202 simultaneously.

Eligible ISAR students may consider completing an advanced major (B.Sc. students only) or an honours degree in their second major field of study: biology, earth sciences, mathematics/statistics/computer science; honours degree with a subsidiary in AQUA: anthropology, economics, political science, sociology. All students must satisfy the requirements outlined in chapters 4, 5 or 7.

Major Program

Major candidates are required to complete:

a) a core ISAR major program of AQUA 100, 201, 202 (200), 325, and 400, 450; ESCI 171; BIOL 112; ECON 101, 102; plus BSAD 101;
b) 36 credits in the second major discipline, or 48 credits for public policy and social research majors, including at least 18 credits of AR-designated courses from your second major;
c) at least 12 credits of AR-designated courses from at least two of the participating

academic departments other than the major.
Candidates must also satisfy the requirements outlined in chapters 4, 5 or 7.

Progression Requirements

Students must achieve a minimum grade of 65 in AQUA 100, plus a minimum average of 65 in the first-year AQUA core courses (AQUA 100, BIOL 112, ECON 101 & 102, and ESCI 171) in order to maintain their ISAR major and proceed to the second year of study in the program.

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

BA Major in Economics and Major in Aquatic Resources

Year 1 AQUA 100; BIOL 112; ECON 101, 102; ESCI 171; ANTH 111, 112 or PSCI 101/102 or SOCI 101/102; 6 credits arts/science electives at the 100-level.

Year 2 AQUA 201, 202; BSAD 101; ECON 201, 202; and one of ECON 211, 241 or 281; 6 credits AR-designated courses; 6 credits arts or science electives to include MATH 106 or 126, STAT 101 or STAT 231.

Year 3 AQUA 325; 6 credits AR-designated ECON to include 381; 3 credits ECON courses at the 300 and/or 400 level; 6 credits AR-designated courses; 15 credits arts or science electives for pairs.

Year 4 AQUA 400, 450; ECON required and/or elective courses at the 300 and /or 400 level; AR-designated courses as required; arts or science electives.

BA Major in Public Policy and Social Research (PPSR) (Anthropology and Political Science or Sociology and Political Science)

Year 1 AQUA 100; BIOL 112; ECON 101, 102; ESCI 171; PSCI 101/102; ANTH 111, 112 or SOCI 101, 102.

Year 2 AQUA 201, 202; BSAD 101; 6 credits PSCI at the 200-level; 3 credits AR designated courses; 6 credits arts or science electives for pairs; plus PPSR with ANTH: ANTH 243 or 253 and one of 218, 223, 233 or 234; PPSR with SOCI: SOCI 202 and 3 additional SOCI credits at 200 level

Year 3 AQUA 325; 3-6 credits AR-designated PSCI at the 300 and/or 400 level; 6 credits AR-designated courses; 6-12 credits arts or science electives for pairs; plus PPSR with ANTH: 6-9 credits ANTH, including 304 or 305, at the 300 and/or 400 level; PPSR with SOCI: 3-6 credits SOCI at the 300 and/or 400 level

Year 4 AQUA 400, 450; PSCI courses at the 300 and/or 400 level, as required; AR-designated courses as required; arts or science electives; plus PPSR with ANTH: ANTH courses at the 300 and/or 400 level; PPSR with SOCI: SOCI courses at the 300 and/or 400 level.

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

Year 1 AQUA 100; BIOL 112; ECON 101, 102; ESCI 171; MATH 106/107 or 126/127; 6 credits science electives at the 100-level (CHEM 100 is recommended for those intending to major in biology or earth sciences).

Year 2 AQUA 201, 202; BIOL 111; 12 credits from: BIOL 201, 202, 203, 204 or 315 and STAT 231; 6 credits AR-designated and/or arts electives for Arts X or Arts Y requirement.

Year 3 AQUA 325 or BIOL 307; 9 credits BIOL at the 300 and/or 400 level of which 3-6 credits must be of AR-designated BIOL; BIOL 391 recommended; BSAD 101; 6 credits AR-designated courses; 6 credits arts electives for Arts X or Arts Y requirement; 6 credits science electives to complete Science B.

Year 4 AQUA 400, 450; 9 credits BIOL of which at least 3 credits must be at the 400-level; AR-designated courses as required; arts and/or science electives as required to fulfill degree pattern.

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

Year 1 AQUA 100; BIOL 112; ECON 101, 102; ESCI 171; MATH 106/107 or 126/127; 6 credits science electives at the 100-level (CHEM 100 is recommended for those intending to major in biology or earth sciences).

Year 2 AQUA 201, 202; BSAD 101; ESCI 201, 215, 216, 271, 272; 6 credits arts electives for Arts X or Y.

Year 3 AQUA 325 or 3 credits of 375 or 376; 9-12 credits ESCI including 305 and 366; 6 credits of CHEM or MATH at the 200, 300 and/or 400 level to complete Science B; 3-6 credits AR-designated courses; 6 credits arts electives for Arts X or Y and/or science electives.

Year 4 AQUA 400, 450; 6 credits ESCI at the 300 and/or 400 level; AR-designated courses as required; arts and/or science electives as required to fulfill degree pattern.

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

Year 1 AQUA 100; BIOL 112; ECON 101, 102; ESCI 171; MATH 106/107 or 126/127; 6 credits science electives at the 100-level.

Year 2 AQUA 201, 202; BSAD 101; MATH 253, 267, 277, 287; STAT 231; 3 credits AR-designated courses; 3 credits arts electives for Arts X or Y.

Year 3 AQUA 325; 6-9 credits from MATH 367, 387, STAT 311, 333, 334; 6 credits science (recommend BIOL or ESCI) at the 200, 300 and/or 400 level for Science B or C; 6 credits AR-designated courses; 6 credits arts electives for Arts X or Y; 3-6 credits science electives.

Year 4 AQUA 400, 450; 6-9 credits MATH/STAT/CSCI courses; 6 credits AR-designated courses; 9-12 credits arts and/or science electives as required to fulfill degree pattern.

All AQUA courses are restricted to Aquatic Resources Majors or permission to enrol may be requested of the ISAR co-ordinator and instructor. AQUA courses may not normally be taken as electives by non-aquatic resources students, and they cannot be used to make a pair or for arts X or Y requirements.

100 Introduction to Aquatic Resources: Natural Science Applications

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

201 Rivers, Lakes and Freshwater Governance

This course explores the political, economic and sociological dimensions of freshwater systems. Key concepts and frameworks are applied in both historical and contemporary settings. Topics include power relationships, watershed politics, water democracy and alternative governance arrangements. Credit will be granted for only one of AQUA 201, AQUA 200, 297 or 298. Prerequisite or co-requisite: AQUA 100. Three credits.

202 The Oceans' Commons and Society

The "tragedy of the commons" has been a reoccurring concept when discussing ocean resources. In this course students will encounter how social scientists study and understand the use of the resources in the oceans' commons. The course will explore theoretical paradigms, governance, social class, gender, race, fishing, aquaculture, and oil and gas. Students will gain a foundational understanding in social science approaches to issues relating to the aquatic resources. Credit will be granted for only one of AQUA 202, AQUA 200, 297 or 298. Prerequisite or co-requisite: AQUA 100. Three credits.

325 Aquatic Resources Field Camp

This course is a week-long field camp on integrated watershed management. It consists of assigned reading, talks by experts in watershed management and field trips to watershed sites. Students must complete the field camp prior to the beginning of either their third- or fourth-year of study. Not required for students who take one of BIOL 307, ESCI 375, ESCI 376. Not offered every year, equivalencies will be considered on an individual basis. No credit.

400 Work Experience/Student Internship

Students will spend the equivalent of one term, normally the summer between the junior and senior year, gaining hands-on experience in an aquatics-related work or volunteer setting. Placements may include research labs, aquatic resource businesses, community organizations, public policy agencies. To focus the applied learning experience, students develop a topic for special study, in collaboration with the work experience provider and an academic advisor. Prerequisites: AQUA 201, 202; 200 or 297, 298. 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, such as tidal power, aquaculture, oil and gas pipeline

approval processes, off shore oil and gas exploration, and more. Students will develop their senior projects and present the results of their senior research to the class in a talk, prepare a poster for student research day, and submit a major research paper to their academic advisors. Visits by ISAR guest speakers are co-ordinated with seminar work. Co-requisite: AQUA 400. Three credits.

AQUATIC RESOURCES DESIGNATED COURSES

Departmental prerequisites will apply.

Anthropology		Credits
ANTH 223	Anthropology of Globalization	3
ANTH 233	Ethnographic Studies	3
ANTH 234	Introduction to Indigenous Anthropology	3
ANTH 243	Principles of Archaeology and Prehistoric Societies	3
ANTH 253	Origin of Cities	3
ANTH 303	Anthropological Theory	3
ANTH 304	Principles and Methods of Fieldwork	3
ANTH 305	Anthropological Data Analysis	3
ANTH 310	Anthropology of Tourism	3
ANTH 320	People and Development	3
ANTH 332	Mi'kmaq Studies: Advanced Issues	3
ANTH 341	North American Archaeology	3
ANTH 342	Ancient Mesoamerica	3
ANTH 371	Archaeological Field Methods	3
ANTH 372	Archaeological Laboratory Methods	3
ANTH 435	Advanced Indigenous Issues	3

Biology		Credits
BIOL 201	Animal Biology	3
BIOL 202	Plant Biology	3
BIOL 203	Introductory Ecology	3
BIOL 221	Issues in Resource Management	3
BIOL 222	Topics in Environmental Ecology	3
BIOL 231	Plants and Human Health	3
BIOL 306	Ichthyology	3
BIOL 307	Field Biology	3
BIOL 308	Biology of Populations	3
BIOL 311	Coastal Marine Biology	3
BIOL 312	Marine Biology	3
BIOL 331	Statistical Methods	3
BIOL 345	Communities and Ecosystems	3
BIOL 360	Global Change Biology	3
BIOL 407	Integrated Resource Management	3
BIOL 468	Restoration Ecology	3
BIOL 472	Freshwater Ecology	3
BIOL 481	ST: Behavourial Ecology	3

Computer Science		Credits
CSCI 135	Computer Application Technology	3

Development Studies
Inquire with ISAR co-ordinator or program assistant

Earth Sciences		Credits
ESCI 271	Environmental Earth Science	3
ESCI 272	Global Change and the Climate System	3
ESCI 273	Heath and the Environment	3
ESCI 274	Health Impacts of Global Environmental Change	3
ESCI 305	Geochemistry of Natural Waters	3
ESCI 366	Hydrology	3
ESCI 374	Geographic Information Systems	3
ESCI 386	Oceanography	3
ESCI 406	Environmental Geochemistry	3
ESCI 465	Hydrogeology	3
ESCI 472	Ocean-Atmosphere Interactions	3

Economics		Credits
ECON 201	Intermediate Microeconomic Theory I	3
ECON 202	Intermediate Macroeconomics I	3
ECON 211	Local and Community Development Economics	3
ECON 241	Canadian Economic Prospects and Challenges	3
ECON 281	Environmental Economics	3
ECON 301	Intermediate Microeconomic Theory II	3
ECON 302	Intermediate Macroeconomics II	3
ECON 381	Natural Resource Economics	3
ECON 492	ST: Energy Economics	3

Mathematics		Credits
MATH 253	Matrix Algebra	3
MATH 254	Linear Algebra	3
MATH 287	Natural Resource Modelling	3
MATH 367	Differential Equations	3
MATH 387	Mathematical Modelling	3

Philosophy		Credits
PHIL 213	Philosophy of Science	3
PHIL 333	Environmental Ethics	3

Political Science		Credits
PSCI 221	Canadian Politics I	3
PSCI 222	Canadian Politics II	3
PSCI 241	Political Power and Business in Canada	3
PSCI 242	The Politics of Economic Policy in Canada	3
PSCI 247	Environmental Social Sciences I: Problems & Paradigms	3
PSCI 248	Environmental Social Sciences II: Power & Change	3
PSCI 250	World Politics	6
PSCI 321	Federalism	3
PSCI 322	Atlantic Canada	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 346	The Politics of Resource Management	3
PSCI 347	Politics of the Environment	3
PSCI 351	Canadian Foreign Policy	3
PSCI 353	International Organizations	3
PSCI 354	International Political Economy	3
PSCI 355	Global Issues	3
PSCI 389	Science Policy	3
PSCI 421	Canadian Politics I	3

Sociology		Credits
SOCI 202	Research Principles & Practices	3
SOCI 243	Consumer Society	3
SOCI 247	Environmental Social Sciences I: Problems & Paradigms	3
SOCI 248	Environmental Social Sciences II: Power & Change	3
SOCI 301	Classical Social Theory	3
SOCI 302	Topics in Contemporary Theory	3
SOCI 307	Qualitative Research Methods	3
SOCI 321	Sociology of Atlantic Canada	3
SOCI 360	Social Policy	6
SOCI 364	Food and Society	3
SOCI 366	Coastal Communities	3
SOCI 380	Urban Sociology	3
SOCI 397	ST: Sociology of First Peoples	3
SOCI 398	ST: Global Agriculture	3
SOCI 433	Advanced Problems in Environment & Society	3

Statistics		Credits
STAT 101	Introductory Statistics	3
STAT 231	Statistics for Students in the Sciences	3
STAT 311	Survey Sampling Design	3
STAT 331	Statistical Methods	3
STAT 333	Introductory Probability Theory	3
STAT 334	Mathematical Statistics	3
STAT 435	Regression Analysis	3

9.4 ART

S. Gregory, Ph.D.

Part Time
K. Brown, BFA
J. Fecteau, BA
M. Gibson, MFA
A. Guerrero Cortés, MFA
M. MacFarlane, BFA
A. MacLean, BFA
F. Martin, BFA
A. McFarlane, BFA
M. Nicholson, B.Ed.Sc.
W. Rogers, B.Ed.
B. Sparks, BFA, MA
A. Syperek, BFA
O. Tetu
A. Tragakis, BFA
R. Young, M.Ad.Ed.

Art courses may be used as electives, a pair, or minor. Please see the art department website at http://sites.stfx.ca/art/ for a list of 2017-2018 course offerings.

Minor in Studio Art

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

Minor in Art History

ART 141, 142, and 18 additional credits in art history courses. Students may take up to six credits of studio art courses for credit toward a minor in art history. Students may take no more than six credits from the following cross-listed courses for credit toward a minor in art history: ART/HIST 300, ART/PSCI 312, ART/CATH 331/332.

Students with advanced drawing experience and a portfolio can apply to enrol in advanced drawing and painting courses without the prerequisite of ART 100.

100 Drawing

This introductory course allows students to acquire the fundamental skills of drawing, and explore form, content, and subject matter in a variety of drawing media. Artistic awareness is achieved by introducing students to the language of art and to the creative accomplishments of the past. Speaking clearly about one's artistic ideas and concerns by using the vocabulary of formal analysis becomes an important aspect of "seeing", as identification allows for critical studio practice and discussion. Six credits.

115 Design

This course focuses on design principles and elements such as unity, balance, repetition, line, shape, and colour. The course provides students with a vocabulary and working knowledge of visual communication. Students develop their visual problem-solving skills and explore their creativity through studio projects and class discussions. Three credits.

125 Materials and Methods

This course will afford students the opportunity of working in a variety of art media, (two-dimensional and possibly three-dimensional) while exploring techniques, presentations, concept and materials. Projects may include painting, printmaking, sculpture, animation, textiles and more. Students with some prior knowledge of drawing and/or art experience will benefit most from this course. Prerequisite: ART 100 recommended. Three credits.

141 History of Art I

Long before human beings developed written language, we were making works of art. This introductory survey examines art and architecture within the intellectual and social contexts of their historical production. It provides a working knowledge of the history of art from prehistory through Classical Greece and Rome, to the great cathedrals of the Medieval period. Students will begin to develop critical tools for studying visual culture, and achieve a deeper understanding of cultural history. Three credits.

142 History of Art II

This section of the art history survey begins with works of art and architecture of the Italian Renaissance, where new ideas (including the notion of genius) had major repercussions for the cultural and artistic history of subsequent periods, including the Baroque, Romanticism, the 20th century, and our contemporary era. Students will learn new ways of observing and interpreting art, enrich their appreciation of art and architecture, and further deepen their understanding of cultural and intellectual history. Three credits.

145 Introduction to Colour

This course deals with the vocabulary, nature and physical properties of colour: hue, value and intensity. Studio assignments provide practice in learning colour relationships in unified and contrasting colour schemes. Prerequisite: ART 100 recommended. Three credits.

200 Painting I

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

202 Scenic Design

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

211 Stained Glass Studio I

This course introduces the copper foil method of stained glass. Students will create original designs and learn basic technical skills to complete a two-dimensional stained glass artwork using materials (including coloured, textured glass) and equipment in the studio. Prerequisite: ART 100, 115 or portfolio demonstrating drawing and design skills. Three credits.

212 Stained Glass Studio II

In this intermediate-level course in the copper foil method of stained glass, students will create original designs, and refine the technical skills learned in ART 211 to produce a three-dimensional stained glass art project. Prerequisite: Art 211 or portfolio demonstrating stained glass design and studio skills. Three credits.

221 Batik Studio

Batik is an ancient art form originating in Asia and Africa by which dyes and resist (such as melted wax) are applied to cloth. After learning basic skills for mixing dyes and applying wax to cloth, students will create a series of original batik artworks. The course also touches on other forms of resist art, e.g. silk painting, shibori, and tritik. Prerequisite: ART 100, 115 or portfolio demonstrating drawing and design skills. Three credits.

222 Weaving Studio

Tapestry weaving technique is practiced by cultures around the world. In the Western tradition tapestries are typically pictorial narratives used as wall hangings. Students will learn the fundamental techniques of tapestry weaving applied to a small tapestry designed in collaboration with the instructor. Students will be introduced to the history and development of tapestry both as a technique and as an art form. Offered in partnership with StFX Service Learning in some years. 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. Three credits.

240 Pastels

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

244 History of Photography

From the public announcement of a viable process in 1839, to the present day, photographic images have come to dominate our visual world. This course will examine the history of photography through its technology and through the work of key photographers, styles, and purposes. It will also consider photography as a medium for art in itself, its position and relationships with the traditional arts, and its extraordinary power to construct a world. Three credits.

251 Medieval Art

This course examines major developments in art and architecture of the Middle Ages, from the triumph of Christianity in Imperial Rome through the late Gothic period of the 14th century. The Bible and most early Church theologians associated images with idolatry and paganism, yet this 1000-year period was one of exceptional richness and diversity in Christian visual arts. Students will see how medieval art and architecture reflect and respond to changing theological, devotional and societal needs. Three credits.

252 Baroque Art
This course explores developments in the visual arts in Europe during the 17th century. Works of art and architecture will be examined in their social and cultural contexts, including discussion of the Italian Counter-Reformation and new ideas about the function of religious images and buildings, urban planning and the glory of Rome, absolutist monarchies and visual propaganda, specialization in the art market and Dutch genre painting, and the rise of art academies and art theory. Three credits.

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

260 20th Century: Modern Art
This course examines the origins of modernist endeavour in the late 19th century and covers art up to the end of World War II. Attention will be paid to major movements and artists, parallel movements in literature and music, the social and political context, and new technologies. Prerequisite: a survey course in art history. Three credits.

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

295 Selected Topics
The topic for 2017-2018 is Digital Video Production. Students in the class will learn the different stages of video production, from pre- production, through shooting, to post-production and editing. Students will learn the vocabulary of cinematography, some of the most emblematic films, and animation elements, all while building a working knowledge of video as an art form. Three credits.

297 Selected Topics
The topic for 2017-2018 is Digital Photography. This class is designed for students interested in learning to effectively use digital photography as a means for self-expression, artistic medium, or cultural comment. The class aims to provide students with a rigorous training in the mechanics of the digital camera, digital processing, key photography concepts, and the use of electronic devices in these matters. Students will be assessed through written assignments, exams, and photography assignments. Three credits.

298 Selected Topics
The topic for 2017-2018 is Printmaking. Printmaking is a process whereby multiple copies of an artist's image can be made from a plate or a block. An introduction to the art of printmaking, this course will develop awareness of traditional and contemporary print media and art practices. By learning techniques such as woodcut, linocut, collagraph and etching, the student will learn technical skills, usage of paper, ink and printing press, as well as concentrate on a creative task with a focus on personal expression. Three credits.

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

312 Art and Politics
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 II
A continuation of ART 200 with emphasis on composition, technique and materials with special attention to individual creativity and development. Prerequisite: ART 200 or portfolio demonstrating painting skills. Six credits.

321 Celtic Art
Weave your way through Celtic knots and "horror vacui" fear of empty space," and discover the art of the Celts. From the Battersea Shield to the Book of Kells, we will trace our way through the extraordinary legacy of weaponry, jeweller, illuminated manuscripts, Celtic crosses, and Sheela-na-Gigs to arrive at a deeper understanding of the people who made them. Acceptable as a course in history. Cross-listed as ANTH 321 and CELT 321. Three credits. Not offered 2017-2018.

331 Catholicism and the Arts I
This course will trace Catholic themes and ideas about Catholicism in literary, musical, architectural, or artistic works from the beginnings of Christianity to the early Renaissance. Credit will be granted for only one of CATH 331 or CATH 330 Cross-listed as CATH 331. Three credits.

332 Catholicism and the Arts II
This course will trace Catholic themes and ideas about Catholicism in literary, musical, architectural, or artistic works from the Renaissance until the contemporary era. Credit will be granted for only one of CATH 332 or CATH 330. Cross-listed as CATH 332. Three credits.

343 Issues in Canadian Art through World War II
Students will consider Canadian art practice and institutions from pre-European contact up to the Group of Seven. Topics can include aboriginal practice and the representation of native peoples, the construction of wilderness and place, and the role of the church in Quebec in the context of social and political change. Prerequisites: ART 141, 142 or survey of Canadian art or permission of the instructor. Three credits.

344 Issues in Contemporary Canadian Art
Students will consider selected topics which can include: Michael Snow and his contemporaries, post-colonialism and contemporary aboriginal art, landscape and the critique of nature, feminism. Prerequisites: ART 141, 142 or survey of Canadian art, or permission of the instructor. Three credits.

346 Botanical Art and Illustration: Drawing
This course will be concerned with developing drawing to accurately reproduce plant forms. Non flowering and flowering plant form and diversity will be covered using pencil, pen and ink. Prerequisite: ART 100 or BIOL 202 or portfolio demonstrating drawing or painting skills. Three credits.

347 Botanical Art and Illustration: Painting
This course will be concerned with developing drawing to accurately reproduce plant forms. Non flowering and flowering plant form and diversity will be covered using pencil and watercolour. Prerequisites: ART 100 or 346 or BIOL 202 or portfolio demonstrating drawing or painting skills. Three credits.

356 Iconography of Christian Art: The Life of Christ
Iconography is the identification and interpretation of images. This course is an introduction to the iconography of Christian art, with an emphasis on images of the Life and Passion of Christ. The course will examine how images develop over history, and how they may be understood in light of historical events, changes in theological thought, and in the artist's own spirituality. Cross-listed as RELS 353. Three credits.

357 Iconography of Christian Art: The Saints
This course is an introduction to the iconography of Christian art, with an emphasis on images of Mary and the saints. The course will examine how images develop over history, and how they may be understood in light of historical events, changes in theological thought, and in the artist's own spirituality. Discussion will include how such images were used as objects of personal devotion but also for the conveying of important theological and social values. Cross-listed as RELS 354. Three credits.

363 Advanced Drawing I
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 a portfolio approved by the instructor. Three credits.

364 Advanced Drawing II
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 the class will be assigned on a regular basis. Prerequisite: ART 363. Three credits.

371 Italian Renaissance Art I
During the Italian Renaissance, humanists began to look back to the Classical past for inspiration. At the same time, some religious leaders led followers to an increased interest in the natural world and contemporary everyday life. These new trends deeply affected the visual arts. This course will examine this period of profound innovation in painting, sculpture and architecture, from the time of Giotto to the precursors of High Renaissance style in Florence and Venice. Three credits.

372 Northern Renaissance Art
This course explores the innovative artistic legacy of Northern Renaissance Europe. New technical developments such as oil painting allowed artists to create unprecedented levels of realistic illusion in paintings. The rise of the printing press opened up new avenues for the dissemination of imagery in the form of woodcuts

and engravings. The religious turmoil of the Protestant Reformation also had profound consequences for the development of art - and its subject matter - in the North. Three credits.

373 Italian Renaissance Art II

This course examines Italian art and architecture during the late 15th and 16th Centuries, beginning with the monumental "High Renaissance" style established by Leonardo da Vinci, Michelangelo, and Raphael. The role these artists and others played in the rise of the notion of artistic genius led to problems linked to artistic license as the century progressed. We will consider works of art from the point of view of style and technique, but also how art functions in its social and political context. Three credits.

385 Selected Topics

The topic for 2017-2018 is Art, Science, and Medicine in the Early Modern Period (1400-1800). This course will examine the ways that art, science, and medicine intermingled in the early modern period. It focuses on the ways in which artistic and scientific practices have shaped and legitimated each other from the early Renaissance through the Age of Enlightenment. Topics will include the link between optics and the development of perspective, representations of anatomical dissections and disease, botanical and zoological illustration, as well as science and magic in the imagery of witchcraft. Three credits.

399 Directed Study

See section 3.5. Three or six credits.

435 Seminar in Italian Renaissance Art

This course is an intensive investigation into an aspect of Italian Renaissance art. Topics may include, among others: Michelangelo and his biographers; Giorgio Vasari's Lives of the Artists; Raphael in Rome; Renaissance art in Venice; Italian Mannerism. Students will learn to use and assess important primary sources from the Renaissance period, and will also examine the secondary scholarly literature in some depth. See http://sites.stfx.ca/art/ for more information. Prerequisites: ART 142, or 371, or 373, or permission of the instructor. Three credits.

499 Directed Study

See section 3.5. Three or six credits.

9.5 BIOLOGY

C. D. Bishop, Ph.D.
K. Brebner, Ph.D.
M.E. DeMont, Ph.D.
M.E. Galway, Ph.D.
D.J. Garbary, Ph.D.
L.L. Graham, Ph.D.
D. Kane, Ph.D.
V. Karunakaran, Ph.D.
R.F. Lauff, M.Sc.
J. E. McKenna, Ph.D.
M. Pulsifer, M.Sc.
R. Rasmussen, Ph.D.
R.A. Scrosati, Ph.D.
B.R. Taylor, Ph.D.
P.J. Williams, Ph.D.
R.C. Wyeth, Ph.D.

Senior Research Professors
J.A. Buckland-Nicks, Ph.D.
W.S. Marshall, Ph.D.
A.G. Miller, Ph.D.

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

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

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

First year biology students normally register for BIOL 111, 112; CHEM 100 or 120; MATH 106 and 107 or 126 and 127; 6 credits in each of 2 different arts subjects for a total of 12 credits. See glossary for definitions of the humanities and social sciences. Students with a minimum high school average of 85 may consider a third science, usually PHYS 101/102 or ESCI 171 and 172 instead of 6 credits of arts.

Department Requirements

a) The biology core program is BIOL 111, 112, and four of the following courses: 201, 202, 203, 204 and 315.
b) 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.
c) Credit for BIOL 111 and 112 with an average of 55 is required for all students continuing in biology major, advanced major or honours programs.
d) BIOL 221 and 222 cannot be used as science A in biology major, advanced major or honours programs.
e) CHEM 100 or 120 is a prerequisite for BIOL 201, 202, 203 and 204.
f) Advanced major and honours students normally take CHEM 225, 255 and STAT 231 in second year. Students interested in the health professions should take CHEM 220 in second year.
g) Biology students may take no more than six credits of cross-listed courses as BIOL credits.

Major Program

Program requirements are given in chapter 7. Students in the major program must take BI0L 111, 112, and four of the following courses: 201, 202, 203, 204, 315 and 18 additional biology credits, of which 12 credits must be at the 300 or 400 level, to complete 36 credits for science A.

Advanced Major and Honours Program

Program requirements are given in section 7.1. Honours and advanced major students select their courses in consultation with the department chair. PHYS 101/102 or 121/122 is required in the honours program and may count as science A. In the advanced major program PHYS 101/102 or 121/122 is strongly recommended but may not count as science A. BIOL 391 and 491 are required non-credit courses taken in third and fourth years. Course requirements are shown below.

Biology offers six areas of concentration, health sciences, ecology, cell and molecular biology, animal biology, plant biology and aquatic biology. A concentration is included in the students' official academic record and appears on any transcript issued. Advanced major and honours students may fulfill the requirements for a concentration by completing a minimum of 15 credits, including at least 3 credits at the 400 level from a specified concentration. Courses assigned to each concentration are listed on the department website http://sites.stfx.ca/biology/undergraduate_programs.

Advanced Major Program

Students must take BIOL 111, 112, and four of the following courses: 201, 202, 203, 204, 315; and 391, 491; CHEM 100 or 120, CHEM 225 (or 220) and 255; MATH 106 and 107 or 126 and 127; STAT 231; an additional 24 BIOL credits, of which 18 must be at the 300 (may include 315) or 400 level (at least 3 credits must be BIOL at the 400 level, other than 491 and 499); 18 credits arts electives, to include one pair; 15 credits approved electives; 24 credits open electives.

Honours Program

Students must take BIOL 111, 112, and four of the following courses: 201, 202, 203, 204, 315 and 391; 491, 493; CHEM 100 or 120, 225 (or 220) and 255; MATH 106 and 107 or 126 and 127; PHYS 101/102 or 121/122; STAT 231; an additional 33 credits of BIOL or other approved science courses, of which 24 credits must be at the 300 (may include 315) or 400 level (at least 3 credits must be BIOL at the 400 level, other than BIOL 475, 491, 493 and 499); 18 credits arts electives to include one pair; 15 credits approved electives; 6 credits open electives.

Joint Honours and Joint Advanced Major

Joint honours and joint advanced major programs may be offered with other departments. For course patterns see sections 7.1.3. Students considering a joint honours or advanced major should consult with the relevant department chairs as early as possible. A concentration in health sciences, ecology, cell and molecular biology, animal biology, plant biology or aquatic biology may be completed for students having biology as their Science A. Requirements are as listed for advanced major and honours programs.

Biology and Environmental Sciences

See section 9.19

Co-operative Education Program in Biology

This optional academic program allows students have the opportunity to gain 12 months of professional, paid work experience in a range of opportunities in industry, government and not-for-profit across Canada. Students can gain valuable technical

and professional experience in field and lab work, research, policy and education to reinforce classroom-based instruction. See section 9.12 for further information.

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

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

112 Diversity of Life
This course emphasizes the interrelationships of living systems and their roles in the global ecosystem. Students explore evolution and the origins of life, organismic diversity, adaptations, and ecology. Human interactions with the diversity of life are considered throughout the course. Basic skills that underpin success as an undergraduate student are also emphasized. Required for all students continuing in biology. Three credits and lab.

115 Microbes in Human Biology
An introduction to microorganisms from a human perspective for students in the nursing program. Topics include bacterial structure and function, bacterial genetics and antibiotic resistance, and viral structure and infection. Credit will be granted for only one of BIOL 115 or BIOL 215. Restricted to nursing students. Three credits and tutorial.

201 Animal Biology
An introduction to major groups of animals, emphasizing the structure, physiology and way of life of certain species. Prerequisites: an average of 55 in BIOL 111, 112 for biology majors, advanced majors or honours students. Three credits and lab.

202 Plant Biology
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. Prerequisites: an average of 55 in BIOL 111, 112 for biology majors, advanced majors or honours students. Three credits and lab.

203 Introductory Ecology
An introduction to the fundamental concepts of ecology, exploring how organisms interact with their environment and with each other, at the levels of populations, communities and entire ecosystems. Interactions from competition to food chains are considered from an evolutionary perspective recognizing the role of the physical environment and humanity. Prerequisites: an average of 55 in BIOL 111, 112 for biology majors, advanced majors or honours students. Three credits and lab.

204 Introduction to 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. Prerequisites: an average of 55 in BIOL 111, 112 for biology majors, advanced majors or honours students. Three credits and lab.

215 Microbiology for Human Nutrition
An introduction to microorganisms from a human health perspective, that focuses on immunological concepts, viruses, bacteria and fungi. Laboratories cover basic microbiological techniques and tutorials cover microorganisms from the food perspective. Credit will be granted for only one of BIOL 215 or BIOL 115. Restricted to Human Nutrition students and Human Kinetics students with Nutrition minor. Prerequisites: BIOL 111 and CHEM 100 or 120. Three credits and lab/tutorial.

220 Selected Topics in Biology
This course is for non-science students. The course deals with how scientific principles are established. Topics include evolution and diversity, ecology and food, human evolution and population, diabetes, homeostasis, HIV and vaccines, antibiotic resistance, and cancer. Offered through distance education. Acceptable for credit only in the Faculties of Arts and Business and as an open elective in the B.Sc. Nursing. Credit will be granted for only one of BIOL 220 or BIOL 221/222. Six credits.

221 Issues in Resource Management
This course introduces the basic science necessary to understand current resource issues such as forestry and wildlife management with the goal of understanding resource decision making, and how human activities can alter terrestrial ecosystems. Credit will be granted for only one of BIOL 221 or BIOL 220. Prerequisite: BIOL 112 or upper-year status in non-science programs. Cannot be used as science A for biology students. Three credits.

222 Topics in Environmental Ecology
This course introduces current environmental issues related to resource use and environmental degradation from an ecological perspective. Mining, renewable and non-renewable energy sources, water, agriculture, aquaculture and toxicology will be covered. Credit will be granted for only one of BIOL 222 or BIOL 220. Prerequisites: BIOL 112 or upper-year status in non-science programs. Cannot be used as science A for biology students. Three credits.

251 Human Anatomy and Physiology I
An integrated approach to the study of the anatomy and physiology of the following: the integumentary, skeletal, muscular, nervous and endocrine systems. The course provides students with a comprehensive working knowledge of the anatomic and physiologic aspects of these systems Required for students in human kinetics, human nutrition and nursing; other students may be permitted depending on space availability and permission of instructor. Credit may be granted for only one of BIOL 251 and 304. Three credits and lab.

252 Human Anatomy and Physiology II
An integrated approach to the study of the anatomy and physiology of the following: cardiovascular, respiratory, immune, digestive, urinary and reproductive systems. The course provides students with a comprehensive working knowledge of the anatomic and physiologic aspects of these systems. Required for students in human kinetics, human nutrition and nursing; other students may be permitted depending on space availability and permission of instructor. Credit may be granted for only one of BIOL 252 or BIOL 304. Prerequisite: BIOL 251. Three credits and lab.

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. Cross-listed as ESCI 285. Prerequisite: ESCI 171, 172 or BIOL 111, 112 or permission of the instructor. Three credits and lab. Not offered 2017-2018; next offered 2018-2019.

301 Form and Function in Animals
This course will introduce and apply the physical concepts required to understand form and function in the complexity of biological processes. Prerequisites: BIOL 201; PHYS 100 or 120. Three credits and lab.

302 Evolution
Life on our planet, in all its wonderful diversity, has evolved to be this way. This course will introduce the student to the core concepts of Darwinian natural selection, the process of speciation, methods of phylogenetic construction, the relationship between phylogenetics and taxonomy, analysis of evolutionary patterns, the history of life on Earth, and selected topics including human evolution and social behaviour. Prerequisites: BIOL 201, 204 or permission of the instructor. Three credits and tutorial.

304 Vertebrate Physiology
This course uses an integrative approach to study the function of organ systems, including neural, cardiovascular, muscular, respiratory, renal, reproductive and endocrine. Examples of how vertebrates, including humans, respond to different demands imposed by their environment and activities will be discussed. Credit will be granted for only one of BIOL 304 or BIOL 251/252. Prerequisite: BIOL 201. Three credits and lab.

307 Field Biology
Provides practical experience in the observation, collection, identification and quantification of organisms in nature. Held for two weeks in the spring session, 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 and insects. Prerequisite: BIOL 203. Three credits and lab.

308 Biology of Populations
This course covers the principles of plant and animal population dynamics. The great diversity in growth, survival, reproduction, and dispersal patterns in aquatic and terrestrial populations is examined. Contents include theory, evidence from experimental studies and the interaction between the environment and populations. Prerequisite: BIOL 203 or permission of the instructor. Three credits.

311 Coastal Marine Ecology
An introduction to coastal marine habitats and the factors that influence the population and community structure of primary producers and consumers. The course includes an overview of marine ecological theory, field work, and laboratory observations, focusing on Nova Scotia shores. Prerequisite: BIOL 203. Three credits, lab and research project.

315 Introductory Microbiology
Provides a broad perspective on the microbial world and its role in the biosphere. The diversity, morphology and physiology of prokaryotic microorganisms will be discussed. Laboratories stress basic microbiological techniques including microscopic examination, isolation from natural environments, enumeration and examination of physiology. Prerequisites: BIOL 201, 204; CHEM 220, or CHEM 225 and 255. Open to human kinetics students upon completion of CHEM 220, or CHEM 225 and 255. Three credits and lab.

317 Molecular Biology
An introduction to the analysis of peptides and nucleic acids using standard molecular methodology. Topics include electrophoretic techniques; manipulation of DNA, the introduction of foreign DNA into host bacterial cells and the use of gene cloning, gene amplification, and DNA sequencing. During labs, students will apply these methods to interpret gels and to generate genetically modified bacteria. Prerequisites: BIOL 204, 315. Three credits and lab. Not offered 2017-2018; next offered 2018-2019.

331 Statistical Methods
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. Credit will be granted for only one of STAT 331, PSYC 394, PSYC 390. Cross-listed as STAT 331. Prerequisite: STAT 101(201) or 224 or 231. Three credits and a one-hour lab.

335 Developmental Biology
The course provides an introduction to the means by which animals replicate themselves. Students will be introduced to experimental methods, intercellular communication, the diversity of different ways that animals develop and the role of gene regulation therein. Laboratories will highlight topics covered in lecture and introduce students to some experimental techniques. Prerequisites: BIOL 201, 204. Three credits and lab.

342 Invertebrate Zoology
A comparative study of invertebrate animals and their adaptations, including their morphology, behaviour, physiology, ecology and evolution. Students will learn the remarkable diversity of both form and function in these animals. At the same time, students will refine their powers of observation, improve their ability to ask and answer critical questions about organisms, and design experiments that will lead to further insight into invertebrate zoology. Prerequisite: BIOL 201. Three credits and lab. Not offered 2017-2018; next offered 2019-2020.

343 Comparative Anatomy of Vertebrates
A comparative study of the anatomy and evolution of chordate animals with emphasis on the vertebrates, including humans. In the laboratory, students will study the anatomy of representative vertebrates and will complete a project focusing on local wildlife. Prerequisite: BIOL 201. Three credits and lab.

345 Communities and Ecosystems
An outline of the essential theory of community and ecosystem ecology, including climate drivers, mineral cycles, energy flow and community structure. The concepts of succession, food webs and biodiversity are illustrated with comparative examples drawn from a variety of aquatic and terrestrial ecosystems. Prerequisites: BIOL 201, 202, 203. Three credits.

360 Global Change Biology
This course analyzes major anthropogenic phenomena that are currently affecting natural systems at a global scale. Topics include global warming, ocean acidification, species invasions, habitat fragmentation, and overfishing, focusing on the effects of such processes on aquatic and terrestrial organisms. Successful mitigation and conservation strategies are evaluated. Prerequisites: BIOL 201, 202, 203. Three credits. Not offered 2017-2018; next offered 2018-2019.

374 Human Neuropsychology
Neuropsychology is the study of how damage to the brain causes changes in thoughts and behaviours. Cognitive changes associated with specific diseases/conditions will be the focus of the course (e.g., Alzheimer's disease, multiple sclerosis, Parkinson's disease, stroke, etc.). Examples of cognitive and behavioural symptoms will be presented via videos, audio recordings, and performance on neuropsychological tests. The assessment of cognitive processes will be introduced and relevant structural and functional neuroanatomy will be reviewed. Cross-listed as PSYC 373. Prerequisite: 12 credits PSYC; PSYC 230 recommended but not required. Three credits.

381 Selected Topics
Three credits.

391 Junior Seminar
This course will assist students in choosing a career, gaining admission to graduate or professional school and help honours students choose a supervisor and prepare for their honours thesis work. Required for all biology advanced major and honours students in their third year. No credit.

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: BIOL 201, 204; CHEM 220 or 255. Three credits and lab.

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

411 Evolutionary Developmental Biology
This course is a contemporary discipline that examines the interplay between how organisms reproduce and how they evolve. This course explores several themes, including (i) how natural selection acts on development, (ii) whether development constrains evolution, (iii) developmental mechanisms of evolutionary change, (iv) environmental regulation of development and (v) developmental genetics. Prerequisite: BIOL 302 or 335 or permission of instructor. Three credits. Not offered 2017-2018; next offered 2018-2019.

416 Immunology
This course provides an overview of human innate and acquired immune responses. Development of inflammation, vaccine protection, specific aspects pf cancer immunology as a well as immunopathology in relation to allergy, and select autoimmune diseases will be addressed. Credit will be granted for only one of BIOL 416 or BIOL 417. Prerequisite: BIOL 315. Three credits and lab. Not offered 2017-2018; next offered 2018-2019.

417 Microbial Pathogenics
This course provides a general overview of a human host's defense mechanisms, including immune and inflammatory responses, and describes the pathogenic interactions between humans and different types of microbes with an emphasis on bacterial pathogens. Credit will be granted for only one of BIOL 417 and BIOL 416 or BIOL 419. Prerequisites: BIOL 201, 204, 315. Three credits and tutorial.

419 Microbial Pathogenics
This course explores host-pathogen interactions at the cell and molecular level, describing various strategies bacteria, virus, parasites, and fungi use to evade human defenses and establish a disease state. Credit will be granted for only one of BIOL 419 or BIOL 417. Prerequisite: BIOL 416. Three credits and lab. Not offered 2017-2018; next offered 2018-2019.

452 Bioinformatics
Biology is now in the digital age. DNA and protein sequences are accumulating at an exponential rate. Bioinformatics uses computers to archive, organize, retrieve and analyze biological information. This course will focus on how data are generated, accessed and managed, how to retrieve particular types of data and what some of the end users of these data are. No computing background required. Prerequisite: BIOL 317 or permission of the instructor. Three credits.

453 Advanced Behavioral Neuroscience I
Credit will be granted for only one of BIOL 453 or BIOL 450. Cross-listed as PSYC 431; see PSYC 431. Three credits. Not offered 2017-2018; next offered 2018-2019.

454 Advanced Behavioral Neuroscience II
Credit will be granted for only one of BIOL 454 or BIOL 450. Cross-listed as PSYC 432; see PSYC 432. Three credits.

468 Restoration Ecology
This integrative course introduces students to the variety of ways that degraded ecosystems, terrestrial and aquatic, can be restored by the application of ecological principles. These ideas are illustrated with Nova Scotia case studies involving invasive species, stream restoration, reforestation and contaminated sites. Prerequisites: BIOL 201, 202, 203; BIOL 345 recommended. Three credits. Offered 2017-2018 and in alternate years.

472 Freshwater Ecology
A study of the structure of freshwater ecosystems and how aquatic communities are shaped by the unique physical and chemical properties of flowing and standing

fresh waters. Field trips to local streams and lakes illustrate the distributions and adaptations of freshwater organisms, while providing hands-on experience with limnologicial methods. Prerequisites: BIOL 201, 202, 203. Three credits and lab.

474 Environmental Biology of Soils

An introduction to the diversity of soil organisms and their roles in ecosystem processes. The nature of soil as habitat for bacteria, fungi, and animals, and the connections between soil and the aboveground environment will be considered along with the role of soils and soil organisms in decomposition, nutrient cycling, plant nutrition and ecosystem succession. Students must complete a semester-long lab project. Prerequisite: BIOL 203. Three credits and lab. Not offered 2017-2018; next offered 2018-2019.

475 Accessing the Biological Literature

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

481 Selected Topics

Three credits.

484 Animal Behaviour

An introduction to the principles of ethology drawing on examples from all animal phyla, with an emphasis on vertebrates. Students learn both the physiological and evolutionary bases of behaviour. Topics covered will span simple reflexes through complex social behaviours, including survival, predation, habitat selection, communication, and mating behaviours. Participation in field trips is required. Prerequisite: BIOL 201 or PSYC 230. Three credits and lab.

491 Senior Seminar

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

493 Honours Thesis

For details, see the department website or the chair. Honours students must identify a faculty member who will act as a thesis advisor before March 15 of their third year. Three credits.

499 Directed Studies

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

GRADUATE COURSES

		Credits
501	Advanced Biomechanics	3
502	Advanced Topics in Membrane Biology	3
504	Topics in Vertebrate Physiology	3
511	Advanced Marine Ecology	3
515	Topics in Microbiology	3
517	Topics in Molecular Biology	3
523	Bioinformatics	3
525	Advanced Cell Biology	3
533	Advanced Topics in Biometrics	3
545	Topics in Phycology	3
551	Advanced Population Ecology	3
571	Advanced Topics in Ecology	3
575	Winter Ecology	3
580	Seminars in Phycology	3
581	Selected Topics	3
585	Topics in Avian Biology	3
586	Advanced Topics in Animal Behaviour	3
587	Advanced Topics in Neuroethology	3
590	Topics in Botany	3
594	Thesis Proposal	3
595	Topics in Cell Biology	3
596	Research Methods in Biology	3
598	Research	6
599	Thesis	18

9.6 BUSINESS ADMINISTRATION

J. Alex, BBA, CPA, CA
D. Anthony, Ph.D.
T. Boyle, Ph.D.
W. Cormier, MBA, CPA, CMA
N. Foshay, Ph.D.
M. Fuller, Ph.D.
H. Ghouma, Ph.D.
T.W. Hynes, Ph.D.
M. Lent, Ph.D.
O. Leung, Ph.D.
S. Litz, Ph.D.
B. Long, Ph.D., CPA, CMA
K. MacAulay, Ph.D., CPA, CA
M. MacIsaac, MBA
R.F. Madden, MBA, FCPA, FCA
T. Mahaffey, Ph.D.
N. Maltby, Ph.D.
B. Morrison, Ph.D.
B. Mukerji, Ph.D.
R. McIver, CPA, CA
Y. Nguyen, Ph.D.
M. Oxner, Ph.D., CPA, CA, CFA
R. Palanisamy, Ph.D.
B. Parikh, Ph.D.
S. Price, MBA
V. Vishwakarma, Ph.D.

Part Time
B. Boyd, LL.B.
B. Hatt, LL.B.
C. Gillies, LL.B.
R. Legere, MBA
C. Lin, MMAD
L. MacEachern, MBA
D. Mattie, BIS

Welcome to business administration at StFX, where students graduate with the knowledge, skills and attitudes needed to become effective contributors to a variety of organizational types (including for-profit, not-for-profit, entrepreneurial start-ups, and the public sector) or to begin graduate study. This program puts students on the fast track to careers in a wide range of business capacities, and we are known to produce some of the world's most influential business and industry leaders. To attain this objective, the BBA program combines the acquisition of conceptual knowledge with applied and experiential learning approaches that include projects, presentations, simulations, field trips, class discussions, case analyses, lectures, readings, films, guest speakers, service learning, and much more. BBA students work with faculty who blend research excellence with significant practical business experience and whose research interests are relevant to practicing managers.

The BBA program provides three program options of major, advanced major and honours within each of the following seven streams or functional areas: accounting, enterprise systems, entrepreneurship, finance, international business, management and leadership, and marketing. Students can also earn a BBA joint honours in business administration and economics. New for 2016-2017 is that all BBA students must declare a major at the end of their second year in one of the streams previously listed, except for students who meet the eligibility criteria detailed in chapter 5 who may instead opt to apply for an advanced major or honours degree path in one of these streams.

Each stream in the BBA program consists of an integrated set of required courses in BSAD, ECON, MATH, and STAT, complemented by elective courses in the arts and/or sciences. Regardless of program and stream, students may also choose a Co-op work-study option and/or may participate in an international exchange and earn credits abroad that may count toward their BBA degree.

Students who wish to study business administration and another discipline may choose the B.Sc. with advanced major in a science with business administration (see chapter 7), or the BA with major or advanced major in economics and a minor in business administration (see section 9.15).

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 academic advising office prior to registration to confirm their course selections.

Admission to the BBA Program

Admission to the BBA program may be restricted based on quotas, general average, and course grades. See chapter 1 for general admission requirements.

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 department chair to register in a course may override the normal prerequisites.

Substitutions

A BBA student may substitute courses in subjects other than business administration for BSAD electives. Substitutions are not automatic. Students must apply in writing to the department chair indicating the career or program rationale for requesting a substitution. For example, students with credit for MATH 106 or 126 may wish to substitute MATH 106 or 126 for the MATH 105 requirement. ECON 271 may also be substituted for MATH 105 for students who are interested in finance.

Affiliations with Professional Associations

The Department of Business Administration maintains ongoing relationships with Chartered Professional Accountants (CPA) Atlantic and graduates may earn credit for most courses that serve as prerequisites for entry into the CPA Professional Education Program. Graduates may also earn credit for courses toward the Canadian Institute of Management designations (e.g. CIM), the Certified Human Resources Professional (CHRP), Canada's association of Information Technology professionals (CIPS) and other professional certification programs.

300- and 400-Level BSAD Electives

Many BSAD electives at the 300 and 400 level may be taken in either the third or fourth year. Students should be mindful of the course prerequisites and consider the appropriate sequencing of their courses. Permission of the department chair to register in a course may override the normal prerequisites.

Co-operative Education Programs in Business Administration

This optional academic program offers BBA students the opportunity to gain 12 months of professional, paid work experience in a range of opportunities in industry, government and not-for-profit across Canada. Students can gain valuable professional experience within the fields of accounting, finance, marketing, management, enterprise systems and more, to reinforce classroom-based instruction. The Business Co-op Program is accredited by the Canadian Association for Co-operative Education (CAFCE). See section 9.12 for further information.

BBA Major Degrees

The BBA program offers majors in accounting, enterprise systems, entrepreneurship, finance, international business, management and leadership, and marketing.

Accounting

Year 1	BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives
Year 2	BSAD 221, 223, 231, 241, 261, 281; 12 credits arts/science electives
Years 3 & 4	BSAD 321, 322, 323, 324, 471; 9 accounting credits from list below*; 15 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives

* Accounting credits may be earned from this list of eligible courses: BSAD 342, 345, 346, 351, 424, 425, 426, 427, 428, 454.

Enterprise Systems

Year 1	BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives
Year 2	BSAD 221, 223, 231, 241, 261, 281; 12 credits arts/science electives
Years 3 & 4	BSAD 382, 384, 385, 386, 471, 482, 483, 485; 15 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives

Entrepreneurship

Year 1	BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives
Year 2	BSAD 221, 223, 231, 241, 261, 281; 12 credits arts/science electives
Years 3 & 4	BSAD 331, 332, 356, 456, 471; 9 entrepreneurship credits from list below*; 15 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives

* Entrepreneurship credits may be earned from this list of eligible courses: BSAD 321, 335, 352, 357, 358, 381, 383, 386, 431, 453.

Finance

Year 1	BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives
Year 2	BSAD 221, 223, 231, 241, 261, 281; ECON 201, 202; 6 credits arts/science electives
Years 3 & 4	BSAD 342, 344, 346, 471; 12 finance credits from the list below*; 15 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives

* Finance credits may be earned from this list of eligible courses: BSAD 345, 347, 348, 349, 444, 445, 449, 453, 454, 497.

International Business

Year 1:	BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives
Year 2:	BSAD 221, 223, 231, 241, 261, 281; 12 credits arts/science electives
Years 3 & 4:	BSAD 357, 358, 4X1 (forthcoming 2018-19), 4X2 (forthcoming 2018-19), 471; 9 IB credits from list below*; 15 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives

* IB credits may be earned from this list of eligible courses: BSAD 349, 382, 43X (forthcoming 2018-19), 473, 474.

Management and Leadership

Year 1	BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives
Year 2	BSAD 221, 223, 231, 241, 261, 281; 12 credits arts/science electives
Years 3 & 4	BSAD 358, 361, 363, 461, 471; 9 management credits from list below*; 15 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives

* Management credits may be earned from this list of eligible courses: BSAD 346, 362, 367, 382, 386, 387, 427, 435, 456, 462, 466, 467, 473, 474.

Marketing

Year 1	BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives
Year 2	BSAD 221, 223, 231, 241, 261, 281; 12 credits arts/science electives
Years 3 & 4	BSAD 331, 333, 335, 358, 471; 9 marketing credits from list below*; 15 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives

* Marketing credits may be earned from this list of eligible courses: BSAD 332, 383, 431, 432, 434, 435, 437, 495, 496, 498.

BBA Advanced Major Degrees

The BBA program offers advanced majors in accounting, enterprise systems, entrepreneurship, finance, international business, management & leadership, and marketing. All advanced major degree options require the achievement of a grade average (specified in chapter 5) and the completion of additional courses within the stream, including a Consulting Project (BSAD 492; except for advanced majors in accounting and finance).

Accounting

Year 1	BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives
Year 2	BSAD 221, 223, 231, 241, 261, 281; 12 credits arts/science electives
Years 3 & 4	BSAD 321, 322, 323, 324, 342, 424, 471; 9 accounting credits from list below of which 6 credits must be from sublist A*; 9 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives

* Accounting credits may be earned from this list of eligible courses: BSAD 345, 346, 351, 454 [plus sublist A: 425, 426, 427, 428].

Enterprise Systems

Year 1	BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives
Year 2	BSAD 221, 223, 231, 241, 261, 281; 12 credits arts/science electives
Years 3 & 4	BSAD 382, 384, 385, 386, 471, 482, 483, 484, 485, 492; 9 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives

Entrepreneurship

Year 1 BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives

Year 2 BSAD 221, 223, 231, 241, 261, 281; 12 credits arts/science electives

Years 3 & 4 BSAD 331, 332, 356, 453, 456, 471, 492; 9 entrepreneurship credits from list below*; 9 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives

* Entrepreneurship credits may be earned from this list of eligible courses: BSAD 321, 335, 352, 357, 358, 381, 383, 386, 431.

Finance

Year 1 BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives

Year 2 BSAD 221, 223, 231, 241, 261, 281; ECON 201, 202; 6 credits arts/science electives

Years 3 & 4 BSAD 342, 344, 346, 444, 471; 15 finance credits from the list below*; 9 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives

* Finance credits may be earned from this list of eligible courses: BSAD 345, 347, 348, 349, 445, 449, 453, 454, 497.

International Business

Year 1: BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives**

Year 2: BSAD 221, 223, 231, 241, 261, 281; 12 credits arts/science electives**

Years 3 & 4***: BSAD 357, 358, 4X1 (forthcoming 2018-19), 4X2 (forthcoming 2018-19), 471, 492; 12 IB credits from list below*; 9 credits BSAD electives; 12 credits arts/science electives**; 9 credits open electives

* IB credits may be earned from this list of eligible courses: BSAD 349, 382, 43X (forthcoming 2018-19), 473, 474.

** Advanced major and honours students are required to complete 12 credits (one arts pair) in a second language; this requirement will be waived for multilingual students providing acceptable evidence.

*** Advanced major and honours students are required to complete a minimum of one term abroad with an international exchange partner.

Management and Leadership

Year 1 BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives

Year 2 BSAD 221, 223, 231, 241, 261, 281; 12 credits arts/science electives

Years 3 & 4 BSAD 358, 361, 363, 461, 471, 473, 492; 9 management credits from list below*; 9 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives

* Management credits may be earned from this list of eligible courses: BSAD 346, 362, 367, 382, 386, 387, 427, 435, 456, 462, 466, 467, 474.

Marketing

Year 1 BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives

Year 2 BSAD 221, 223, 231, 241, 261, 281; 12 credits arts/science electives

Years 3 & 4 BSAD 331, 332, 333, 335, 358, 471, 492; 9 marketing credits from list below*; 9 credits BSAD electives; 12 credits arts/science electives; 9 open electives

* Marketing credits may be earned from this list of eligible courses: BSAD 383, 431, 432, 434, 435, 437, 495, 496, 498.

BBA Honours Degrees

The BBA program offers honours in accounting, enterprise systems, entrepreneurship, finance, international business, management and leadership, and marketing, and a joint honours degree in business administration and economics. Honours degree options require the achievement of a grade average (specified in chapter 5) and the completion of an honours thesis (BSAD 494) along with a research methods course as its prerequisite (typically BSAD 391).

Accounting

Year 1 BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives

Year 2 BSAD 221, 223, 231, 241, 261, 281; 12 credits arts/science electives

Years 3 & 4 BSAD 321, 322, 323, 324, 342, 391, 424, 471, 494; 3 accounting credits from list below*; 9 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives

* Accounting credits may be earned from this list of eligible courses: BSAD 425, 426, 427, 428.

Enterprise Systems

Year 1 BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives

Year 2 BSAD 221, 223, 231, 241, 261, 281; 12 credits arts/science electives

Years 3 & 4 BSAD 382, 384, 385, 386, 391, 471, 482, 483, 485, 494; 9 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives

Entrepreneurship

Year 1 BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives

Year 2 BSAD 221, 223, 231, 241, 261, 281; 12 credits arts/science electives

Years 3 & 4 BSAD 331, 356, 391, 453, 456, 471, 494; 9 entrepreneurship credits from list below*; 9 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives

* Entrepreneurship credits may be earned from this list of eligible courses: BSAD 321, 335, 352, 357, 358, 381, 383, 386, 431.

Finance

Year 1 BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives

Year 2 BSAD 221, 223, 231, 241, 261, 281; ECON 201, 202; 6 credits arts/science electives

Years 3 & 4 BSAD 342, 344, 346, 391 (may be substituted with ECON 372), 444, 471, 494; 9 finance credits from the list below*; 9 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives

* Finance credits may be earned from this list of eligible courses: BSAD 345, 347, 348, 349, 445, 449, 453, 454, 497.

International Business

Year 1: BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives**

Year 2: BSAD 221, 223, 231, 241, 261, 281; 12 credits arts/science electives**

Years 3 & 4***: BSAD 357, 358, 391, 4X1 (forthcoming 2018-19), 4X2 (forthcoming 2018-19), 471, 494; 9 IB credits from list below*; 9 credits BSAD electives; 12 credits arts/science electives**; 9 credits open electives

* IB credits may be earned from this list of eligible courses: BSAD 349, 382, 43X (forthcoming 2018-19), 473, 474.

** Advanced major and honours students are required to complete 12 credits (one arts pair) in a second language; this requirement will be waived for multilingual students providing acceptable evidence.

*** Advanced major and honours students are required to complete a minimum of one term abroad with an international exchange partner.

Management and Leadership

Year 1 BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives

Year 2 BSAD 221, 223, 231, 241, 261, 281; 12 credits arts/science electives

Years 3 & 4 BSAD 358, 361, 363, 391, 461, 471, 473, 494; 6 management credits from list below*; 9 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives

* Management credits may be earned from this list of eligible courses: BSAD 346, 362, 367, 382, 386, 387, 427, 435, 456, 462, 466, 467, 474.

Marketing

Year 1 BSAD 101, 102; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives

Year 2 BSAD 221, 223, 231, 241, 261, 281; 12 credits arts/science electives

Years 3 & 4 BSAD 331, 333, 335, 358, 391, 471, 494; 9 marketing credits from list below*; 9 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives

* Marketing credits may be earned from this list of eligible courses: BSAD 383, 431, 432, 434, 435, 437, 495, 496, 498.

BBA Joint Honours Degree

The normal course sequence for the BBA with joint honours in business administration and economics.

Year 1	BSAD 101, 102; ECON 101, 102; MATH 106 or 126 or 105; STAT 101; 12 credits arts/science electives
Year 2	BSAD 221, 223, 241, 281; ECON 201, 202, 301, 302; 6 credits arts/science electives
Years 3 & 4*	BSAD 231, 261, 391, 471, 494; ECON 493; 12 credits BSAD electives at the 300/400 level; 12 credits ECON electives at the 300/400 level; 18 credits arts/science electives

* If the honours thesis is done in the economics department, BSAD 494 is replaced by ECON 494, BSAD 391 may be replaced by ECON 372, and six credits ECON electives are replaced by six credits BSAD 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

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

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

An introduction to the basic concepts, principles and procedures underlying financial accounting and financial statement preparation and interpretation. Prerequisites: BSAD 101, 102. Three credits.

223 Introductory Managerial Accounting

An introduction to the basic concepts of management accounting and the use of accounting information for managerial decisions. Prerequisite: BSAD 221, completed or concurrent. Three credits.

231 Foundations of Marketing

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.

241 Financial Management I

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. Prerequisites: BSAD 221; MATH 105 completed or concurrent. Three credits.

261 Organizational Behaviour

Organizational behaviour introduces students to the context, concepts, principles and theories of human behaviour in organizations. The topics explored range from motivation to teamwork to communication. The objective is twofold: to understand how an organizational member might experience, interpret, and manage human relations as an individual and a group member; and to understand how the influences on human behaviour in turn contribute to organizational effectiveness. Prerequisites: BSAD 101, 102. Three credits.

281 Foundations of Business Information Technology

This course provides an introduction to information technology and management in modern organizations. Key topics include innovation and competitive advantage through IT, enterprise systems, web 2.0 and social media, web analytics and business intelligence, security, privacy and ethics. The course will use cases of technology intensive organizations to illustrate concepts. Credit will be granted for only one of BSAD 281 or INFO 102. Prerequisites: BSAD 101, 102. 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 issues of the public reporting companies 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 including IFRS. 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 issues of the public reporting companies 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. Prerequisites: BSAD 231; 223 completed or concurrent. Three credits.

332 Marketing Research

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. Credit will be granted for only one of BSAD 332 or BSAD 391. Prerequisite: BSAD 231. 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.

335 Consumer Behaviour

Marketers study consumer behaviour to understand and predict how and why products and services satisfy consumer's needs. This course examines the internal and external influences on consumers' purchase decision-making process including perception, motivation, attitude, culture, and reference groups in an interactive class setting. Students will complete exploratory consumer behaviour projects and will use theoretical concepts to create marketing solutions to cases. Prerequisite: BSAD 231. Three credits.

342 Financial Management II

Enhances students' knowledge of the financial management topics covered in BSAD 241 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 241. Three credits.

344 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. Credit will be granted for only one of BSAD 344 or BSAD 443. Prerequisite: BSAD 241. 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 241. Three credits.

346 Financial Statement Analysis

This course provides participants with the tools to make informed managerial decisions regarding a company's investments, financings, and operations. Techniques learned in this course will be used to understand the biases, limitations, and messages conveyed via the financial statements of a business. The course will examine issues such as revenue recognition, cash flow, profitability, and business

valuation principles. Credit will be granted for only one of BSAD 346 or BSAD 498 (2013-2014). Prerequisites: BSAD 221, 241. Three credits.

347 Financial Economics

The course builds on the framework of consumer optimization problems under conditions of uncertainty. It provides a solid foundation for asset pricing and portfolio management. It covers, specifically, Capital Asset Pricing Models (CAPM), Arbitrage Pricing Theory (APT), and Arrow-Debreu theories. These models exemplify two fundamental approaches to pricing securities, namely equilibrium and no-arbitrage. The course finishes by applying theories to the pricing of derivatives. Prerequisites: BSAD 241, ECON 201, 202. Three credits. Not offered 2017-2018.

348 Financial and Banking Institutions

This course aims at providing students with general understanding of Canadian financial institutions like commercial banks, mutual funds, pension funds, insurance companies, brokerage firms, hedge funds, credit unions, savings institution and their importance for efficient working of the financial markets. The structure of each financial institution and regulations like capital adequacy and deposit insurance pertaining to each institution is explored. Major risk associated with financial institution like interest rate risk, credit risk, off-balance sheet activities risk, liquidity risk, foreign exchange risk and other operational risks are also discussed. Emphasis is also laid on management of all these risks associated with different financial institution. Credit will be granted for only one of BSAD 348 or BSAD 496 (2014-2015, 2015-2016). Prerequisites: BSAD 241, 342, completed or concurrent. Three credits.

349 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. Credit will be granted for only one of BSAD 349 and BSAD 448. Prerequisite: BSAD 241. 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. Prerequisites: BSAD 241; third or fourth-year status. Three credits.

352 Social Entrepreneurship

The context, models, trends, opportunities, and challenges associated with social entrepreneurship focus on areas of public concern such as economic development, education, community welfare, and healthcare. These issues are examined using case studies, group projects, and experiential learning. Emphasis is on how entrepreneurship is combined with the tools of business to create effective responses to social needs and innovative solutions to social problems. Credit will be granted for only one of BSAD 352 or BSAD 457. Cross-listed as DEVS 352. Prerequisite: BSAD 241. Three credits.

356 Entrepreneurship/New Venture Development

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, third or fourth-year status. Three credits.

357 International Business

This course examines the theory and methods of engaging in business internationally. The course involves selected aspects of globalization, culture, international trade theory, political economy, foreign direct investment, regional economic integration, the global monetary system, global strategy and international operations. Prerequisites: BSAD 221, 223, 231, 241, 261. Three credits.

358 Business Ethics

An application of philosophical theory to a variety of current issues relevant to business. By examining the consequences of business decisions upon a wide range of stakeholders, students are provided with an overview of the many ways in which business interacts with society and the social and moral responsibilities that this interaction may generate. Prerequisite: BSAD 261 or permission of the instructor. Three credits.

361 Organizational Analysis

Introduces students to important organizational theories and organizational design principles. The course focuses on topics ranging from organizational strategy, structure and culture to organizational change. It also addresses the historical development of the modern business corporation and its changing role in society currently as an agent and vehicle of globalization. Classes feature lectures and discussions, student presentations, and case-based applications of the covered material. Prerequisite: BSAD 261. Three credits

362 Career Dynamics

Introduces students to key concepts, theories, and principles of career management from the perspective of the individual and the organization. The course focuses on topics ranging from occupational choice, individual career patterns, and organizational career systems to career performance. The course provides students with conceptual knowledge which will be helpful not only for developing their own career strategies and tactics but also for making informed decisions as organizational leaders. Classes feature lectures, discussions, and workshops. Prerequisite: BSAD 261. Three credits.

363 Human Resource Management

A review of the many functions of human resource management, including but not limited to employee selection, development, appraisal and compensation, in addition to the broader social and legal context which influences the HR practice. This course makes a case for the strategic role that proper management of human resources plays in successful organizations while providing an important critique of the practice. Prerequisite: BSAD 261. Three credits.

367 Gender and 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 WMGS 367. Prerequisite: BSAD 261. Three credits.

381 Operations Management

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: behavioural, quantitative, economic, and systems. Prerequisite: BSAD 281. Three credits.

382 Introduction to Enterprise Systems using SAP

This course introduces enterprise systems and its role in achieving effective business process integration (BPI). The course will discuss enterprise systems theory, the limitations of conventional information systems, and the challenges and business value of effective integration across departments along the supply chain. The SAP enterprise systems will be used to illustrate course concepts, with students receiving exposure to SAP navigation, modelling ontology and administration. Credit will be granted for only one of BSAD 382, INFO 245 or INFO 348. Prerequisite: BSAD 281 (or INFO 102). Three credits.

383 Mobile Commerce

This course focuses on concepts that will help business managers to take advantage of the evolving world of mobile commerce (m-commerce) and social media opportunities. The various concepts include e-business models, e-business technology infrastructure, building e-commerce mobile presence, social networks and mobile platforms for marketing and advertising, digital content and media, online retail mobile commerce from various industries, supply chain management and collaborative commerce, m-commerce security and payments, and ethical issues in m-commerce. Credit will be granted for only one of BSAD 383 or BSAD 415/INFO 446. Prerequisite: BSAD 281(or INFO 102). Three credits.

384 Data Management and Analytics

Databases and database management systems (DBMS) provide the foundation for virtually all modern information systems. In this course, students develop an understanding of databases with a focus on relational database technology. Students learn to use the 'language' of relational databases, Structured Query Language (SQL), and how to design and implement databases. The course outlines how databases are designed to support both transaction processing and business intelligence applications. A major component of the course is a group project where student collaborate to conceive, design and build a computer-based application and database. Credit will be granted for only one of BSAD 384 or INFO 275. Prerequisite: BSAD 281 (or INFO 102). Three credits.

385 Management Reporting Using ABAP

This course will focus on how to use the ABAP development suite to better understand a system, create custom management reports, and develop drilldown reports. The course will assume no prior knowledge of programming and will focus on the key knowledge needed for systems analysts to effectively interact with systems developers. Credit will be granted for only one of BSAD 385 or INFO 346. Prerequisites: BSAD 382; 384 (completed or concurrent). Three credits.

386 Project Management and Practice
This course covers the factors necessary for successful management of system development or enhancement projects. Technical and behavioural aspects of project management are discussed. Credit will be granted for only one of BSAD 386 or BSAD 416/INFO 416. Prerequisites: BSAD 261, 281 (or INFO 102). Three credits.

387 Organizational Design Using SAP
Effective organizational design is critical to enhancing the performance and innovativeness of today's complex and global companies. This skills-based course explores organizational design using SAP. Through a case study, students will use the SAP Human Capital Management module to develop the structure of an organization, with an emphasis on the design of departments, jobs, and positions, and the application of key recruitment and qualification management processes. This course is open to students in all BBA streams. Prerequisites: BSAD 261, 281 (or INFO 102). 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. Credit will be granted for only one of BSAD 391 or BSAD 332. 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.

419 Management of Information Technology
This course provides an overview of how to effectively manage information technology (IT) resources within organizational settings. It takes a chief information officers (CIO) (top down) perspective on managing information technology. IT is a strategic resource given that most of an organization's important activities rely so heavily on technology that they cannot operate without them. Technology enables firms to offer new products, create new customer channels and dramatically improve the efficiency of their supply chains. As such, an organization's IT resources require thoughtful planning and management. Restricted to fourth-year students in accounting or information systems. Credit will be granted for only one of BSAD 419 or BSAD 281. Prerequisite: BSAD 241. 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. Not offered 2017-2018.

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 Marketing
This course augments other marketing electives by focussing on (intangible) services. Services now account for more than 78% of Canada's GDP and most graduates will work in a service firm. Unlike products, most services are intangible, time constrained, co-produced by the provider and the customer, perishable and highly variable. These characteristics pose unique challenges to services as diverse as insurance, investment advice, banking, entertainment, tourism and hospitality, healthcare, consulting, transportation and education. Course methods are highly experiential and include presentations, exercises, cases and journals. Prerequisites: BSAD 331, 335. Three credits. Not offered 2017-2018.

432 Retailing
Focuses on improving the management of retail institutions in Canada using a marketing orientation. Areas of retail strategy include the retail environment, store location, product mix control, channel effort, store layout and financial management. Exercises, cases and projects will be used to develop analytic proficiency and emphasize evidence based solutions. Prerequisites: BSAD 331, 335. Three credits.

434 Integrated 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. Prerequisites: BSAD 331, 335. 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 333. Three credits.

437 Digital Marketing
Focuses on aligning and executing a digital marketing strategy sensitive to the ways in which consumers interact with their brands and make purchasing decisions in today's hyper-connected media environment. By embracing the changing digital marketing landscape, students will learn to shape a digital strategy that allows insights come to life in the right channel, for the right consumer, at the right time. Prerequisite: BSAD 331. 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. Prerequisites: BSAD 342, 344. Three credits.

445 Derivatives
This comprehensive course in derivative markets and instruments focuses on analyzing standard derivative instruments such as forwards, futures, swaps, and options. By the end of the course, students will a have good knowledge of how these products work, how they are used, how they are priced, and how financial institutions hedge their risks when they trade the products. Additionally, they will better understand the social and economic consequences of derivatives, and their implications for the larger investment community. Prerequisite: BSAD 344. Three credits.

449 Portfolio Management
This course provides an exploration of the theory and practice of portfolio management. Students will learn tools for managing risk, allocating funds among asset classes, and measuring the success of managers. Student will also learn how market factors, at both the macro and micro level, impact portfolio performance. By the end of the course, participants will be able to construct an investment portfolio based on a solid understanding of investment principles and be able to use available financial market information to assess its on-going performance. Prerequisite: BSAD 344. Three credits.

453 Entrepreneurial Finance
Entrepreneurial finance is designed for students who aspire to start or expand an entrepreneurial or small firm as well as others who anticipate working with the Small and Medium Sized Enterprise (SME) sector such as lenders, investors, accountants or suppliers. In combining theory and practice students will gain knowledge and utilize tools in identifying appropriate financing sources, strategies and skills in analysis and forecasting that are distinct from those drawn upon by large established companies in the corporate sector. Prerequisite: BSAD 356 or 342. 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: BSAD 241. 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. Prerequisite: BSAD 356. Three credits.

461 Leadership
A theoretical and a practical exploration of leadership. Using a range of materials and individual examples, students will develop an understanding of the leadership role in organizations and the behaviours of exemplary leaders. Experiential learning techniques will allow students to perform, observe and reflect upon leadership to gain a better sense of themselves as a leader. Prerequisite: BSAD 361. 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 363. Three credits.

466 Lessons in Leadership from Film & Literature
This course extends students' knowledge of leadership theory to analyze case studies in leadership. Cases are drawn largely from film, both fiction and non-fiction, and lessons are applied to a modern business context. Prerequisite: BSAD 361; 461 recommended. Three credits. Not offered 2017-2018.

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.

471 Strategic Management
This is the capstone course in business and is required of all students. The course takes a strategic approach to integrating concepts from management, marketing, accounting, finance and information systems. From the perspective of senior executives, students study vision and mission statements, analyze internal and external environments, and the formulation, implementation and monitoring of business and corporate strategy in order to achieve sustainable competitive advantage. Course methods may include lectures, guest speakers, cases, presentations, simulations and traditional examinations. Prerequisites: BSAD 241; fourth-year standing. Three credits.

473 Advanced Topics in Responsible Management
This course introduces students to advanced topics in corporate social responsibility, providing students with deeper insights into management's responsibilities to various stakeholders. Responsible management involves a triple-bottom line approach to business decision-making, which is realized through the organizational culture (e.g. employee selection; training; codes; leadership), operations (e.g. sustainability; outreach; reporting systems; performance measurement) and oversight/governance (e.g. Boards; ethics officers; regulators). Classes feature lectures and discussions, analyses of corporate reporting, media analysis, and a team project. Prerequisite: BSAD 358. Three credits.

474 International Human Resource Management
Students will explore the challenges of managing human resources in an increasingly international business context. The course covers a range of topics relevant for IRHM practitioners including the role of culture, international business strategies and IHRM models, international recruitment, expatriation and repatriation, international compensation, and performance management. A comparative approach to selected topics like employment governance and industrial relations is included. Key international employment regulators and regulative frameworks are also covered. Methods: lectures, cases, presentations. Prerequisites: BSAD 363 or 357. Three credits.

482 Business Analytics
Organizations must sense and respond to changes internally and externally. Therefore, modern organizations implement business intelligence (BI) and analytics systems that support analysis and decision making. Through case studies and hands-on labs and assignments, this course helps students understand the value of information to managers and provides and an overview of how BI systems are designed and deployed. Topics covered include information-driven decision making, BI system architecture, BI tools and BI development methodology. Prerequisites: BSAD 382, 384. Three credits.

483 Systems Analysis and Design
This course introduces systems analysis as an IT discipline and describes the role of the systems analyst in the development of enterprise systems. The course introduces system development methodologies and key systems analysis and design tools and techniques, including requirements discovery methods and data and process modelling. Credit will be granted for only one of BSAD 483 or INFO 415. Prerequisites: BSAD 384, 385. Three credits.

484 SAP Implementation
This course provides a practical understanding of ERP configuration with reference to SAP. The course familiarizes students with SAP implementation methodologies and tools. Students will learn to configure the financial and materials management functionality enabling a company to do basic procurement, inventory management, and financial accounting activities. The implementation will be expanded to enable the capturing of costs (controlling) and manufacturing (production) functionality. Credit will be granted for only one of BSAD 484 or INFO 448. Prerequisite: BSAD 382. Three credits.

485 Enterprise Systems Strategy
This course provides a strategic perspective on how organizations can effectively deploy information technology (IT) with a specific focus on enterprise systems. IT is a strategic resource that is expensive, risky to implement and changes rapidly. As such, extracting value from IT requires that an organization have the right human resources, develops effective and adaptive strategic plans, and employs a robust implementation process. Credit will be granted for only one of BSAD 485 and BSAD 419 completed beginning in 2016-2017. Prerequisites: BSAD 382; 471 (completed or concurrent). Three credits.

492 Consulting Project for Advanced Majors
Exposes students to applied research in business through completion of a consulting assignment. Required for and restricted to all advanced majors in entrepreneurship, enterprise systems, international business, management and leadership, and marketing. Three credits over the full academic year.

494 Honours Thesis
Under the supervision of a faculty member, honours students will prepare and submit a thesis. Normally students develop and present draft proposals as part of BSAD 391, then complete the proposal, conduct the fieldwork and present/defend their theses as part of BSAD 494. Prerequisite: BSAD 391. Three credits over the full year.

495 Selected Topics
The topic for 2017-2018 is Essentials of Graphic Design for Marketers. We live during a visual revolution. Marketers have three seconds or less to make an impression on potential clients. This is a lab-based course where students will examine the design process; with a focus on understanding how design principles and elements work together to create powerful visual communication. Using different elements in Adobe, students will create a variety of designs in different media using typographies, colours, and images. Prerequisite: BSAD 331 or permission of the department chair. Three credits.

496 Selected Topics
The topic for 2017-2018 is CRM and Loyalty Marketing. This course adopts both customer and manager perspectives on customer relationships to understand how strategic customer relationship management decisions influence marketing outcomes such as sales and customer loyalty. Students will explore and understand the role of customer relationships as a core component of marketing strategy and consumer experiences. The course utilizes a mix of lectures, readings, cases, and projects to explore relationship marketing theory and practices. A critical appreciation for the methods involved in implementing, building, leveraging, defending, and sustaining successful customer relationships will also be examined. Prerequisites: 335; 331 completed or concurrent. Three credits.

497 Selected Topics
The topic for 2017-2018 is Financial Modeling. Based on the theory and practice of financial and investment management, the course focuses on developing flexible computer-based models using Excel to analyze the impacts of different financial decisions. Among topics covered are capital budgeting, cost of capital determination, capital structure choices, stock valuation, bond pricing, portfolio analysis, and option pricing. The course covers a variety of techniques, such as sensitivity and scenario analysis, optimization methods and simulation, and is offered within a computer lab. Prerequisites: BSAD 342, 344, (both completed or concurrent).

498 Selected Topics
The topic for 2017-2018 is Brand Management. This course is designed to teach students about brand strategy and management. Students will learn about the brand strategy process to help students understand the possible ways to position or reposition a brand. We will address ways that a brand can be integrated across all consumer touch points. Finally, we will cover key brand management concepts such as brand health tracking, the role of the brand manager and the unique considerations of corporate and product brand marketing. Prerequisites: BSAD 331 completed or concurrent. Three credits.

9.7 CATHOLIC STUDIES

G. Lalande, Ph.D., Co-ordinator

Advising Faculty	Department
S. Baldner, Ph.D.	Philosophy
S. Gregory, Ph.D.	Art
L. Groarke. Ph.D.	Philosophy
J. Khoury, Ph.D.	English
A. Kolen, Ph.D.	Human Kinetics
B. Murphy, Ph.D.	Earth Sciences
M. Sastri, MA	Philosophy
S. Stewart, Ph.D.	English
W. Sweet, Ph.D., D.Ph.	Philosophy
J. Thompkins, Ph.D.	Education

Catholicism stands essentially for a universal order in which every truth of the natural or social order can find a place.

- Christopher Dawson

Catholic studies is an interdisciplinary program in the history, artistic culture, theology, literature, philosophy, and institutions associated with Roman Catholicism.

Students who major in Catholic studies must take CATH 101 and 102; 18 additional credits from the following core courses in Catholic studies; and 12 credits from the designated courses listed below.

101 The Catholic Story

An introduction to Catholic studies, the course focuses on a survey of major developments in the history of the Catholic Church: Early Christianity, the Papacy, Ecumenical Councils, Mission, Internal Reforms, Reformation and Counter-Reformation, the Enlightenment, World Wars, and the Catholic Church today. Intertwined in this chronology are several themes: Freedom, Faith and Reason, Concepts of History, Sacraments, Spirituality, and Faith. Credit will be granted for only one of CATH 101 or CATH 100. Three credits.

102 The Catholic Imagination

Through a study of key texts of the Catholic intellectual tradition, students will investigate and examine themes such as: persecution, martyrdom, sin, moral life, death, faith, and divine love. Texts used will draw from different historical periods, a range of genres (autobiography, drama, poetry, fiction and non-fiction prose), and various types of authors (male, female, saints, mystics, religious, and secular). Credit will be granted for only one of CATH 102 or CATH 100. Three credits.

241 Sin and Salvation

This course will study the themes of sin and salvation as they appear in the Bible, in literature, and in two great theological controversies, the Pelagian controversy of the 5th century, and the Protestant Reformation of the 16th century. Three credits.

245 Christ in the Catholic Tradition

This course will examine the person, nature, and work of Christ as these are understood in the Catholic tradition. Topics and texts will include: the Bible, theological works from different historical periods, literary presentations of Christ, and artistic depictions of Christ. Three credits.

251 The End of the World

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.

298 Selected Topics

The topic for 2017-2018 is Catholicsm in Canada. This course will explore the history of the Catholic Church in Canada, from its early origins as a missionary force during the ancien régime in the 17th and 18th centuries, to its role in an increasingly secular contemporary society in 2017. Three credits.

322 Contemporary Issues in Christianity & Science

This course examines the contemporary interaction between the sciences and Christianity. Topics may include: recent Christian responses to methodologies in the sciences; evolutionary theory and the interpretation of creation narratives in the book of Genesis; the meaning of human embodiment and its relevance to understanding sexuality and issues in bioethics; neuroscience and the phenomenon of religious experience; the impact of contemporary cosmology, technology, and biology on Christian theology. Credit will be granted for only one of CATH 322 or CATH 320. Three credits.

331 Catholicism and the Arts I

This course will trace Catholic themes and ideas about Catholicism in literary, musical, architectural, or artistic works from the beginnings of Christianity to the early Renaissance. Cross-listed as ART 331. Credit will be granted for only one of CATH 331 or CATH 330. Three credits.

332 Catholicism and the Arts II

This course will trace Catholic themes and ideas about Catholicism in literary, musical, architectural, or artistic works from the Renaissance until the contemporary era. Credit will be granted for only one of CATH 332 or CATH 330. Cross-listed as ART 332. Three credits.

341 Catholic Social Thought

Rooted in scripture, philosophy, and theology, Catholic social thought 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. Three credits.

398 Selected Topics

Three credits.

CATHOLIC STUDIES DESIGNATED COURSES

The following courses may be chosen as designated courses to complete the program in Catholic studies. Normally a student will take no more than 9 credits from any one of these subject areas. Should a student take CATH 331 and 332, only 6 further credits may be taken from the art electives.

Art		Credits
ART 251	Medieval Art	3
ART 252	Baroque Art	3
ART 371	Italian Renaissance Art I	3
ART 372	Northern Renaissance Art	3
ART 373	Italian Renaissance Art II	3
ART 435	Seminar in Italian Renaissance Art	3
Celtic Studies		**Credits**
CELT 230	Celtic Christianity	3
English		**Credits**
ENGL 207	World Masterpieces II: Medieval and Renaissance	3
ENGL 388	Heroic Literature of the Middle Ages	3
ENGL 389	Chaucer's Contemporaries	3
French		
FREN 318	Classical French Theatre	3
FREN 319	Literary Works of the grand siècle (Les Moralistes)	3
FREN 410	Medieval French Literature	3
FREN 415	Renaissance French Literature	3
History		
HIST 363	Reformation Europe	3
Music		**Credits**
MUSI 315	History of Music I	3
Philosophy		**Credits**
PHIL 245	Philosophy of Religion	3
PHIL 361	Early Medieval Philosophy	3
PHIL 362	Philosophy in the High Middle Ages	3
Religious Studies		**Credits**
RELS 253	Introduction to the Hebrew Bible or Old Testament	3
RELS 255	Introduction to the New Testament	3
RELS 265	Introduction to the Gospels	3
RELS 275	Introduction to Paul's Letters	3
RELS 323	Mary and the Identity of Women	3
RELS 325	Early Christian Women	3
RELS 363	The First Christians	3
RELS 365	Spirituality in Medieval Christianity	3
RELS 427	Jesus the Christ	3
Sociology		**Credits**
SOCI 322	The Antigonish Movement as Change & Development	3

9.8 CELTIC STUDIES

R. de Vries, Ph.D.
M. Linkletter, Ph.D.

Professor Emerita
Sr. M. MacDonell, Ph.D.

Celtic studies encompasses a wide range of history, geography, and culture: from the ancient Celts of continental Europe to the modern Celtic peoples of Scotland, Ireland, Wales, Cornwall, Brittany, and the Isle of Man. The program focuses on the Gaelic language, history, and culture of Scotland, Nova Scotia, and Ireland.

Interest in Celtic studies has grown in recent years. Some graduates have pursued advanced degrees in Celtic or related fields. Others have found employment in the region involving Gaelic.

Students may count courses in Celtic history (CELT 131, 132, 321, 331, 332) as courses in the Department of History. Students may count SOCI 373 as a credit in Celtic studies.

Major Program

See chapter 4.

Honours Program

Honours candidates are required to complete: CELT 100; 131 and 132, or 327 and 328; 200; 110 or 300; 490 (thesis); 33 credits CELT.

Master of Arts

The Master of Arts degree may be offered in Celtic studies. See chapter 8.

100 Scottish Gaelic Language and Culture

An introduction to the Gaelic language and culture of Scotland and Nova Scotia. Students will learn the basics of spoken and written Gaelic as well as aspects of Gaelic culture rooted in the language. Six credits. Offered in 2017-2018.

131 Celtic Civilizations I

This course will provide an introduction to the Celtic peoples from the earliest times to the Middle Ages. Topics will include history, language, art, literature, mythology and early Celtic Christianity. Acceptable as a course in history. Three credits. Offered 2017-2018.

132 Celtic Civilizations II

This course covers the Celtic cultures of Scotland, Ireland, Wales, Brittany, Isle of Man and Cornwall from the medieval to modern period. Topics will include history, language, music, folklore, and literature. Acceptable as a course in history. Three credits. Offered 2017-18.

161 Selected Topics

The topic for 2017-2018 is Modern Irish Language and Culture. An introduction to the language and culture of the *Gaeltacht*, or Irish-speaking parts of Ireland. Students will learn the basics of spoken and written Irish as well as aspects of Irish culture rooted in the language. Credit will be granted for only one of CELT 161 and CELT 110. Three credits. Offered in 2017-2018.

200 Second-Year Scottish Gaelic

Includes selected readings of riddles, proverbs, poetry, and folktales as well as conversation and composition. Six credits. Offered 2017-2018.

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 2017-2018.

220 Celtic Paganism

This course examines the religious practices and beliefs of the ancient Celtic peoples that we can glean from archaeology, reports of Greek and Roman commentators, place-name evidence, and the mythology in medieval Irish and Welsh narrative tradition. Other topics include syncretism, the adaptation of pagan festivals into Christian holidays, the persistence of elements of paganism into the Christian era, witchcraft in Scotland and Ireland in the context of the European phenomenon and neo-paganism today. Cross-listed as RELS 219. Three credits. Offered 2017-2018.

230 Celtic Christianity

This course is an exploration of the development of Christianity amongst the Celtic peoples. A major facet will be the medieval hagiographic tradition and saints' cults from the fourth to the twelfth centuries. Other topics include monasticism, peregrini, the Hiberno-Scottish mission to the continent, conflict with Roman Catholicism, material culture, the modern use of the term "Celtic Christianity". Cross-listed as RELS 229. Three credits. Offered 2017-2018.

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. Not offered 2017-2018.

321 Celtic Art

Weave your way through Celtic knots and *"horror vacui"* fear of empty space," and discover the art of the Celts. From the Battersea Shield to the Book of Kells, we will trace our way through the extraordinary legacy of weaponry, jeweller, illuminated manuscripts, Celtic crosses, and Sheela-na-Gigs to arrive at a deeper understanding of the people who made them. Acceptable as a course in history. Cross-listed as ANTH 321 and ART 321. Three credits. Not offered 2017-2018.

325 The Celts in Popular Culture

Shamrocks, banshees, leprechauns, fairies, magic, and white robed druids cutting mistletoe by moonlight. These are only some of the popular images associated with the Celtic peoples. Through a selection of media (including film, television, and novels) this course will explore the complexities of identity and the popular perception of Celtic culture, broadly defined. Among other topics, students will examine the pervasive association between Celtic culture and the supernatural. Credit will be granted for only one of CELT 325 and CELT 361 (2013-2014). Three credits. Not offered 2017-2018.

327 Celtic Kings, Heroes and Monsters- Medieval Ireland

From hot-headed heroes to terrifying monsters and death-tales, this course will examine topics and texts from medieval Irish literary tradition in detail. Credit will be granted for only one of CELT 327 and CELT 221. Cross-listed as ENGL 327. Three credits. Not offered 2017-2018.

328 Celtic Kings, Heroes and Monsters-Medieval Wales

From King Arthur to Culhwch and from dragons to giants, this course will examine topics and texts from medieval Welsh tradition in detail. Credit will be granted for only one of CELT 328 and CELT 222. Cross-listed as ENGL 328. Three credits. Not offered 2017-2018.

331 Scottish History

This course is a survey of the history of Scotland from the earliest times to the present with special emphasis on the role of the Gael. Topics that will be covered include the Dalriadic Scots and the consolidation of the kingdom of Alba, the early Gaelic church, the Kingdom and Lordship of the Isles, the rise of the clans, the decline of Gaelic, the Scottish Wars of Independence, the Reformation and union with England. Acceptable as a credit in history. Credit will be granted for only one of CELT 331 or CELT 333. Three credits. Not offered 2017-2018.

332 The Scots in North America

This course will follow the fortunes of the Gaels of the Highland diaspora. Emphasis will be placed on studying the Highland settlements of North America with an in-depth look at the history of the Gaels in the Maritime Provinces, particularly Nova Scotia, from the earliest settlements to more recent times. Acceptable as a credit in history. Credit will be granted for only one of CELT 332 or CELT 333. Prerequisite: CELT 331. Three credits. Not offered 2017-2018.

341 Scottish Gaelic Poetry I

This course familiarizes students with some of the masterpieces of Gaelic literature from medieval to early modern times and provides a grounding in the historical and cultural aspects of literary production in the Scottish Gaelic world. Topics to be considered include the uses of poetry, the role of the poet in medieval Gaelic society, and the origins and flowering of vernacular Gaelic verse in Scotland. Three credits. Offered 2017-18.

349 Medieval Medicine

This course examines the history of medicine in Western society, with particular emphasis on medieval Ireland, Wales and Scotland. During the course, we will look at specific diseases, including leprosy, the plague, and dancing mania; and at specific cures, including diet, charms and surgery. This course is of particular interest for students in Celtic studies, history, and those interested in the history of medicine. Credit will be granted for only one of CELT 349 and CELT 361 offered in 2015-2016. Three credits.

351 Irish Folklore

Studies in the oral traditions of Gaelic Ireland including the folktale, the storyteller, folklore collectors, folksong tradition, fairies and calendar customs. Credit will be granted for only one of CELT 351 or CELT 350. Three credits. Not offered 2017-2018.

352 Folklore of Scotland and Nova Scotia
An introduction to the Gaelic folklore of Scotland and Nova Scotia, with an emphasis on wonder tales, clan sagas, Fenian tales, calendar customs, rites of passage, the supernatural and the history of folkloristics. Credit will be granted for only one of CELT 352 or CELT 350. Three credits. Offered 2017-2018.

361 Selected Topics I
The topic for 2017-2018 is Medieval Welsh. Students will be introduced to the grammar and vocabulary of Middle Welsh, the language spoken and written in medieval Wales from about the 12th to the 14th century. It is the language of the famous *Mabinogion*, a compilation of mythical and legendary material, and is the forerunner of Modern Welsh. This course may be of particular interest to students interested in folklore, mythology, history, languages, and Arthurian studies. Prior knowledge of Welsh is not necessary. Three credits. Offered 2017-2018.

362 Selected Topics II
Three credits.

490 Honours Thesis
Three credits.

499 Directed Study
A directed study course in advanced topics in Celtic studies. Possible topics include: Old Gaelic (Old Irish), Middle Welsh, Advanced Scottish Gaelic, Gaelic poetry, etc. Consult with the department chair. See section 3.5. Three or six credits.

GRADUATE COURSES
Master of Arts in Celtic Studies
Consult the department chair for a list of available courses.

9.9 CHEMISTRY

M.A.S. Aquino, Ph.D.
J.F. Cormier, Ph.D.
G. Hallett-Tapley, Ph.D.
D. Leaist, Ph.D.
D.G. Marangoni, Ph.D.
B.J. MacLean, Ph.D.
G. Orlova, Ph.D.
S. Razul, Ph.D.
T. Smith-Palmer, Ph.D.

Professor Emeritus
E. J. McAlduff, Ph.D.

Senior Research Professor
B. Lynch, 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 chromatographic analyzers; and instrumentation to carry out calorimetry, capillary electrophoresis, differential thermal analysis, polarography, and thermogravimetric analysis. Junior and senior courses involve frequent practical experience with this equipment.

The department offers honours, advanced major and major programs at the B.Sc. level. Joint honours and advanced major programs are offered in conjunction with other science departments and business administration. General requirements are given in chapter 7.

Department Requirements
Students must choose their courses in consultation with the department chair; programs and required courses are listed below. Students considering an advanced major or honours degree must complete the physics and second mathematics requirements (see below) by the end of their second year and take CHEM 220, 245, 265 in their second year. Potential honours students should also take CHEM 231, 232 in their second year. All chemistry students are required to take CHEM 325 in the first term of their junior year. For the recommended course sequence, see the department's website at sites.stfx.ca/chemistry/

Chemistry students are required to attend all department seminars during their third and fourth years. Credit for a course may not be earned if the lab component is not reasonably completed. Students who are concerned that their health may be adversely affected by a lab should consult the professor or department chair. As well, students who are subject to a medical condition, e.g., frequent fainting, seizures, that may endanger them or others in a lab setting, are required to inform the professor, in confidence, so that steps can be taken to minimize the danger to the student and others in the lab.

Major
The course pattern for major in chemistry is:

CHEM	6 credits introductory (100 or 120); 3 credits analytical (265); 3 credits inorganic (245); 6 credits organic (220); 3 credits physical (231); 3 credits structural (325); 6 credits electives from 255, 321, 322, 331, 332, 341, 342, 355, 361, 362, 421, 422; 6 credits CHEM (or other science with permission of the department chair); for a total of 36 credits; plus 391, 491(department seminars); if 331 is taken then CHEM 232 is also required
Science B	12 credits in another science
Science C	6 credits in another science (science B or C must be MATH and include MATH 106 or 126, 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 PHYS 120. The balance must come from science, MATH, or CSCI courses or PHIL 213
Open Elec	30 credits

Advanced Major
The course pattern for advanced major in chemistry is:

CHEM	6 credits introductory (100 or 120); 9 credits analytical (265, 361, 362); 6 credits inorganic (245, 341); 6 credits organic (220); 6 credits physical (231, 232); 3 credits biochemistry (255); 6 credits electives from 331, 332, 342, 421, 422; for a total of 42 credits; plus 391 and 491
Science B	12 credits in another science
Science C	6 credits of in another science (science B or C must be MATH and include MATH 106 or 126, 112 or 121 and 122)
Arts X	12 credits in a humanities or social science discipline
Arts Y	6 credits in a humanities or social science discipline
Approved Elec	18 credits approved electives; unless it is taken as a science B or C course, these electives must include CHEM 325 (structural), PHYS 120, and 6 credits must be from MATH 253, 254, 267, 367 (or 221). The balance must come from science, MATH, or CSCI courses or PHIL 213
Open Elec	24 credits

Honours
The course pattern for honours in chemistry is:

CHEM	6 credits introductory (100 or 120); 9 credits analytical (265, 361, 362); 9 credits inorganic (245, 341, 342); 12 credits organic (220, 421, 422); 12 credits physical (231, 232, 331, 332); 3 credits biochemistry (255); 3 credits honours thesis (493); 6 credits electives (may be in another science with permission of the department chair); 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 106 or 126, 112 or 121, 122)
Arts X	12 credits in a humanities or social science discipline
Arts Y	6 credits in a humanities or social science discipline
Approved Elec	18 credits approved electives; unless they are taken as science B or C courses, these electives must include CHEM 325(structural), PHYS 120, and 6 credits must be from MATH 253, 254, 267, 367 (or 221). The balance must come from science, MATH, or CSCI courses, or PHIL 213
Open Elec	6 credits arts or science electives

The honours and advanced major degrees are accredited by the Canadian Society for Chemistry.

B.Sc. with Joint Honours and B.Sc. with Joint Advanced Major Degrees
Joint honours and joint advanced major degree programs are available between chemistry and each of the following: biology, computer science, earth sciences, mathematics, physics, and business administration (advanced major only). Please note that a joint program may take more than four years to complete, and, where

applicable, the physics and second six credits of mathematics must be completed by the end of the sophomore year. Interested students should consult the chair of the chemistry department.

Chemistry and Environmental Sciences
See section 9.19

Master of Science
Research fields available include various aspects of analytical, environmental, inorganic, organic and physical chemistry. General requirements for graduate degrees are outlined in chapter 8. For specific requirements, consult the chemistry faculty or department chair.

Note: All 200-level and higher chemistry courses require CHEM 100 or 120 as a prerequisite.

100 General Chemistry
The fundamental principles of chemistry, including atomic and molecular structure, bonding, elementary thermo-chemistry and thermodynamics, oxidation-reduction reactions, kinetics and equilibrium reactions with particular reference to the behaviour 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. Credit will be granted for only one of CHEM 100 or CHEM 120. 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. Credit will be granted for only one of CHEM 120 or CHEM 100. Six credits and lab.

151 Fundamentals of General Organic, 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 enrolment. Three credits and a 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. Credit will be granted for only one of CHEM 220, 221, 222, 225. Prerequisite: CHEM 100 or 120. Six credits and lab.

222 Organic Chemistry II
The second term of CHEM 220; topics include aromatics, reaction mechanisms and spectroscopy. Prerequisite: CHEM 221. Three credits and lab.

225 Principles of Organic Chemistry
An introduction to organic chemistry. The course focuses on the properties and reactions of common classes of organic compounds; the relationship between the structures of organic compounds and their physical and chemical properties. Some reaction mechanisms are also covered. Credit will be granted for only one of CHEM 225, 220, 221, 222. Prerequisite: CHEM 100 or 120. Three credits and lab.

231 Physical Chemistry I
An introduction to physical chemistry, this course begins with the properties of ideal and real gases; covers the fundamental principles of thermodynamics (the three laws of thermodynamics) and their application to physical and chemical transformations, and chemical reaction equilibrium and concludes with the chemical potential and its application to phase equilibria. Prerequisites: CHEM 100 or 120; MATH 106/126 and 107/127 or 121 and 122. Three credits and lab.

232 Physical Chemistry II
Building upon the principles developed in CHEM 231, this course describes the thermodynamics of real systems. Students will learn the applications of chemical thermodynamics, including phase equilibria in multi-component systems, ideal and real solutions, and electrochemistry; the principles governing the dynamics of systems, including the kinetic molecular theory of gases, transport properties, and the rates of chemical reactions. Prerequisite: CHEM 231. Three credits and lab.

245 Basic Inorganic Chemistry
An introductory course on the properties and uses of the main group elements; the practical and commercial uses of various inorganic compounds and elements; and the factors contributing to the energies and types of chemical bonds. Prerequisite: CHEM 100 or 120. Three credits and lab.

255 Introductory Biochemistry
Areas of study include the chemistry of carbohydrates, fats, proteins, nucleic acids and some enzymes. Biochemical energetics, metabolism pathways and some commonly used experimental biochemical techniques are also examined. Prerequisite: CHEM 220 completed (recommended) or concurrent or CHEM 225 or 221. Three credits and lab.

265 Basic Analytical and Environmental Chemistry
An introductory course which includes a survey of aqueous titration methods, the evaluation of analytical data, and an introduction to electrochemistry, UV visible absorption spectroscopy and chromatography. Prerequisite: CHEM 100 or 120. Three credits and lab.

299 Selected Topics
The topic in 2017-2018 is Introduction to Teaching and Educational Research in the Physical Sciences. This course will focus on concepts and content from the physical sciences and is suitable for science and mathematics students seeking opportunities to explore the art of teaching based on physical sciences educational research findings. Topics include principles and concepts of teaching and tutoring, moving content into context, STEM (Science, Technology, Engineering and Mathematics) education, and opportunities to connect with learners and educators in both the public school system and at the undergraduate level. Cross-listed as PHYS 299. Prerequisites: PHYS 102(100) or CHEM 100 or 120 and MATH 106 or 126. Three credits.

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 spectrometery of organic compounds; organic chemistry of sulfur, phosphorous, and silicon compounds; mechanisms of nucleophilic substitutions. Prerequisite: CHEM 220. Three credits and lab.

325 Organic Structural Methods
Methods for deducing the structural features of organic compounds will be examined, with emphasis on the use of spectroscopic techniques. While the theory and instrumentation of each technique will be presented, the course will focus on the interpretation of spectral data to provide information on functional groups, bonding, and stereochemistry. Use will be made of spectral data correlation charts, compilations and databases. Prerequisites: CHEM 220, PHYS 120. Three credits and tutorial.

331 Introduction to Quantum Mechanics
The course deals with quantum mechanics and its applications to the structure of atoms and molecules. The topics covered are: the postulates of quantum mechanics and their applications to simple physical systems, including particle in a box; the quantum mechanical model for vibration and rotation of molecules; the hydrogen atom and many electron systems; introduction to the Variation Principle and Hückel's molecular orbital method. Credit will be granted for only one of CHEM 331 or CHEM 330. Prerequisite: CHEM 232. Three credits and lab/tutorial.

332 Introduction to Molecular Spectroscopy & Statistical Thermodynamics
The course deals with the characterization of patterns of molecular quantized energy levels in rotational, vibrational and electronic spectra of both linear and non-linear molecules. Other topics include photoelectron spectroscopy and magnetic resonances; introduction to statistical thermodynamics including partition functions and calculations of various thermodynamics properties, equilibrium constants and rate constants. Credit will be granted for only one of CHEM 332 or CHEM 330. Prerequisite: CHEM 331. Three credits and lab/tutorial.

341 Inorganic and Theoretical Chemistry I
An introduction to molecular symmetry and group theory and its applications to vibrational spectroscopy. Also included are basic coordination chemistry of the transition metals, including discussion of some common inorganic techniques, as well as electronic magnetic properties of transition medal compounds. 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 and bio-inorganic chemistry. Prerequisite: CHEM 341; CHEM 232 recommended. Three credits and lab.

355 Advanced Biochemistry
The course focuses on the biosynthesis and metabolism of important biological molecules. Topics include lipids, amino acids, nucleotides, other carbohydrate

metabolism pathways, and plant hormones. Prerequisites: CHEM 220, 255. Three credits and lab.

361 Instrumental Analytical Spectroscopy

The course deals with instrumental design and the analytical application of UV/visible, atomic, and infrared absorption spectrometers, Raman spectrometers, and fluorimeters. Topics include sample preparation, data analysis, method optimization and radiochemisty. Credit will be granted for only one of CHEM 361 or CHEM 360. Prerequisite: CHEM 265. Three credits and lab/tutorial.

362 Instrumental Separations & Analysis

This course deals with liquid and gas chromatography, capillary electrophoresis and electrochemistry. Included are sample preparation, data analysis, and method optimization. Credit will be granted for only one of CHEM 362 or CHEM 360. Prerequisite: CHEM 361. Three credits and lab.

391 Chemistry Seminar I

Introduction to seminar techniques using topics in modern chemistry, chemical information sources, basic molecular modeling and drawing. Required for, and restricted to, students in degree programs where chemistry is science A. Required in the first term of the junior year. No credit.

421 Physical Organic Chemistry

A survey of theoretical models and experimental tools to correlated data related to the structure, property, and reactivity of organic compounds. This course is intended for advanced majors and honours students in chemistry. Topics include qualitative models (resonance, hybridization, VSEPR, qualitative molecular orbital theory), quantitative computational chemistry methods (Hartree-Fock, semi-empirical and density functional theory methods), and spectroscopic methods (IR and NMR). Extensive use is made of theoretical and spectroscopic studies in assignments, computational and experimental labs. Credit will be granted for only one of CHEM 421 or CHEM 420. Prerequisites: CHEM 220, 232; PHYS 120. Three credits and lab.

422 Advanced Organic Chemistry: Structure & Mechanism

Building on the structures and energetics of organic reactive intermediates, this course will examine their role in reaction mechanisms. Several important classes of reactions will be analyzed in detail with respect to stereoelectronic effects. This course will also examine some of the methodology used to determine organic reaction mechanisms. The synergy between experimental and computational results will be discussed. Credit will be granted for only one of CHEM 422 or CHEM 420. Prerequisite: CHEM 220; CHEM 421 recommended. Three credits and lab.

432 Electrochemical Methods

This course investigates modern electrochemical techniques, including potential step and potential sweep methods, pulse voltammetry, controlled-current experiments, hydrodynamic voltammetry, and AC impedance. Particular attention will be given to processes that occur at the electrode-solution interface in the use of these techniques (mass transport, charge transport kinetics, current-time and current-potential profiles). Topics of current interest, such as fuel cells, chemically modified electrodes, corrosion, ion-selective electrodes, ultramicroelectrodes, and catalysis are included. Prerequisite: CHEM 232, 361, 362 (concurrent). Three credits and lab.

434 Colloids and Interfaces

Covers the properties of colloids, surfaces, interfaces, and polymers, and provides a qualitative description of the colloidal state, including colloids and their preparation and properties. Topics include experimental techniques used to determine colloidal properties; interfacial phenomena; the properties of surface active agents; the stabilization of colloidal systems. Prerequisites: CHEM 231, 232. Three credits and lab.

435 Introduction to Polymer Chemistry

This course introduces the basic principles and techniques employed in polymer chemistry. The following topics are emphasized: polymerization reactions and mechanisms; kinetics of polymerization; molecular mass methods; molecular sizes and shapes; polymer morphology; thermal, mechanical and rheological properties; and the thermodynamics of polymer solutions. Prerequisites: CHEM 220, 231, 232. Three credits. Not offered 2017-2018.

445 Introduction to Photochemistry and Applications in Sustainable Catalysis

An introduction to photochemistry with a focus on current catalytic applications. The course will focus on the fundamental concepts of photochemistry and light-induced chemistry of common organic functional groups. Modern applications of photochemistry in catalysis involving transition metals, semiconductors, supramolecular materials, and nanomaterials will also be discussed. Prerequisites: CHEM 220 (221, 222) CHEM 225. Three credits and tutorial.

455 Medicinal Chemistry

Topics include the drug development process, receptors, drug interaction, pharmacodynamics, pharmacokinetics and quantitative structure activity relationships. Chemical properties and mode of action of some of the following classes of drugs will be discussed: antibacterial drugs, drugs that work on the central nervous system, anticancer drugs, antiviral drugs, and analgesics. Case studies of current drugs going through approval processes will be included. Prerequisites: CHEM 220, 255. Three credits and lab.

471 Topics in Chemistry

This course examines current specialized chemistry topics not normally covered in other courses. See section 3.5. Three credits.

491 Chemistry Seminar II

Presentations by visitors, faculty, staff, senior honours and advanced major students on aspects of chemical science. Attendance is mandatory for students in all B.Sc. and M.Sc. degree programs where chemistry is science A. No formal credit is given for this course, but satisfactory completion of senior essays for students in the major program, senior essays and presentations for students in the advanced major program, and presentations based on their theses for students in the honours program are requirements for the B.Sc. degree.

493 Honours Thesis

Based upon a program of experimental research involving the use of modern chemical techniques to solve a problem in the areas of analytical, inorganic, organic, or physical chemistry. An acceptable thesis based on the research must be submitted before the conclusion of lectures for the academic year to satisfy the department requirements for the B.Sc. with Honours in chemistry. Three credits and lab.

499 Directed Study

Designed for students with high academic standing. Explores current topics in chemistry and new methods in chemical research. See section 3.5. Three credits.

GRADUATE COURSES

		Credits
511	Computational Chemistry	3
521	Advanced Organic Chemistry	3
530	Physical Chemistry III	3
532	Electrochemical Methods	3
534	Colloids and Interfaces	3
535	Polymers	3
536	Advanced Topics in Colloid Chemistry	3
540	Advanced Topics	6
542	Advanced Inorganic Chemistry	3
543	Inorganic Materials	3
561	Advanced Analytical Chemistry I	3
561	Topics Instrument & Analysis	3
562	Advanced Analytical Chemistry II	3
591	Advanced Instrument I: Bioanalysis	3
593	Advanced Instrument II: Capillary	3
594	Instrumentation III Electronic	3
595	Nucleic Acids	6
598	Research	6
599	Thesis	18

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

9.10 CLASSICAL STUDIES

S. Baldner, Ph.D., Co-ordinator
C. Byrne, Ph.D.
E. Carty, M.Litt.
K. Penner, 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.

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. Not offered 2017-2018.

230 Latin II

A follow-up to CLAS 110, this course includes oral work designed to enhance reading skills, and the study of hymns, poems, epitaphs, and speeches, as well as selections from the New Vulgate. Prerequisite: CLAS 110. Six credits.

240 Greek Literature in Translation

The study of selected works of ancient Greek literature, read in translation, concentrating on the principal figures and themes of ancient Greek mythology. Texts will include the epic poetry of Homer and the tragedies of Aeschylus, Sophocles, and Euripides. Six credits. Not offered 2017-2018.

9.11 COMPUTER SCIENCE

I. Gondra, Ph.D.
J. Levman, Ph.D.
M. Lin, Ph.D.
W. MacCaull, Ph.D.
M. van Bommel, Ph.D.
L. Yang, Ph.D.

Computer science is the study of computation. For any given problem, a central question is whether a solution can be computed, and, if so, what are the most efficient and practical ways to carry out the computation. Computer science also involves questions that have the potential to change how we view the world. What is the nature of intelligence and can we reproduce it in a machine? How do we represent the knowledge we have about the world and apply this knowledge to help make better decisions?

A computer is a mechanical device that manipulates symbols according to specified rules. As a discipline, computer science lies at the intersection of mathematics, science, and engineering, but it also has very strong ties to many other disciplines. Bioinformatics employs computers for storing and analyzing protein and genome sequences in order to interpret and predict biological structure and function. Business is served by providing the means to perform complex calculations and to interpret large amounts of data to make informed business decisions. The film industry relies on computer-generated graphics for three-dimensional animation. Psychology and philosophy share with computer science the desire to understand the nature of reasoning, learning and intelligence. Computer science has many subfields, such as algorithms, artificial intelligence, automated theorem proving, databases, graphics, high-performance computing, networking, programming languages, robotics, security, and verification. A common misconception is that computer science is equivalent to programming. Programming is a necessary tool, but it is not the focus.

The Department of Mathematics, Statistics, and Computer Science offers courses leading to BA and B.Sc. degrees with Major, Advanced Major, and Honours in Computer Science as well as a B.Sc. Advanced Major degree in Computer Science with Business. Students must meet the general requirements of both the faculty and the department in which they are registered; course and program regulations for mathematics and statistics are listed in sections 9.25.

Students completing a program in computer science have a wide variety of options, including graduate studies in emerging areas of computer science such as big data, 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 or advanced major or honours degree in computer science must take certain core courses: CSCI 161, 162, 255, 275, 277, 491. B.Sc. students are required to complete MATH 106 or 126(111) and 107 or 127(112). BA students may replace MATH 106 or 126(111), 107 or 127(112) by MATH 101 and 102. For advanced major and honours students MATH 106/126 or MATH 107/127 and MATH 101/102 cannot be counted in the advanced major or honours credits. For advanced major and honours B.Sc. students CSCI 128, 135(235), may be available only as approved or open electives.

Those students planning a career in secondary education with computer science as their second teachable must take at least 18 CSCI credits; it is recommended that these credits be chosen from: CSCI 128, 135(235), 161, 162, 215, 255, 263, 275, 277, 364. In addition, it is highly recommended that they take either MATH 101 and 102, or MATH 106 or 126 and MATH 107 or 127.

BA or B.Sc. Minor in Computer Science

Students pursuing a minor degree in computer science must take 24 credits in CSCI.

BA or B.Sc. Major in Computer Science (Computing Concentration)

In addition to the core requirements, students must take CSCI 263, 375, and an additional 9 credits chosen from CSCI.

BA or B.Sc. Major in Computer Science (Analytics Concentration)

In addition to the core requirements, students must take CSCI 223; MATH 253 or 223; STAT101(201) or 231 and an additional 6 credits chosen from CSCI.

BA or B.Sc. Major in Computer Science (Pre-education Concentration)

In addition to the core requirements, students must take CSCI 215, 263 and an additional 9 credits chosen from CSCI 128, 135, 223, 345, 364, 375; MATH 253; STAT101(201) or 231.

BA or B.Sc. Advanced Major in Computer Science (Computing Concentration)

In addition to the core requirements, students must take CSCI 263, 368, 375, 485; MATH 253; 3 credits of STAT, plus an additional 3 credits of CSCI at the 300- or 400-level. B.Sc. students require an additional 6 credits chosen from CSCI.

Typical Pattern:

Year 1 CSCI 161, 162; MATH 106 or 126(111), 107 or 127(112) (B.Sc. or BA) or MATH 101/102 (BA)
Year 2 CSCI 255, 263, 275, 277; MATH 253; STAT 101(201) or 231
Year 3 CSCI 368, 375; additional CSCI courses
Year 4 CSCI 485, 491; additional CSCI courses

BA or B.Sc. Advanced Major in Computer Science (Analytics Concentration)

In addition to the core requirements, students must take CSCI 223, 263; STAT101(201) or 231, STAT 331; MATH 253 or 223 and 3 credits chosen from CSCI. In addition, BA students must take 3 credits, and B.Sc. students must take 9 credits, chosen from: CSCI 215, 335, 345, 355, 364, 368, 455, 467, 495; MATH 254; STAT 435, 445.

Typical Pattern:

Year 1 CSCI 161, 162; MATH 106 or 126/112 (B.Sc. or BA) or MATH 101/102 (BA)
Year 2 CSCI 255, 263, 223 or 275, 277; MATH 223 or 253; STAT101(201) or 231
Year 3 STAT 331; additional CSCI/MATH/STAT courses
Year 4 CSCI 491; additional CSCI/MATH/STAT courses

B.Sc. Advanced Major in Computer Science & Business

In addition to the requirements for Advanced Major in Computer Science, students take CSCI 135(235), plus 36 credits in Business and Economics. Details of the program can be obtained from the department chair.

BA or B.Sc. Honours in Computer Science (Computing Concentration)

In addition to the core requirements, students must take CSCI 263, 355, 356, 368, 375, 485, 493; MATH 253; 3 credits STAT; 6 credits chosen from CSCI 455, 467, 487, 495; and an additional 12 credits chosen from CSCI.

Typical Pattern:

Year 1 CSCI 161, 162; MATH 106 or 126(111), 107 or 127(112) (B.Sc. or BA) or MATH 101/102 (BA)
Year 2 CSCI 255, 263, 275, 277; MATH 253; STAT101(201) or 231
Year 3 CSCI 355, 356, 368, 375; additional CSCI courses
Year 4 CSCI 485, 491, 493 and 6 credits of 455, 467, 487, 495; additional CSCI courses

BA or B.Sc. Honours in Computer Science (Analytics Concentration)

In addition to the core requirements, students must take CSCI 215, 263, 223, 455, 495, 493; STAT101(201) or 231, STAT 331; MATH 253 or 223; 9 credits chosen from CSCI and 9 credits chosen from: CSCI 345, 355, 364, 368, 467; MATH 254; STAT 435, 445. Students are encouraged to take as many courses from the previous list as possible; a 400-level STAT course is recommended.

Typical Pattern:

Year 1 CSCI 161, 162; MATH 106 or 126(111), 107 or 127(112) (B.Sc. or BA) or MATH 101/102 (BA)
Year 2 CSCI 215, 255, 263, 223 or 275, 277; MATH 223 or 253; STAT101(201) or 231
Year 3 STAT 331; additional CSCI/MATH/STAT courses
Year 4 CSCI 491, 493; additional CSCI/MATH/STAT courses

Co-operative Education Program in Computer Science

This optional academic program allows BA or B.Sc. in CSCI students the opportunity to gain 12 months of professional, paid work experience in a range of opportunities in industry, government and not-for-profit across Canada. Students can gain valuable technical and professional experience in areas including (but not limited to) various programming languages and systems analysis to reinforce classroom-based instruction. See section 9.12 for further information.

Master of Science Program

A research-based M.Sc. program is available covering the areas of systems, theory, and applications. General requirements for graduate degrees are outlined in section 8. For specific requirements, consult the department chair or visit http://sites.stfx.ca/mscs/graduate/

125 Computer Programming in C

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. Credit will be granted for only one of CSCI 125 or CSCI 161. Cross-listed as ENGR 144. Three credits and a two-hour lab.

128 Computing Literacy and Coding for Problem Solving

This course introduces coding for everyday problem solving. Coding is introduced through multimedia computing including manipulation of images, sound and video. Intuitive programming languages, constructs and environment are used to introduce basic coding structures. The prevalence of computing in modern society is discussed. Students from all disciplines can develop their powers of coding for problem solving. B.Sc. Advanced Major and Honours students may only count this course as an approved or open elective. Three credits.

135 Computer Application Technology

This course enables students to use a variety of software tools to assist in their post-secondary studies and future careers. The course covers a broad range of information and communication tools essential for analyzing and presenting data, communicating information, organizing and writing papers, and preparing talks, slide presentations and posters. Webpage management is introduced. Topics covered support students in education, business, humanities and the health/social/physical sciences. B.Sc. Advanced Major and Honours students may only count this course as an approved or open elective; there is no such restriction for students in Arts or Business programs. Credit will be granted for only of CSCI 135 or CSCI 235. Three credits.

161 Introduction to Programming

An introduction to computers, algorithms and programming. Topics include problem analysis, algorithm development, data representation, control structures, arrays, and file manipulation. Credit will be granted for only one of CSCI 161, CSCI 125, ENGR 144 or INFO 255. Three credits and a two-hour lab.

162 Programming and Data Structures

Continuing from the material in CSCI 161, this course covers memory management and data abstraction via classes and objects, and introduces the linear data structures lists, stacks, and queues. Structured programming is encouraged via modular development. Credit will be granted for only one of CSCI 162 and INFO 256. Prerequisite: CSCI 125 or 161. Three credits and a two-hour lab.

215 Social Issues in the Information Age

This course exposes students to the various impacts of technology on modern society with the goal of further developing their critical thinking and their ability to make informed decisions in this rapidly changing information age. Topics covered include privacy and security, biotechnology, cybercrime, genetic engineering, artificial intelligence, digitization and intellectual property, ethical issues in computing. Other topics and/or their emphasis may vary by semester. Students from every background will benefit from this course. Three credits.

223 Introduction to Data Science

The course will provide students with the basic understanding of the theory and practice of data science and its applications in different real-world domains. Student will also gain practical skills in handling structured and unstructured data, analyzing and visualizing data, data mining, as well as gain hands-on experience of software tools and apply the basic techniques to their own different scientific, engineering and business applications. Prerequisite: One of CSCI 125, 128, 161 or 225. Three credits.

225 Coding for Health Analytics

Technological development has transformed modern healthcare. The large amounts of health data currently acquired and analyzed has the potential to positively affect a patient's quality of life. This interdisciplinary course focuses on developing practical coding skills used in the healthcare domain, a rapidly growing field of computing that can have a beneficial impact on patient care and public health. Suitable for students from a variety of backgrounds planning a career involving health-related data. Open to students in all degree programs. Prerequisite: CSCI 128 or CSCI 125 or CSCI 161 or with permission of instructor. Three credits.

255 Advanced Data Structures

Linear data structures such as lists, stacks, and queues are reviewed. Objects are introduced using C++ classes and templates. Multi-linked lists and trees together with their fundamental algorithms are covered. Searching, sorting, and hashing are described and implemented in C++. Prerequisite: CSCI 162. Three credits and a two-hour lab.

263 Computer Organization

This course covers basic computer arithmetic, architectures, and instruction sets; in-depth study of the central processing unit, memory and input/output organization; and microprogramming and interfacing. Credit will be granted for only one of CSCI 263 or INFO 225. Prerequisite: CSCI 162. Three credits and a two-hour lab.

275 Database Management Systems

An introduction to the theory associated with the design and implementation of databases. Topics include database models (relational model in detail), design, normalization, SQL, and a DBMS (ORACLE). Credit will be granted for only one of CSCI 275 or INFO 275. Prerequisite: CSCI 162. Three credits and a two-hour lab. Offered 2017-2018 and in alternate years.

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. Cross-listed as MATH 277. Prerequisites: MATH 101/102 or 107 or 127(112) or 122 or CSCI 162. Three credits.

335 Management Science

This course prepares students for careers as analysts and consultants in industries with a focus on enhancing business value through operations, logistics and supply chain management. A variety of successful implementations of management science/operations research tools in different application areas will be studied. Tools such as linear programming, project scheduling with uncertain activity times, various inventory models and simulation will be introduced and coupled with application in the fields of managing operations in manufacturing, long term financial planning and management of healthcare systems. Cross-listed as MATH 335. Prerequisites: MATH 111 or MATH 105 or CSCI 161. Three credits. Offered 2017-2018 and in alternate years.

345 Computer Graphics

Covers fundamental mathematical, algorithmic, and representational issues in computer graphics. Topics include graphics programming, geometrical objects and transformations, 2-D and 3-D data description, manipulation, viewing projections, clipping, shading and animation. Prerequisites: MATH 253; CSCI 255. Three credits and a two-hour lab. Not offered 2017-2018; next offered 2018-2019.

355 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. Prerequisites: CSCI 255, 277. Three credits and a two-hour lab. Not offered 2017-2018; next offered 2018-2019.

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 255, 277. Three credits. Offered 2017-2018 and in alternate years.

364 Mobile Application Development

A mobile application (mobile app) is a software application designed to run on smartphones, tablet and other mobile devices. The android mobile platform has become one of the most popular mobile platforms used by millions around the world. This course introduces application development for the Android OS that can run on mobile devices. The course covers the Android system, the Android development tools, Activity Lifecycle, User Interfaces in Android, and Android application development that uses SMS, databases, location tracking, and/or multimedia. Credit will be granted for only one of CSCI 364 or CSCI 471. Prerequisite: CSCI 162 or INFO 256. Three credits and two hour lab. Offered 2017-2018 and in alternate years.

368 Data Communications and Networking

This course covers communication systems; environments and components;

common carrier services; network control, design and management; distributed and local networks. Credit will be granted for only one of CSCI 368 or INFO 465. Prerequisite: CSCI 255. Three credits and a two-hour lab. Not offered 2017-2018; next offered 2018-2019.

375 Operating Systems

An overview of operating systems functions: file management, CPU scheduling, process management, synchronization, memory management, and deadlock handling. UNIX will be introduced and used in this course. Prerequisite: CSCI 263, completed or concurrent. Three credits and a two-hour lab.

455 Parallel and Distributed Computing

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 263; 375 recommended. Three credits and a two-hour lab. Offered 2017-2018; and alternate years.

467 Cyber 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 368, completed or concurrent. Three credits. Not offered 2017-2018; next offered 2018-2019.

471 Topics in Computer Science

This course explores current topics in computer science, such as big data, distributed computing, bioinformatics and machine learning. Three credits. See http://sites.stfx.ca/mscs/cs_courses for more information.

483 Interactive Programming with Java

This course introduces the object-oriented language Java and its application to interactive programming. Topics include Java syntax and object inheritance structure, exception handling, GUI and Applet programming, Java networking and multithreading. Credit will be granted for only one of CSCI 483 or INFO 355. Prerequisite: CSCI 162; 255 is recommended. Three credits and a two-hour lab. Not offered 2017-2018; next offered 2018-2019.

485 Software Design

The course covers techniques for the design and management of large software projects, including structured programming, debugging, and testing methodologies. Examples of large systems will be provided and a programming project will be completed. Prerequisite: CSCI 162; 483 is recommended. Three credits and a two-hour lab. Offered 2017-2018; and alternate years.

487 Organization of Programming Languages

Topics include structure of language definitions, control structures, data types and data flow, compilers vs interpreters, introduction to lexical analysis and parsing. Prerequisite: CSCI 263, and 375 completed or concurrent. Three credits and a two-hour lab. Not offered 2017-2018; next offered 2018-2019.

491 Senior Seminar

Cross-listed as MATH 491 and STAT 491. The purpose of this non-credit course is to assist students in carrying out research, composition, and oral presentation. Students will present a project topic in the fall term and their project in the spring. Attendance at departmental seminars is mandatory. No credit.

493 Senior Thesis

Students will prepare and present a thesis based on original research conducted under the supervision of a faculty member. Required for honours students; permitted for advanced major students. Three credits.

495 Artificial Intelligence

An introduction to the core concepts of artificial intelligence, including state space, heuristic search techniques, knowledge representation, logical inference, uncertain reasoning, and machine learning. Specific methods covered include neural networks, genetic algorithms, and reinforcement learning. Prerequisites: CSCI 255, 277, 375(completed or concurrent). Three credits and a two-hour lab. Not offered 2017-2018; next offered 2018-2019.

GRADUATE COURSES

		Credits
521	Real Time Systems	3
522	High Performance Computing	3
526	Embedded Systems	3
541	Theory of Computing	3
542	Representation & Reasoning	3
543	Specification & Verification	3
544	Computational Logic	3
545	Artificial Intelligence	3
554	Matrix Computation	3
555	Data Mining & Machine Learning	3
561	Computer & Network Security	3
562	Computer Graphics	3
563	Advanced Database Systems	3
564	Constraint Processing & Heuristic Search	3
598	Research	6
599	Thesis	18

9.12 CO-OPERATIVE EDUCATION

J. MacDonald, MLIS, M.Ad.Ed., M.Ed., Manager

Co-operative education utilizes experiential learning partnerships between the university and employer to provide students with opportunities for relevant, paid employment while completing academic studies. A combination of professional development training and practical work experience empowers students to apply and further develop the knowledge and skills they have acquired in their degree program.

Admission to the program is selective. Students must demonstrate professional qualities that are suitable for employment sponsorship by the University.

Students are eligible to join the co-operative education program after at least one full year of academic study. Students may apply to the program at any time but must apply before published deadlines in September or January to participate in professional development seminars in that term. A minimum overall first year average of 65% is required for students joining the program in their second year. A minimum overall average of 70% in the second and subsequent years is required for students who join and remain in the program.

Students must successfully complete mandatory professional development seminars to be eligible for co-op work terms and must complete all required levels of professional development seminars, a minimum of 12 months of work term employment and a formal debrief process to receive a passing grade, three academic credits and a certificate for co-operative education.

Co-operative education is an option for students enrolled in biology, business, computer science, health, human nutrition and mathematics. Students enrolled in biology, computer science, and mathematics are required to commit to one of these majors in order to enroll and continue in the co-op education program. Students' degree programs and registration will be monitored and academic averages will be assessed annually to determine eligibility to continue in the program.

Students must be registered in a minimum of 12 credits per term in the full academic year to be considered for, and to remain in, the Co-operative Education Program.

Students are permitted to commence professional development seminars in their second year of study. Students will be permitted to commence the work term component of the program after completion of their second year of study, subject to meeting prerequisite requirements. After completing the work terms, students must return to full time studies at StFX for minimum of one term.

Work terms must occur in at least two of the three semesters and must be preceded and followed by an academic term. "Academic semesters" are January to April, May to August, and September to December. This is a three- semester model. Eight-month or back-to-back work terms are acceptable as long as they are also preceded and followed by an academic term. The 12-16-month work term is considered a co-op internship and must be with one employer. The co-op team and academic advising will help you make a plan that is right for you.

All work placements must be approved by the co-op office in advance. Failure to obtain the required approval or to submit documentation may result in the work term not counting toward the program.

Students will be encouraged to complete their professional development seminars within a reasonable time frame. However, COOP 110 must be completed in the semester the student was accepted into the program. Work terms must be scheduled in a way that accommodates students' academic program requirements. Required courses must be available to students during their on-campus terms. Also, the requirement to complete their degrees with a minimum of one term of on-campus

study in a full course load will present a major consideration in scheduling work term placements.

Participation in the co-operative education program is voluntary, obtaining a co-operative education work assignment is competitive, and students are not guaranteed a co-operative education work placement.

Students may withdraw from the co-operative education program at any time by submitting an email to the program manager outlining the intent to withdraw. There will be no refund of fees collected for professional development seminars or work terms completed prior to the date of withdrawal. For students who withdraw during a PDS session or while completing a work term, normal refunding will apply.

Students who successfully complete all co-op requirements and all academic requirements for their degrees will receive a certificate with their degree parchment. Also, a "Co-operative Education" designation will be displayed in the degrees awarded section of their official transcripts. Students must graduate with the associated degree to also complete the co-operative education program.

The Co-operative Education Programs in Schwartz School of Business are accredited by the Canadian Association for Co-operative Education (CAFCE). Biology, computer science, human nutrition and mathematics co-op programs also follow the same guidelines as our accredited programs.

110 Introduction to Co-operative Education Program and Professional Development

This course provides an overview of program requirements and materials needed to attain relevant professional experience. Students are presented with models for self-evaluation and improvement as well as information on transitioning into the work force, self-marketing and applying effective job search strategies. No credit.

120 Intermediate Co-operative Education Program and Professional Development

This course offers students an overview of different types of organizations with a focus on communication styles in the workplace and special topics in Co-op education. Students will also be provided with tools for securing co-operative education employment and evaluating personal success on the job search process and as an employee. No credit.

130 Advanced Co-operative Education and Professional Development

Students enhance their knowledge of self-evaluation and personal preparation and learn how to optimize their opportunities for personal success in the job market. Students will develop a professional portfolio that is a representation of their skills, abilities, and knowledge and learn how to incorporate portfolio thinking into future learning. No credit.

401-404 Co-operative Education Work Terms

COOP work terms parlay professional development theory and academic knowledge into practice in employment that is related to student's degree program. The Co-operative Education Program staff, as well as their direct reporting managers, will evaluate the student. While on work terms, students will document their work term learning objectives, participate in a work site evaluation by the Co-op staff, submit formal performance evaluation and write a reflective essay. No credit.

405 Co-operative Education Work Term and Integrated Learning

Following the completion of work term requirements, students reflect on, discuss and report on their co-op experience. Prerequisites: COOP 110, 120, 130, 401, 402 and 403. Three credits used to satisfy elective requirements.

9.13 DEVELOPMENT STUDIES

J. Bickerton, Ph.D., Co-ordinator

Advising Faculty	Department
Y. Cho, Ph.D.	Political Science
S. Dodaro, Ph.D.	Economics
J. Langdon, Ph.D.	Adult Education
M. Lent, Ph.D.	Business Administration
S. Vincent, Ph.D.	Anthropology
J. Webber, Ph.D.	Coady Institute

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

Students may complete an honours with subsidiary, a joint advanced major or a joint major in development studies and another subject, a subsidiary or a minor in development studies, pair two courses, or simply take DEVS 101, 201 and/or 202 as electives. See section 4.1 for degree regulations. Students who intend to do further courses in development studies are strongly encouraged to take DEVS 101 in their first year. Students graduating with honours, joint advanced major or joint major in development studies and another subject must complete ECON 101 and 102 during the course of their degree. Research design and basic statistics may also be useful skills to acquire; a social science research methods course is required for students graduating with an honours or joint advanced major degree. To satisfy prerequisite requirements, these students should take at least one of the following during their first year: ANTH 111/112, PSCI 101/102, SOCI 101/102. As well, it is recommended that students graduating with honours, joint advanced major or joint major in development studies gain competency in a second language relevant to their studies (e.g., French or Spanish).

Note: For honours, joint advanced major and joint major, no more than 12 credits of development studies cross-listed or designated courses (see below) may be in a single subject. Also, none of the development studies cross-listed or designated courses may be in the student's other declared subject.

Honours in Development Studies with a Subsidiary

See section 4.1 for general regulations on degree requirements.

Requirements:

a) 48 credits in DEVS (subject A) and 24 credits in the subsidiary subject (subject B). Students must complete the following:

i)	DEVS 201, 202, 302, 303, 311, 321, 401, 405, 412	27 credits
ii)	DEVS 490 (thesis)	6 credits
III)	DEVS cross-listed or designated courses	15 credits
iv)	ECON 101, 102	6 credits
v)	Social Science Research Methods Course*	3 credits

*Social science courses that satisfy the DEVS research methods requirement include ANTH 304, ANTH 305, PSCI 399, SOCI 202, and SOCI 307. Other courses may be considered with the permission of the Development Studies Coordinator.

b) Course Pattern: see section 4.1.3

Joint Advanced Major in Development Studies

Requirements:

a) 36 credits in DEVS (subject A) and 36 credits in another subject (subject B; see definition of subject at 4.1.2) or 36 credits in another subject (subject A) and 36 credits in DEVS (subject B). The program or department requirements for advanced majors are applicable in both subjects.

Students using DEVS as subject A or B must complete the following:

i)	DEVS 201, 202, 302, 303, 311, 321, 401, 405	24 credits
ii)	DEVS core, cross-listed or designated courses	12 credits
iii)	ECON 101, 102	6 credits
v)	Social Science Research Methods Course*	3 credits

*Social science courses that satisfy the DEVS research methods requirement include ANTH 304, ANTH 305, PSCI 399, SOCI 202, and SOCI 307. Other courses may be considered with the permission of the Development Studies Coordinator.

b) Course Pattern: see section 4.1.3

c) A senior paper is required for all advanced major students. The senior paper will be written in either DEVS 401 or 405 when development studies is subject A. When development studies is subject B, the senior paper will be written for the department or program that is subject A.

Joint Major in Development Studies

Requirements:

a) 36 credits in DEVS (subject A) and 36 credits in another subject (subject B). The program or department requirements for majors are applicable in both subjects.

Students must complete the following:

i)	DEVS 201, 202, 302, 303, 311, 321	18 credits
ii)	Minimum of 3 credits from 401, 405	3 credits
iii)	DEVS core, cross-listed or designated courses	15 credits
iv)	ECON 101, 102	

b) Course Pattern: see section 4.1.3

Subsidiary in Development Studies

Requirements:

24 credits in DEVS and 48-60 credits in the honours subject. No more than six credits of DEVS cross-listed or designated courses may be from a single department. None of the development studies cross-listed or designated courses may be in the student's honours subject.

Students must complete the following:

i)	DEVS 201, 202, 302,	9 credits
ii)	Minimum of 3 credits from 303, 311, 321	3 credits
iii)	DEVS core, cross-listed or designated courses	12 credits

Minor in Development Studies

Requirements:

24 credits in DEVS. No more than six credits of DEVS cross-listed or designated courses may be from a single department. None of the cross-listed or designated courses may be in the student's declared major subject. Students must complete the following:

i)	DEVS 201, 202	6 credits
ii)	DEVS core, cross-listed or designated courses	18 credits

Pair

i)	DEVS 201, 202	6 credits
ii)	DEVS core, cross-listed or designated courses	6 credits

DEVELOPMENT STUDIES CORE COURSES

101 Introduction to Development Studies

This course offers students an introduction to the field of development studies. It explores core concepts about 'development' and applies these at the global, national and local level. Along with an introduction to international development institutions, topics covered include colonial legacies and First Nations, gender and development, environment and climate change, human rights and diversity. Discussion of these topics will be situated in the context of country case studies. Three credits.

201 International Development: The Global South

An introduction to development theory and practice as it applies to inequality between countries, and within countries of the Global South. The course provides students with a critical framework for analyzing development policies, programs, trends, and impacts, especially since the formation of the Bretton Woods institutions. Students will explore the concepts of sustainable development and of social and economic justice as they relate to development. Credit will be granted for only one of DEVS 201 or DEVS 200. Prerequisite: 24 credits or permission of the co-ordinator. Three credits.

202 International Development: Canada

In this course, Canada's place in the world, its path to development, and the challenges it currently faces will be explored. These include the retention of its capacity to generate sufficient wealth to provide a high standard of living to its citizens, the persistence of inequalities that raise questions about the distribution of the benefits of development, and the challenge of sustainability, given the stresses that industrialized societies such as Canada's place on their physical and social environment. Credit will be granted for only one of DEVS 202 or DEVS 200. Prerequisite: 24 credits or permission of the co-ordinator. Three credits.

302 Globalization and Development

The course provides an analysis of the forces affecting the globalization process, its evolution over time, and its impacts on development. It takes a broad view, from an interdisciplinary perspective, of the factors at work, their nature and their consequences. Topics that are considered include the fact and policy dimensions of globalization, questions that pertain to equity and fairness, issues concerning production, consumption, global markets, governance, and the role of various international institutions. It also analyzes the mechanisms that link the global to the local level. Credit will be granted for only one of DEVS 302 or DEVS 300. Prerequisites: DEVS 201, 202 or ECON 101, 102. Three credits.

303 Topics in Globalization and Development

The course considers in detail a range of topics that pertain to the globalization process that are important to development. It provides an interdisciplinary analysis of such issues as: international trade and finance and their impacts, regionalization versus globalization, the environment and sustainability, culture and ideas, justice and human rights, gender and health issues, migration, MNCs, NGOs and civil society. The course also considers alternatives to the existing reality in terms of changes in institutions, practices, policies, local and grassroots responses (including the Antigonish Movement). Credit will be granted for only one of DEVS 303 or DEVS 300. Prerequisite: DEVS 302 or permission of the instructor. Three credits.

311 Issues in Development Practice

In this course student make the link between theoretical discussion of development and actual development practice, both locally and internationally. An in-class component addresses the practicalities of development interventions and the major issues that affect them, such as: gender/ethnic/class stratification; power relations within and between localities and external agents; and indigenous versus dominant forms of knowledge. Student will then apply this in an experiential learning component in a local or international context. Credit will be granted for only one of DEVS 311 or DEVS 310. Prerequisite: DEVS 201, 202 or permission of the instructor. Three credits.

321 People and Development

This course critically examines how development policy and practice have affected target populations. Students will develop critical analytical skills and knowledge by examining the strengths and weaknesses of strategies such as those promoting popular participation, gender equality, small-scale business, local knowledge and democratic reform, as well as of different forms of development institutions. The course uses case studies based on long-term, first-hand participant observation that place development processes in larger historical, political and economic contexts. Cross-listed as ANTH 320. Prerequisites: ANTH 111, 112 (110) or DEVS 201, 202. Three credits.

391 Selected Topics

Prerequisite: DEVS 201. Three credits.

401 Theories of Development

This seminar takes an interdisciplinary approach to the study of theories that have shaped the conceptualization and practice of development around the world. The seminar focuses on current versions of general development theories such as: modernization, structuralism, Marxism, dependency theory, neoclassical and neoliberal theory, alternative development, and post-development. Examples of current theories that focus on key development issues are also covered. Prerequisites: DEVS 201, 202. Three credits.

405 Community-Based Development: Strategies and Practice

This seminar is an examination of community-based development. It explores and evaluates strategies, practices and techniques used to strengthen people's capacity to build sustainable livelihoods, and examines the role of different agencies (e.g. local citizens, government, non-government organizations, and the private sector) in stimulating development at the community level. The course will include development strategies used in the Global South and practices used in Canada, especially Atlantic Canada. Prerequisites: DEVS 201, 202. Three credits.

412 Internship in Development Studies

This internship builds on DEVS 311. Students may extend their placement from 311 or undertake a new posting. The class will be largely experiential. Students will be required to blog regularly, to submit critical reflection papers, to produce a research product of use to their host organization, to make an oral presentation and to submit a final written report. Students will do their internship during the spring and summer before their senior year and complete this course in the fall term of their senior year. Credit will be granted for only one of DEVS 412, DEVS 300, DEVS 312. Prerequisite: DEVS 311 and permission of the instructor. Three credits.

490 Thesis

Students will work under the supervision of a faculty member who guides the selection of a thesis topic, use of resources, research methodology, and quality of analysis. Restricted to honours students. Six credits.

499 Directed Study

Students will work with a course instructor on a topic which is not available through other course offerings. Prerequisites: DEVS 201, 202 and six additional credits in core development studies courses. See section 3.5. Three credits.

DEVELOPMENT STUDIES CROSS-LISTED COURSES

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. Cross-listed as ECON 211. Three credits.

223 Anthropology of Globalization

Globalization has affected more than the world economy: people, politics and culture all travel globally, with wide-ranging consequences. This course will examine the history of global processes by focusing on how different peoples around the world have engaged in or resisted them. Ethnographic studies will be used to explore global diversity as well as the effects of efforts to impose global uniformity. Cross-listed as ANTH 223. Prerequisite: ANTH 111, 112 (110) or DEVS 201 and 202. Three credits. Next offered 2017-2018 and in alternate years.

305 Economic Development I

Starting with an overview of the present state of the world, this course explores economic development strategies and prospects for the Third World. Topics include the meaning of economic development: past and present theories of growth; alternate approaches to economic development (including the grassroots approach and sustainable development); the role of agriculture and industrialization; and issues pertaining to development planning, markets and the role of governments. Cross-listed as ECON 305. Three credits.

306 Economic Development II
This course covers economic development prospects and experience in the Third World. Topics include income distribution; population and human resources (including education and health); urbanization, rural-urban migration and the informal economy; labour 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. Cross-listed as ECON 306. Prerequisites: ECON 101, 102. Three credits.

322 Antigonish Movement as Change & 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, labour relations, class conflict, education, co-operative strategies, religion, and ethnicity in the context of social transformation. Cross-listed as SOCI 322. Prerequisites: SOCI 101/102 or DEVS 201, 202. Three credits.

352 Social Entrepreneurship
The context, models, trends, opportunities, and challenges associated with social entrepreneurship focus on areas of public concern such as economic development, education, community welfare, and healthcare. These issues are examined using case studies, group projects, and experiential learning. Emphasis is on how entrepreneurship is combined with the tools of business to create effective responses to social needs and innovative solutions to social problems. Credit will be granted for only one of BSAD 352 or BSAD 457. Cross-listed as BSAD 352. Prerequisite: DEVS 201, 202. Three credits.

354 International Political Economy
This course examines the politics of international economic relations: international trade, the international monetary system, multinational corporations and international development. Cross-listed as PSCI 354. Prerequisites: PSCI 101/102 (100) or DEVS 201, 202; PSCI 250 recommended. Three credits.

355 Global Issues
This course examines the state's supremacy and its capacity to manage such global issues as: the continuing problem of poverty in the developing world; the challenges of establishing democracy and global governance; global environmental issues such as climate change and intergenerational justice; international concerns with human and animal rights; sexist oppression; indigenous struggles, and the rise of trans-national social activist groups. Cross-listed as PSCI 355. Prerequisites: PSCI 101/102 (100) or DEVS 201, 202; PSCI 250 recommended. Three credits.

371 Political Economy of Development
Countries in the developing world face a distinct set of political challenges, particularly as they relate to fostering economic growth and providing effective public services. This course will explore the political determinants of development as well as the effect of economic conditions on political outcomes. Key issues include the origins of state weakness, the relationship between political institutions and economic growth, the causes of corruption, and the effect of diversity on governance outcomes. Credit will be granted for only one of DEVS 371 or DEVS 370. Cross-listed as PSCI 371. Prerequisites: PSCI 100 or PSCI 101/102 or DEVS 201, 202. Three credits.

DEVELOPMENT STUDIES DESIGNATED COURSES
Departmental prerequisites will apply.

Anthropology		Credits
ANTH 218	Anthropology of Health & Illness	3
ANTH 223*	Anthropology of Globalization	3
ANTH 234	Introduction to Indigenous Anthropology	3
ANTH 310	Anthropology of Tourism	3
ANTH 320*	People and Development	3
ANTH 323	Feminist Anthropology	3
ANTH 332	Mi'kmaq Studies	3
ANTH 415	Anthropology of HIV/AIDS	3
ANTH 425	Power and Change	3
ANTH 435	Advanced Indigenous Issues	3

Aquatic Resources		Credits
AQUA 201	Rivers, Lakes and Freshwater Governance	3
AQUA 202	The Ocean's Commons and Society	3

Biology		Credits
BIOL 221	Issues in Resource Management	3
BIOL 222	Topics in Environmental Ecology	3
BIOL 345	Communities and Ecosystems	3
BIOL 407	Integrated Resource Management	3

Business Administration		Credits
BSAD 352*	Social Entrepreneurship	3
BSAD 357	International Business	3
BSAD 358	Business Ethics	3

Catholic Studies		Credits
CATH 341	Catholic Social Thought	3

Earth Sciences		Credits
ESCI 271	Environmental Earth Science	3
ESCI 272	Global Change and Climate System	3
ESCI 273	Health and the Environment	3
ESCI 274	Health Impacts of Global Environmental Change	3

Economics		Credits
ECON 211*	Local & Community Development Economics	3
ECON 241	Canadian Economic Prospects and Challenges	3
ECON 281	Environmental Economics	3
ECON 305*	Economic Development I	3
ECON 306*	Economic Development II	3
ECON 361	Human Resources and Labour Economics	3
ECON 365	International Trade	3
ECON 366	International Payments and Finance	3
ECON 381	Natural Resource Economics	3

English		Credits
ENGL 245	ST: Postcolonial Literature	3
ENGL 347	Literature of Africa and the African Diaspora	3

History		Credits
HIST 228	History of Maritime Provinces, Pre-Confederation	3
HIST 229	History of Maritime Provinces, Post-Confederation	3
HIST 233	French Imperialism	3
HIST 255	History of Colonial Latin America	3
HIST 256	History of Modern Latin America	3
HIST 257	Canada and the Global South	3
HIST 283	Making Britain Great	3
HIST 303	The Working Class in Early Canadian Society	3
HIST 304	The Working Class in Modern Canada	3
HIST 317	Canadian Women and Gender History: From Colony to Nation	3
HIST 318	Canadian Women's and Gender History: Modernity	3
HIST 322	Canadian Immigration, Race & Ethnicity to 1896	3
HIST 326	Cuba from Independence to Revolution	3
HIST 337	History of Modern Mexico	3
HIST 347	American Social Movements, 1945-Present	3
HIST 355	The Sixties: A Social History	3
HIST 360	Gender & Sexuality in Modern European Empires	3
HIST 374	The People's Republic of China	3
HIST 462	Seminar in Latin American History	3

Human Nutrition		Credits
HNU 405	Food Availability	3

Interdisciplinary Studies		Credits
IDS 305	Immersion Service Learning	3
IDS 306	Service Learning: Theory and Practice	3
IDS 398	ST: Contemporary Issues & Service Learning in Ghana	6

Philosophy		Credits
PHIL 333	Environmental Ethics	3
PHIL 371	Social and Political Philosophy	3

Political Science		Credits
PSCI 211	Comparative Politics I	3
PSCI 212	Comparative Politics II	3
PSCI 215	Contemporary Politics of Latin America	3
PSCI 241	Political Power and Business	3
PSCI 242	The Politics of Economic Policy	3
PSCI 247	Environmental Social Sciences I	3
PSCI 248	Environmental Social Sciences II	3
PSCI 251	International Relations I	3
PSCI 252	International Relations II	3
PSCI 291	Violence, Conflict and Politics	3
PSCI 315	Democratization	3
PSCI 316	Dictatorships	3
PSCI 322	Atlantic Canada	3

PSCI 325	Indigenous Politics	3
PSCI 335	Human Rights & International Justice	3
PSCI 344	Citizenship and Identity	3
PSCI 345	Women and Politics	3
PSCI 346	The Politics of Resource Management	3
PSCI 347	Politics of the Environment	3
PSCI 353	International Organizations	3
PSCI 354*	International Political Economy	3
PSCI 355*	Global Issues	3
PSCI 362	Chinese Politics	3
PSCI 363	Politics of East Asia	3
PSCI 371*	Political Economy of Development	3
PSCI 372	Iran and the Muslim World	3
PSCI 381	African Politics	3
PSCI 391	Democratization & Development in Latin America	3
PSCI 394	ST: Global Security and Development	3
PSCI 395	Mexican Politics	3

Nursing		Credits
NURS 364	Social Justice and Health	3

Sociology		Credits
SOCI 212	Social Dissent	3
SOCI 217	Race, Class, Gender, Sex	3
SOCI 242	Technology & Society	3
SOCI 243	Consumer Society	3
SOCI 247	Environmental Social Science I: Problems & Paradigms	3
SOCI 248	Environmental Social Science II: Power and Change	3
SOCI 254	Social Class as Lived Experience	3
SOCI 310	Gender	6
SOCI 322*	Antigonish Movement as Change & Development	3
SOCI 328	Social Inequality	3
SOCI 335	Canada's Indigenous Peoples	3
SOCI 356	Intercultural Relations: Contexts & Controversies	3
SOCI 360	Social Policy	6
SOCI 364	Food and Society	3
SOCI 366	Coastal Communities	3
SOCI 424	Women and Work	3
SOCI 433	Advanced Problems in Environment and Society	3

Women's and Gender Studies		Credits
WMGS 217	Race, Class, Gender, Sex	3
WMGS 310	Gender	6
WMGS 345	Women and Politics	3
WMGS 364	Social Justice and Health	3
WMGS 424	Women and Work	3

Notes: *Cross-listed as DEVS courses.
Other courses, not listed here, may be considered designated courses with permission of the development studies co-ordinator (selected topics courses or on a development theme or issue).

9.14 EARTH SCIENCES

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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, behaviour, history and environment. An Earth scientist studies and interprets the Earth's evolution as revealed by its atmosphere, ocean and fresh waters, rocks, minerals and fossils; explores and develops valuable resources; and evaluates the environmental implications of these activities.

A degree in Earth sciences prepares students for graduate studies, as well as a wide range of careers in geology, climatology, oceanography, environmental science, resource exploration and development, government, industry, and financial institutions where geological knowledge is vital for investments and economic planning.

A number of options and concentrations are available for students interested in a B.Sc. in Earth sciences. We offer options in geoscience, environmental geoscience, geochemistry; joint programs with biology, business administration, chemistry, 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 selections for Earth sciences programs are shown below; variations in content require the permission of the department chair and/or the Dean of science. See chapter 7 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.

Required courses for all students doing any major, advanced major, or honours degree in Earth sciences are: ESCI 171, 172, 201, 215, 216, 305, 375 or 376. Students doing a major in Earth sciences should take 15 additional ESCI credits from among the required courses of the geoscience concentration, the environmental Earth science concentration, or the geochemistry concentration listed below. All Earth sciences majors must take: CHEM 100 or 120; MATH 106/126, 107/127; additional ESCI, science, arts and elective courses as outlined in section 7.1.

The recommended courses for first year students intending to do an Earth sciences degree are: ESCI 171, 172; MATH 106/126, 107/127; CHEM 100 or 120; PHYS 101/102 or 121/122, or BIOL 111, 112; 6 credits arts electives.

Students wishing to pursue a career in Earth sciences or a related field, may wish to register as a Professional Geoscientist (P. Geo). This designation is broadly similar to that of Professional Engineer (P. Eng.), and is similarly sought after in industry. Most core requirements for accreditation are fulfilled as part of the departmental requirements, but students at the 100- or 200-level should note that PHYS 101/102 or 121/122, BIOL 111 and/or 112, and ESCI 245 are required courses. CSCI 161 and STAT 231 can also be used to fulfill some of the core accreditation requirements. Interested students are expected to consult the appropriate accreditation bodies. For further information, please consult the departmental chair

Advanced Major and Honours in Earth Sciences

Required courses for students following the geoscience and environmental Earth science concentrations are listed below. All advanced major and honours students in Earth science must take additional ESCI, science and arts courses as outlined in section 7.1.

Geoscience Concentration

ESCI 171,172; MATH 106/126, 107/127; CHEM 100 or 120;
PHYS 101/102 or 121/122, or BIOL 111, 112;
ESCI 201, 202, 215, 216, 245, 285
ESCI 301, 302, 305, 365, 366, 375
ESCI 426, 435, 446, 475, 476, 491 (non-credit), 493 (honours)

*P. Geo courses needed to achieve core ESCI knowledge requirements for registration as a Solid Earth Geoscientist are as follows: ESCI 201, 202, 215, 245, 365, 366, 375, 465 (not listed), 475.

Environmental Earth Science Concentration

ESCI 171,172; MATH 106/126, 107/127; CHEM 100 or 120;
PHYS 101/102 or 121/122; BIOL 111, 112
ESCI 201, 215, 216, 246, 271, 272
ESCI 305, 365, 366, 376, 386
ESCI 406, 465, 472, 475, 491 (non-credit), 493 (Honours)

*P. Geo courses needed to achieve core ESCI knowledge requirements for Registration as an Environmental Geoscientist are as follows: ESCI 201, 245 (not listed), 215, 305, 365, 366, 376 or 375 (not listed), 465, 475.

Geochemistry Concentration

Recommended courses for students in the honours and advanced major programs of the geochemistry concentration are: ESCI 171, 172, 201, 202, 215, 216, 245, 301, 302 or 435, 305, 375, 406, 491 (non-credit), 493 or 499; CHEM 100 or 120, 220, 231, 232, 245, 265; MATH 106/126, 107/127; PHYS 101/102 or 121/122; additional ESCI, arts and elective courses as outlined in section 7.1.

Joint Honours and Joint Advanced Major Programs

Joint honours and joint advanced major programs are offered in conjunction with aquatic resources and with the departments of biology, chemistry, mathematics, statistics, and computer science. Joint advanced major programs are offered with the departments of business administration and physics. For general information on course patterns see section 7.1. Students should consult the appropriate department chair or program co-ordinator. Typical programs are shown below; variations are available at the discretion of the department.

Earth Sciences with Aquatic Resources

ESCI 171, 201, 215, 216, 271, 272, 375 or 376, 305, 366, 406, 465. For additional ESCI credits, students should follow either the geoscience or environmental geoscience concentration listed above, and consult the chair of the Earth sciences department, as well as the co-ordinator of aquatic resources.

Earth Sciences and Biology

ESCI 171, 172, 201, 215, 216, 375 or 376, 271, 272, 285, 386; 27 credits BIOL; CHEM 100 or 120, 225, 255; MATH 106/126,107/127, CSCI 135(235); STAT 231; additional ESCI, arts and elective courses as outlined in section 5.1; interdisciplinary thesis and seminar.

Earth Sciences with Business Administration

Science A	(ESCI) 36 credits: ESCI 171, 172, 201, 215, 216, 305, 365, 366; 12 additional credits ESCI
Science B	(MATH) 12 credits: MATH 106/126, 107/127; any 6 additional credits MATH, STAT or CSCI
Science C	(CHEM) CHEM 100 or 120
BSAD	101, 102, 221, 223, 231, 261, 241, 471; 6 credits electives
CSCI	135(235)
ECON	6 credits
Arts X	12 credits humanities or social science
Arts Y	6 credits
Approved electives	9 credits BIOL, CHEM, ESCI, or PHYS

Earth Sciences and Chemistry

ESCI 171, 172, 201, 202, 215, 216, 375 or 376, 301, 302 or 435, 305, 406; CHEM 100 or 120, 220, 231, 232, 245, 265, 341, 342, 361, 362; MATH 106/126, 107/127, 253 or 267; 3 additional credits MATH; PHYS 101/102 or 121/122; additional ESCI, arts and elective courses as outlined in section 7.1; interdisciplinary thesis and seminar.

Earth Sciences and Mathematics/Statistics/Computer Science

ESCI 171, 172, 201, 215, 216, 245, 246, 375 or 376, 272, 475 (for additional credits, consult the Earth sciences department chair); 36 credits MATH; CHEM 100 or 120; PHYS 101/102 or 121/122; additional ESCI, arts and elective courses as outlined in section 7.1; interdisciplinary thesis and seminar.

Earth Sciences and Physics

ESCI 171, 172, 201, 215, 216, 245, 246, 272, 375 or 376, 302 or 435, 446, 472, 475 (for other credits, consult the Earth sciences department chair); 30 credits PHYS (consult the physics department chair); CHEM 100 or 120, 231 and 232 or 245 and 265; MATH 106/126, 107/127, 253, 267, 367; additional ESCI, arts and elective courses as outlined in section 7.1; interdisciplinary thesis and seminar.

Environmental and Earth Sciences

See section 9.19.

Minor in Earth Sciences

ESCI 171, 172 and 18 additional ESCI credits.

Master of Science Program

See chapter 8 for admission regulations.

171 Understanding the Earth

An introduction to the study of rocks and minerals and the materials that make up planet Earth; the Earth's origin and internal structure and composition; the plate tectonic and continental drift theory, crustal processes (the early history of the Earth and its atmosphere, evolution and extinction of life forms; composition and structure of the Earth, origin of continents, oceans, volcanoes, earthquakes, mountains), crustal deformation and mountain building; resources from earth. Three credits and one-hour tutorial.

172 Environment, Climate, and Resources

An introductory treatment of the processes driving Earth's ocean, atmosphere, hydrosphere and cryosphere. Course includes study of the environment and problems such as soil erosion, ozone layer, waste disposal, Earth's energy resources (solar, geothermal, etc.), surface and ground waters, water quality in humanity's future, an introduction to biogeochemical cycles, and a current examination of climate change, future scenarios and issues of impact, migration and adaptation to climate change. Three credits and one-hour tutorial.

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. Prerequisites: ESCI 171; ESCI 172 or AQUA 100; or with permission of instructor; CHEM 100 or 120, concurrent with permission of the instructor. Three credits and lab.

202 Introduction to Igneous and Metamorphic Systems

Uses physicochemical and thermodynamic principles to explain the origin and composition of Earth materials, with particular reference to the genesis of igneous and metamorphic rocks. Applies the phase rule and phase equilibria to natural systems using thermo-chemical and experimental data, binary and ternary 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. Prerequisites: ESCI 171; ESCI 172 or AQUA 100. 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. Prerequisites: ESCI 171; ESCI 172 or AQUA 100, 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 171. Three credits and lab.

246 Quantitative Methods

Quantitative and computational methods are used by earth and environmental scientists, in both industry and research. This course will introduce students to quantitative tools that are commonly used in these sciences, and will familiarize students with modern techniques for data analysis. The course will provide students with the theoretical and quantitative background necessary for further study and work in Earth and Environmental sciences. Prerequisites: ESCI 171, 172 or AQUA 100; MATH 106/126, 107/127; or permission of the instructor. Three credits and lab.

271 Environmental Earth Science

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. Prerequisites: ESCI 171; ESCI 172 or AQUA 100. Three credits and lab.

272 Global Change and the Climate System

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. Prerequisites: ESCI 171; ESCI 172 or AQUA 100. 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 scientific aspects of the connections between human and planetary health. Cannot be used as a science credit by students majoring in earth sciences or environmental sciences. Three credits.

274 Health Impacts of Global Environmental Change

Many planetary-scale environmental changes are altering earth system processes in ways that have direct and indirect consequences for human health. This course will explore some of these issues, with an emphasis upon the scientific causes, projections, and health implications of global climate change. Additional topics include the study of persistent environmental pollutants, vector-borne diseases,

stratospheric ozone depletion, global landuse change, and global water resources. Cannot be used as a science credit by students majoring in earth sciences or environmental sciences. Three credits.

278 Introduction to Atmospheric Physics

This course aims at developing an understanding of the physical processes that influence our climate. It is suitable for science students interested by atmospheric sciences, climate and air quality issues. Topics include introduction to radiation, atmospheric composition, planetary atmospheres, introduction to molecular spectroscopy and photochemistry, radiation balance - natural variability and anthropogenic effects, greenhouse effect, ozone depletion, clouds, methods of sounding atmospheric constituents, instrumentation, introduction to climate modeling. Cross-listed as PHYS 278. Prerequisites: MATH 107 or 127 or 122, CHEM 100 or 120, and one of PHYS 100, 101/102, 120, 121/122. Three credits. Offered 2017-2018 and in alternate years.

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. Cross-listed as BIOL 285. Prerequisite: ESCI 171, 172 or BIOL 111, 112 or permission of the instructor. Three credits and lab. Offered in alternate years.

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. Offered in alternate years.

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. Not offered 2017-2018.

305 Geochemistry of Natural Waters

Covers geochemistry of natural waters and the interaction of elements in natural materials, aqueous and atmospheric geochemistry, global cycles, weathering processes, and natural redox reactions and stable isotope geochemistry. Application of thermodynamic principles to geochemistry. Prerequisites: CHEM 100 or 120; ESCI 171; ESCI 172 or AQUA 100. Three credits and lab.

365 Geomorphology and Quaternary Geology

Covers landform processes and development; glaciation and glacial deposits; slopes and mass movements; drainage basin form and process; Quaternary stratigraphy, paleoclimatology, and paleoecology. Prerequisites: ESCI 171; ESCI 172 or AQUA 100. Three credits and lab. Offered in alternate years.

366 Hydrology

A study of natural freshwater cycling in watersheds, this course covers the processes controlling soil water, stream flow, lake circulation, groundwater flow, and the exchange of water between natural reservoirs and the atmosphere; applications of chemical tracers to hydrology; aspects of human interaction with these systems, including flood hazards, water resource usage, and contamination. Prerequisites: ESCI 171; ESCI 172 or AQUA 100. Three credits and lab.

374 Geographic Information Systems

Students will learn how GIS tools can be used to analyze, represent and model geographic data derived from censuses, surveys, maps, aerial photographs, and satellite imagery. Topics include cartography and map projections; spatial and attribute data; data capture techniques; vector and raster structure; GIS analysis; data visualization; GIS modelling. Credit will be granted for only one of ESCI 374 or ESCI 471. Cross-listed as INFO 374. Three credits and lab.

375 Geological Field Methods

An introduction to field techniques; geological mapping on small and large scales; stratigraphic and structural interpretations. Topics include aerial photographs, topographic, and geophysical maps; elementary surveying techniques; systematics of rock and mineral identification. Includes a 10-day introductory field camp, normally at the end of the second year, held in collaboration with Acadia University. Prerequisites: ESCI 202, 215, 216 or permission of instructor. Three credits.

376 Environmental Earth Science Field Course

A field and lab course which introduces field techniques in environmental earth sciences, including sampling, collection, analysis, and interpretation of climatological, geo-chemical, biogeo-chemical, hydrological, geo-physical, and surficial geological data. Topics include spatial variability in natural physical and chemical processes; field sampling techniques and tools; lab and computer-aided analysis of data. A 10-day course held in May. Prerequisites: ESCI 271, 272, 305 or permission of the instructor. Three credits.

386 Oceanography

An introduction to the physical and biogeochemical characteristics of the world ocean and the ocean's role in governing planetary climate. Topics include: properties of ocean water, oceanic currents and circulation, waves and tides, ocean nutrient and carbon cycling, and human impacts on the ocean system. Prerequisites: ESCI 172 or AQUA 100 or permission of the instructor. Three credits and lab.

406 Environmental Biogeochemistry

An advanced examination of selected topics in environmental geochemistry and biogeochemistry, including chemical cycling and transformation in atmospheric, soil and aquatic environments. Topics may include stable isotopes, redox processes, heavy metals, sulfur, carbon and reactive nitrogen Prerequisites: ESCI 271, 305 or permission of the instructor. Three credits and lab. Offered in alternate years.

415 Special Topics in Earth Sciences

This course will cover selected current topics in Earth sciences. Prerequisite: permission of the instructor. Three credits.

426 Ore Deposits

Covers classification, petrology, ore mineralogy, and mode of occurrence of 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. Offered in alternate years.

435 Advanced Structure and Tectonics

Topics include regional structures; mechanics of deformation; geometric analysis; tectonics and metamorphism; interpretation of single and polyphase deformation; structural interpretations of ore zones; overview of tectonic processes; tectonic principles and dynamics; tectonic elements, zones, and terranes; the origin and development of orogenic belts; Phanerozoic, Proterozoic, and Archean tectonics. Prerequisite: ESCI 245. Three credits and lab. Offered in alternate years.

446 Advanced Sedimentology and Basin Analysis

Covers the origin, geochemistry, and diagenesis of sedimentary rocks, including siliciclastics, carbonates, and organic matter in sediments. Applies stratigraphic correlation, facies analysis methods, and geophysical techniques to basin mapping; depositional systems and sequence stratigraphy; basin subsidence and fill; regional and global stratigraphic cycles; and basin models in plate tectonics. Prerequisites: ESCI 202, 215, 245. Three credits and a lab. Offered in alternate years.

465 Hydrogeology

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 106/126, 107/127. Three credits and lab. Offered in alternate years.

472 Ocean-Atmosphere Interactions

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 behaviour of large-scale ocean-atmosphere interactions. Prerequisites: ESCI 246, 271, 272; one of PHYS 100, 101/102, 120, 121/122; MATH 106/126, 107/127. Three credits and lab. Offered in alternate years.

475 Geophysics

This course introduces the use of physical measurements to determine the internal and external structure and composition of the Earth system. Topics include (but are not limited to) an introduction to earthquake seismology, gravity and magnetic fields, isostasy, seismic reflection, heat flow applications, and elementary concepts in geodynamics. This course summarizes current knowledge of Earth system science as determined by modern geophysical techniques. Some computing techniques are presented in lab. Prerequisites: ESCI 171, MATH 106/126, 107/127; PHYS 101/102 or 121/122 or permission of the instructor. Three credits and lab. Offered in alternate years.

476 Advanced Geological Field Methods
A seven-day field camp in an important geological area held in late summer, followed by structural and petrographic analysis, seminars and report writing during the fall term. Prerequisites: ESCI 245, 375. Three credits and lab.

491 Senior Seminar
This course will foster discussion and analysis of current topics in Earth sciences with emphasis on student initiative. Each student will select a major problem to work on during the year. No credit.

493 Senior Dissertation
Restricted to honours students. Three credits.

499 Directed Study
Designed for advanced students interested in fields of study not normally covered in courses or thesis presentations. The research may be field-, laboratory- or library-based. Under the supervision of a faculty member, students will plan and conduct research, present the results of their research at a department seminar, and produce a research paper. Prerequisite: permission of the department chair. Three credits. See section 3.5.

GRADUATE COURSES

		Credits
501	Special Topics in Petrogenesis of Igneous Rocks	3
502	Special Topics in Petrogenesis of Metamorphic Rocks	3
506	Special Topics in Geochemistry	3
526	Special Topics in Ore Deposits	3
535	Special Topics in Tectonics	3
545	Special Topics in Structural Geology	3
546	Special Topics in Sedimentology and Basin Analysis	3
565	Special Topics in Hydrogeology	3
569	Advanced Quantitative Methods in Earth Sciences	3
571	Special Topics in Earth Systems Science I	3
572	Special Topics in Earth Systems Science II	3
575	Special Topics in Geophysics	3
576	Field Research Methods in the Earth Sciences	3
585	Special Topics in Paleontology	3
586	Special Topics in Climatology	3
591	Research Methods in the Earth Sciences	3 or 6
598	Research	6
599	Thesis	18

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

9.15 ECONOMICS

S. Dodaro, Ph.D.
T. W. Leo, Ph.D.
B. Malloy, MA
Z. Ozkok, Ph.D.
J. Rosborough, Ph.D.
G. Tkacz, Ph.D.
P. Withey, Ph.D.

Senior Research Professor
S. El-Sheikh, 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. Students in economics can complete a minor in business administration. Programs of study must be approved by the department chair.

Minor Program
a) ECON 101, 102, 201, 202;
b) 12 credits ECON

Students who take a minor in economics typically combine the minor with major in English, history, philosophy, political science, or sociology, or with the BBA degree.

BA Major Program
See chapter 4 for information on the degree pattern, declarations of major, advanced major and honours, advancement and graduation requirements.
a) ECON 101, 102, 201, 202;
b) 24 credits ECON with 12 at the 300 or 400 level;
c) 3 credits MATH or STAT;

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

BA Advanced Major Program
a) ECON 101, 102, 201, 202, 301, 302, 493;
b) 6 credits of MATH or STAT; 3 credits must be calculus;
c) 15 credits ECON with 6 at the 300 or 400 level.
d) Registration in at least one 300- or 400-level ECON course in the winter term of the final year. A senior paper must be written in this course. At least 25% of the grade calculated for the winter term of the course must derive from this paper.

Other subjects and electives should be chosen in consultation with the department chair. Students interested in graduate work in economics are advised to apply for the honours program or take equivalent courses in the mathematical or quantitative area.

BA Major or Advanced Major in Economics with Minor in Business Administration
Candidates for a major or advanced major in economics may take a minor in business administration by fulfilling the normal requirements for the major or the advanced major degree and completing 24 credits in BSAD. The student will normally complete BSAD 101, 102, 221, 223, 231, 261, and six credits of BSAD electives.

BA Honours Program
a) ECON 101, 102, 201, 202, 301, 302, 371, 372, 493, 494; 30 credits ECON electives with at least 18 credits at the 300 or 400 level;
b) a thesis supervised by a department member;
c) 6 credits of calculus.

Students planning to pursue graduate work in economics are encouraged to take additional MATH courses.

BA Honours with a Subsidiary Subject
An honours degree in economics may be completed with a subsidiary subject. Candidates must follow the degree regulations established by the university and the requirements established by both departments; s*ee section 4.1 and the relevant department chairs.* Honours degrees with a subsidiary subject are offered in a wide range of disciplines.

The Department of Economics offers the following programs:
BA Honours in Economics and Aquatic Resources
BA Honours in Economics and Political Science
BA Honours in Economics and History
BA Honours in Economics and Mathematics, Statistics & Computer Science

When economics is the primary subject, **not** the subsidiary subject, students are required to complete:
a) ECON 101, 102, 201, 202, 301, 302, 371, 372, 493, 494;
b) 18 credits of ECON electives with at least 12 credits at the 300 or 400 level;
c) a thesis supervised by a department member;
d) 6 credits of calculus.

When economics **is** the subsidiary subject, students are required to complete:
a) ECON 101, 102, 201, 202, 301, 302;
b) normally 18 credits ECON electives with at least 6 credits at the 300 or 400 level;
c) ECON electives may include ECON 493 with approval of the department chair;
d) A course in quantitative methods (ECON 371; 372; STAT 101, 224, 231) is strongly recommended.

Honours in Economics with a subsidiary in Mathematics and Computer Science
Students must include ECON 401, 402, 471 as ECON electives.

Honours in Mathematics and Computer Science with a subsidiary in Economics
ECON 401, 402, 471 are recommended as ECON electives. Depending on the nature of the individual thesis, joint supervision by an economist and a mathematician may be appropriate.

BBA Joint Honours
In conjunction with the Department of Business Administration, the Department of Economics offers a joint honours program in business and economics. See section 5.1 for degree regulations.

B.Sc. Advanced Major in Economics
See degree regulations in chapter 7. Degree requirements are:
a) ECON 101, 102, 201, 202, 301, 302, 371, 372, 493;
b) 15 credits ECON electives, including 6 at the 300 or 400 level;
c) a minimum of 12 credits in MATH including STAT 231 and 6 credits of calculus.
d) the 18 credits of approved electives are normally taken in math or science subjects;
e) PHIL 213 is recommended.

B.Sc. Honours in Economics

See degree regulations in chapter 7. Degree requirements are:

a) ECON 101, 102, 201, 202, 301, 302, 371, 372, 401, 402, 471, 493, 494 and 21 credits ECON electives with at least 9 credits at the 300 or 400 level;
b) a thesis supervised by a department member;
c) a minimum of 12 credits in MATH, including 6 credits of calculus.
d) the 18 credits of approved electives are normally taken in math or science subjects;
e) PHIL 213 is recommended.

Note: ECON 101 and 102 are prerequisites for all other courses unless otherwise stated. Students lacking other prerequisites may request department approval to enrol in a course.

101 Introductory Microeconomics

This course provides an introduction to microeconomic concepts and methodology. Students will learn about basic concepts such as scarcity and opportunity cost, and economic efficiency. The other central themes of the course include theories of supply and demand; the theory of production and costs, the functioning and the performance of competitive markets versus monopolies and oligopolies; labour markets and the markets for public goods. Three credits.

102 Introductory Macroeconomics

The second half of introductory economics provides an introduction to macroeconomic concepts. The course examines pressing problems and issues in the Canadian economy and the world. Students will learn about alternate economic systems, national income accounting and the components of the national economy; the role of money in the economy; inflation; unemployment; international trade and trade policy; and the role of government in managing the economy. Three credits.

201 Intermediate Microeconomic Theory I

An introduction to the basic concepts of microeconomic theory, this course examines the demand-supply model, consumer theory, production theory, and the purely competitive model, using numerical examples and graphs as aids. Three credits.

202 Intermediate Macroeconomics I

This is the first of two half-courses on intermediate macroeconomics. Students will examine the structure of, and behaviour underlying, contemporary national economies with emphasis on the policies developed to gear them towards the public interest. This course focuses on the Keynesian and classical models of the closed economy for explaining what determines national income, employment, unemployment, prices, inflation, and the interest rate. Three credits.

211 Local and Community Development Economics

Beginning with theories of local and community economic development and welfare, this course provides an economic analysis of community needs and resources (human resources, capital and natural resources, infrastructure). Students will examine interactions within the community and between the community and the outside world, exploring approaches to local and community economic development and planning. Cross-listed as DEVS 211. Three credits.

241 Canadian Economic Prospects and Challenges

Covers policy issues and problems in the Canadian economy. Topics include employment and unemployment; poverty and income distribution; productivity, education and the 'brain drain'; health care and the social welfare safety net; trade and globalization; the environment and sustainable development; the primary sectors, regional disparity; and the new economy. Topics that reflect strong student interest and/or new issues may be added. Three credits.

271 Quantitative Methods in Economics

This course introduces students to quantitative and mathematical tools commonly used in the study of economics and finance. Topics include functions of one or more variables, financial mathematics, differential calculus and linear algebra. Applications include computing elasticities, macroeconomic equilibria, profit-maximization, constrained optimization, interest rates, present value and bond pricing. Prerequisite: ECON 101; completed or concurrent. Three credits.

281 Environmental Economics

As an introduction to the relationship between human economic activity and the environment, this course explores the economic concepts used to analyze the causes, consequences, and possible solutions to local and global environmental issues. Topics include market failure; property rights; externalities; public goods; environmental valuation; environmental policies dealing with pollution and global issues such as global warming, ozone depletion, biodiversity, and sustainability. Prerequisite: ECON 101. Three credits.

291 Economics of Leisure, Recreation & Sports

This course includes topics related to choices about the time individuals do not spend working. It deals with aspects of the economics of leisure and labour supply; the valuation of time; outdoor recreation; the economics of sports; the economics of dating and marriage; the economics of crime and the consumption of addictive goods; the economics of gambling and other addictive behaviour associated with the consumption of leisure, and the economics of the entertainment industry. Prerequisite: ECON 101. Three credits.

301 Intermediate Microeconomic Theory II

An extension of ECON 201, this course covers price determination in monopoly, monopolistic competition, and oligopoly models. Uncertainty and risk, factor pricing, capital investment over time, externalities, and public goods are discussed. The use of micro-economics as a tool in decision-making is illustrated. Prerequisite: ECON 201. Three credits.

302 Intermediate Macroeconomics II

This sequel to ECON 202 explores the new Keynesian and new classical perspectives on the macro economy. Attention is directed to the determinants of investment, consumption, money demand and supply as well as the role of expectations in macro behaviour. Questions of unemployment, inflation, interest rates, the government budget, economic growth and macroeconomic policies are examined in their international setting. Prerequisite: ECON 202. Three credits.

305 Economic Development I

Starting with an overview of the present state of the world, this course explores economic development strategies and prospects for the Third World. Topics include the meaning of economic development: past and present theories of growth; alternate approaches to economic development (including the grassroots approach and sustainable development); the role of agriculture and industrialization; and issues pertaining to development planning, markets and the role of governments. Cross-listed as DEVS 305. Three credits.

306 Economic Development II

This course covers economic development prospects and experience in the Third World. Topics include income distribution; population and human resources (including education and health); urbanization, rural-urban migration and the informal economy; labour 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. Cross-listed as DEVS 306. Prerequisite: ECON 101, 102. Three credits.

312 Industrial Organization

This course deals with the behaviour 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. Prerequisite: ECON 201. Three credits.

335 Money Banking & Financial Markets I

The course uses basic economic principles to organize students' understanding of and thinking about money, the functions and structure of financial markets and financial institutions. Topics covered include: the necessity, the nature, and the future of money; the determinants of interest rates; the term structure of interest rates, the pricing of government securities; what banks do and how their operations affect the economy. Credit will be granted for only one of ECON 335 or ECON 330. Three credits.

336 Money Banking & Financial Markets II

The course introduces students to the role of imperfect information in financial markets. Topics covered include: asymmetric information and its consequences; the necessity of regulations of financial institutions and the role of domestic regulators and policy makers; comparative analysis of financial system regulations; financial market instabilities and the elements for the conduct of monetary policy. The course helps students understand the causes of financial instability and crises, and what policy makers can do to alleviate or avoid them. Credit will be granted for only one of ECON 336 or ECON 330. Prerequisite: ECON 335, ECON 202 is recommended. Three credits.

361 Human Resources and Labor Economics

The course analyzes the essential elements of the labour market: labour demand and labour supply, and their interaction to determine wages, employment and unemployment. Topics include fertility, education, regional wage disparities, income maintenance schemes, wage discrimination, the unemployment insurance program, unions and collective bargaining, and the distribution of wealth. Prerequisite: ECON 201. Three credits.

364 Health Economics
The course introduces students to the role of economics in health, health care, and health policy. The course focuses on individual's choice pertaining to health, and economic evaluation of various methods of health care delivery. Students will learn how the market for health care differs from other markets, especially with regards to uncertainty and asymmetric information, and understand health insurance markets and their interrelationship with the market for health care services, as well as the role of the government. Prerequisite: ECON 201. Three credits.

365 International Trade
Covers the theory of international trade and its policy implications, including: comparative advantage; gains from trade; terms of trade; trade and growth; trade and economic development; commercial policy (tariff and non-tariff barriers, effective protection, trade liberalization); economic integration (with emphasis on NAFTA and the EC); migration and trade in service; and intellectual property rights. Prerequisite: ECON 201. Three credits.

366 International Payments and Finance
Covers the theory and policy implications of international payments and finance. Topics include the exchange rate and the foreign exchange market; balance of payments problems and policies; fixed versus flexible exchange rate regimes and common currency areas; the Eurocurrency market; open economy macro-economics; international finance, financial liberalization and globalization; capital flows and multinational corporations; and the international monetary system. Prerequisites: ECON 201, 202. Three credits.

371 Econometrics I
This course develops the simple and multiple classical regression models, interval estimation and hypothesis testing. The problems of estimation, inference, mis-specified structures, multicollinearity, heteroskedascity, and serial correlation are presented. Students will be exposed to STATA or other relevant econometric software. The course requires some proficiency in calculus and basis statistics. Prerequisites: MATH 107 or 127 or ECON 271; STAT 101 or 231 or permission of the instructor. Three credits.

372 Econometrics II
This course is a continuation of ECON 371 and deals with various estimation methods, including least squares and maximum likelihood, specification tests, dynamic models and simultaneous equation models as well as limited and qualitative dependent variables. Students will be exposed to MATLAB or other matrix-based analytical software. Prerequisite: ECON 371. Three credits.

381 Natural Resource Economics
Examines the role of natural resource industries in the Canadian and world economies, including minerals, oil and gas, forest resources, fisheries and endangered species, and water resources. The course introduces students to the use of economic tools in analyzing problems of renewable and non-renewable resource management. Topics include welfare and inter-temporal analysis of resource exploitation; ownership and property rights issues in resource use and management; the nature of resource markets; resource taxation; biodiversity conservation; and sustainability. Prerequisites: ECON 201; MATH 106 or 126 recommended. Three credits.

391 Public Finance I: Expenditures
An analysis of the role of government in the economy, focusing on expenditure and with emphasis on the Canadian situation. Starting with an introduction to the public sector, the course covers: the rationale for government participation in the economy; the growth of the public sector over time; the theory of collective decision-making; cost-benefit analysis; fiscal federalism; specific spending programs. Prerequisite: ECON 201. Three credits.

392 Public Finance II: Taxation
An analysis of the role of government in the economy, focusing on revenue and with emphasis on the Canadian situation. Starting with an introduction to taxation and tax policy, the course covers: individual income taxes; corporation taxes; consumption; value-added and sales taxes; property and other taxes; tax reform; the revenue side of fiscal federalism; and the international dimensions of taxation and taxation policies. Prerequisite: ECON 201. Three credits.

401 Advanced Microeconomics
An advanced treatment of micro-economic concepts and topics, such as consumer choice and demand analysis, production technology and cost, market structure and pricing, factor markets and shares, general equilibrium and economic welfare. Credit will be granted for only one of ECON 401 or ECON 412. Prerequisites: ECON 301; MATH 107 or 127 or ECON 271. Three credits.

402 Advanced Macroeconomics
An advanced treatment of macroeconomic theory and how macroeconomic policy is conducted. The course offers deeper insights into economic growth processes, business cycles, international macroeconomic stabilization policies, and alternative approaches to building macroeconomic models. Students are introduced to the use of two-period models. Credit will be granted for only one of ECON 402 or ECON 411. Prerequisites: ECON 302; MATH 107 or 127 or ECON 271. Three credits.

471 Mathematical Economics
An introduction to mathematical reasoning in economics and business, this course covers: the methodology of operations research; profit and cost analysis; resource use and production decisions; input-output and macro-analysis; pricing and inventory decisions; capitalization of cash flows and growth; portfolio selection and investment. Prerequisites: MATH 107 or 127 or ECON 271. Three credits.

491 Selected Topics I
The topic for 2017-2018 is Applied Econometrics. The course is designed as a continuation from Econometric Method I, with a strong focus on applied econometrics. The principal idea is to provide practical experience in obtaining data,deciding an appropriate statistical model, perform necessary statistical analysis, perform diagnosis of issues, and the writing academic reports/papers, and will ease the students transition in writing their thesis. Three credits.

492 Selected Topics II
Three credits.

493 Seminar
This is a capstone course designed to introduce students to current research issues in various fields of economics. Students will read and critically analyze significant historical or recent research papers, and to complete assignments related to these readings. They will also be exposed to the art of presenting research findings, as department faculty and visiting speakers will present some of their latest research. In the past, students have been exposed to topics such as: macroeconomic data revisions; economic impact of climate change; European financial integration; matching models; and the economics of the non-profit sector. Three credits.

494 Thesis
Each student works under the supervision of a professor who guides the selection of a thesis topic, the use of resources, the methodological component, and the quality of analysis. Restricted to honours students. Three credits over full year.

499 Directed Study
A directed study course in advanced topics in economics. See section 3.5. Students wishing to take this course must consult the department chair. Three credits.

9.16 EDUCATION

A. Foran, Ph.D.
C. Gilham, Ph.D.
D. Graham, Ph.D.
L. Kearns, Ph.D.
L. Lunney Borden, Ph.D.
L. MacDonald, Ph.D.
K. MacLeod, Ph.D.
J. Mitton-Kukner, Ph.D.
E. Munroe, Ph.D.
A. Murray Orr, Ph.D.
B. Mwebi, Ph.D.
A. N'Jie, M.Ed
J. Orr, Ph.D.
D. Robinson, Ph.D.
I. Robinson, M.Ed.
E. Throop-Robinson, Ph.D.
J. Tompkins, Ed.D.
W. Watters, M.Ed.
R. White, Ph.D.
D. Young, Ph.D.

Part Time
C. Boulter, Ph.D.
W. Kraglund-Gauthier, M.A.Ed.
W. MacAskill, Ph.D.
S. MacDonald, M.Ed.
E. MacPherson, M.Ed.
A. McNeil-Wilson, M.Ed.
M. Olson, Ph.D.
G. Patterson, M.Ed.
R. Ryan, M.Ed.
J. Withrow, Ph.D.
R. Wolf, M.Ed.

See chapter 6 for B.Ed. regulations and chapter 8 for M.Ed. regulations. Candidates are required to complete all of the courses shown below for the elementary or secondary division.

9.16.1 Bachelor of Education

Program Dates 2017-2018

Tuesday, September 5	B.Ed. registration
Wednesday, September 6	Year 1 orientation
Thursday, September 7	First day of classes, B.Ed. program
Wednesday, September 13	Last date to change first-term courses
Thursday, October 26	Fall pause
Wednesday, November 8	Last day of classes for B.Ed., first term
Thursday, November 9	Building bridges to practicum
Wednesday, November 15	First day of B.Ed. practicum
Thursday, December 21	Last day of B.Ed. practicum
Wednesday, January 3	First day of classes, second term
Tuesday, January 9	Last date to change second term courses
Thursday, February 15	Winter pause
Tuesday, March 6	Last day of classes for B.Ed.
March 12-16	B.Ed. mid-term recess
Monday, March 19	First day of B.Ed. practicum
Thursday, April 26	Last day of B.Ed. practicum

Elementary Program

Year 1 (E1) EDUC 411, 412, 413, 416, 433, 435, 439, 471, 472;
Year 2 (E2) EDUC 414, 434, 436, 463, 468, 481, 482; 9 credits EDUC electives with at least 3 from EDUC 442, 456, 457 and 458.

Secondary Program

Year 1 (S1) EDUC 432, 433, 435, 471, 472; a first curriculum and instruction course taken from EDUC 421 to 429; 6 credits EDUC electives
Year 2 (S2) EDUC 434, 436, 438, 440, 481, 482; a second curriculum and instruction course taken from EDUC 421 to 429; 6 credits EDUC electives.

Mi'kmaq Language Focus

A student in either the elementary or secondary program can achieve a focus on Mi'kmaq language by earning credit for EDUC 454 and 455.

French Language Specialization

A student in either the elementary or secondary program may specialize in teaching French. Students who complete EDUC 459 and 460 may achieve a core French specialization. Students with demonstrated French fluency can, after successfully completing 459 and 460, take EDUC 428A and B in their second year to qualify to teach in French immersion.

Physical Education Specialization

A student in either the elementary or the secondary program may specialize in teaching physical education by earning credits for EDUC 457, 425A and B, and 444. These courses prepare the teacher for a K-12 physical education where the emphasis is on the development of a physically active lifestyle, and includes such topics as movement education, fitness and dance, outdoor education, health education, personal development. Students pursuing this specialization would take EDUC 425A in the fall of year one, EDUC 425B in winter year one; EDUC 444 in the fall of year two, and EDUC 457 in the fall of year two.

Core Courses for Elementary and Secondary Programs
Year One

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

435 Inclusive Practices I
This course discusses educational, practices and procedures, past and present, affecting pupils who have been marginalized socially and/or physically. These policies have evolved from an ideology of exclusion to inclusion. Preservice teachers will learn curriculum and instructional approaches to assist in meeting the academic and socio-emotional needs of students with diverse learning needs. Three credits.

471 Internship I
Students are placed in schools for five weeks of supervised practicum. Three credits.

472 Internship II
Students are placed in schools for five weeks of supervised practicum. Three credits.

Year Two

434 Contemporary Issues in Public Education
This course examines the historical, legal, and philosophical underpinnings of contemporary issues facing public schooling. Goals, purposes, and dilemmas that have affected such facets of education as the structure of Canadian schooling, political and policy making processes, educational law, the work of teachers' organizations, and educational standards are explored. Three credits.

436 Inclusive Practices II (E2 & S2)
This course provides preservice teachers with an understanding of the learning strengths and challenges of students with exceptionalities. Emphasis will be placed on collaborative team planning, professional supports provided for students with diverse learning needs, the assessment and education referral process, and the development of individualized educational plans. Three credits.

481 Internship III
Students are placed in schools for five weeks of supervised practicum. Three credits.

482 Internship IV
Students are placed in schools for five weeks of supervised practicum. Three credits.

Required Elementary Courses

411 Curriculum and Instruction in Language and Literacy I (E1)
This course is designed to prepare prospective elementary teachers to teach the language arts: reading, writing, speaking, listening, and viewing. Also included is comprehensive literacy programming, children's literature, authentic assessment, and organizing the classroom for language instruction across the curriculum. Throughout this course, the practical influence of various language arts theories is emphasized with a particular focus upon early literacy in the lower elementary grades. Three credits.

412 Curriculum and Instruction in Mathematics (E1)
This course includes an examination of the elementary school mathematics program, and of various approaches to teaching mathematics to children, with emphasis on exploring strategies for the development of conceptual understanding through multiple representations. Three credits.

413 Curriculum and Instruction in Science (E1)
The focus of this course is an emphasis on the process approach to teaching science, on the inquiry method, and on special techniques in the teaching of scientific concepts. The elementary science curriculum is examined. Three credits.

414 Curriculum and Instruction in Language and Literacy II (E2)
This course is a continuation of Language Arts I with emphasis on the upper elementary years. Three credits.

416 Curriculum and Instruction in Social Studies (E1)
A review of the social studies programs used in elementary school, with emphasis on the development of skills, methods and approaches involved in teaching these programs. Three credits.

439 Principles and Practices of Elementary Education (E1)
This course emphasizes the foundations of becoming an elementary school teacher. Topics include the professional and ethical role of the teacher, educational planning, the professional development process, reflective practice, teaching strategies, learning processes, classroom environment and management. Six credits.

463 Elementary Assessment for and of Learning
This course examines current research and practices in classroom assessment, evaluation, record keeping and communication of student achievement. 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.

Required Secondary Courses

420 to 429 Curriculum and Instruction in Secondary Education (S1 and S2)
Curricular and instructional concepts will be described, demonstrated, evaluated, and applied in relation to the following subject fields of the school curriculum:

420 A & B Gaelic
421 A & B English
422 A & B Social Studies
423 A & B Mathematics
424 A & B Diverse Cultures (First Nations and African-Canadian Studies)
425 A & B Physical Education
426 A & B Music
427 A & B Science
428 A & B French
429 A & B Fine Arts
469 Selected Topics: C & I Spanish

Students normally register for one of these eight courses in year one, and a second in year two. The choice is determined by each student's two subject fields of study. For students pursuing a French or physical education specialization, please consult that section of the Calendar for more details of course sequence. Students with more than two teachable subjects may take additional courses from this list as electives. Six credits per pair.

432A & B Principles and Practices of Secondary Education (S1)
This course emphasizes the foundations of becoming a secondary school teacher. Topics include the professional and ethical role of the teacher, educational planning, the professional development process, reflective practice, teaching strategies, learning processes, classroom environment and management and pedagogy. Three credits each.

438 Assessment for and of Learning (S2)
This course explores issues surrounding the assessment for and 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 (S2)
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

205 French/Education (Thematic Oral Communication)
Available exclusively to education students, this course enhances French communication skills, leading to the necessary proficiency to teach core French at the elementary level. The course is designed for students who have studied French as a second language at the secondary level, or who have had some exposure to French at the university level. Three credits.

417 Curriculum and Instruction for Diversity
This course provides preservice teachers with an overview of curricular approaches and content for representing the cultural diversity of Canadian society in the elementary curriculum. Multicultural, anti-racist, feminist and Aboriginal approaches to curriculum content, teaching, assessment, classroom management and learning are emphasized. Three credits.

419 Curriculum and Instruction in Middle School Science
This course examines curriculum and instructional strategies appropriate in middle years' science classrooms, including an emphasis on the process approach to teaching science, the inquiry method, and special techniques in the teaching of scientific concepts. The grade six to grade nine science curriculum is examined. Three credits.

437 Guidance (S2)
This course focuses on the development and knowledge of interpersonal relationships and interpersonal skills required by the classroom teacher in providing guidance for his/her students. It addresses specific strategies and frameworks for meeting the needs of at-risk students and those with other special needs in a variety of contexts. The basic principles and practices of guidance will be emphasized. Three credits.

442 Learning through Drama
This course provides pre-service, K-12 teachers with concepts and ideas for drama lesson plans; approaches to drama; basic drama and drama education theory; a working knowledge of theatre production; an introduction to the Nova Scotia curricular guidelines; and play selection guidelines for elementary and secondary student productions. Three credits.

444 Outdoor Experiential Education
Students will explore strategies to encourage their pupils to achieve, appreciate, and maintain a physically active lifestyle in the outdoors. They will learn to develop physical education programs that foster a life-long commitment to outdoor education that is enjoyable, challenging, and safe. They will experience a range of outdoor pursuits and selected topics: flatwater paddling, navigation, Geocaching, core camping, snowshoeing, archery, wilderness and remote first aid, risk management and emergency procedures, and other activities that allows for self-expression and positive social interaction. Three credits.

445 Curriculum & Instruction in Comprehensive School Health
This course provides students with an interest in health and wellness an opportunity to acquire the knowledge, skills and attitudes needed for teaching a comprehensive school health education curriculum in the public school system. An overview of the main components of a comprehensive school health curriculum and associated pedagogical approaches will be explored. Three credits.

447 Mental Health Education
This course will develop an understanding of mental health education as both wellbeing and the experiences of children and youth who are living with poor mental health in schools. Pre-service teachers will develop their awareness of how such issues as anxiety, depression, addictions and bullying can be addressed to create greater well-being for all students and staff. The course will also analyze school policies and various support services related to mental health education. Three credits.

453 Teaching English Language Learners
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 beginning pre-service teachers to the theoretical knowledge, practical experiences, and professional responsibilities of a successful elementary school physical education teacher. This course focuses on establishing structure for elementary physical education, writing unit plans, applying a teaching model based on skill themes and movement concepts, understanding developmentally appropriate instructional approaches, and implementing interdisciplinary practices. 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 throughout which a person, alone or with others, actualizes her or his potential (i.e., values, attitudes, knowledge and skills) to initiate a venture. This course will explore curriculum through 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.

464 Environmental Education
Beginning with the assumption that solutions to environmental problems require well-designed environmental education programs, students will develop a conceptual framework and practical strategies for creating an environmental education curriculum for grades K-12. Three credits.

467 21st-Century Teaching and Learning
This course examines the effective implementation of technological options for teaching and learning in the 21st century for P-12 teachers. Students will explore legal, social, and ethical issues; selection and design of learning experiences that incorporate technology, and analyses of the use of emerging technologies to improve teaching and learning. Three credits.

469 Selected Topics in Education
Three credits.

491 Advanced French Grammar
Available exclusively to education students and educators, this course will lead participants to a critical and analytical review of functional grammar as applied to the field of education. Special focus will be placed on French linguistic structures related to material development, correspondence with parents, teachers and other professionals in the field and the development of additional curriculum resources. A major objective of the course will be to encourage and enable participants to learn to self-correct written and oral communication. Restricted to Year 2 French students only. 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.

Certificate in Elementary Mathematics Education
This program has been developed in response to a need identified by the Nova Scotia Department of Education and school board partners. The Certificate in Elementary Mathematics Education is recognized for a licensing upgrade in Nova Scotia. The certificate consists of a sequence of ten courses focusing on content and pedagogy suitable for the elementary and middle years and is offered to cohorts of in-service teachers on a part-time basis.

401 Pedagogical Foundations for Elementary Mathematics Education I: Numeracy
This course is a survey of curriculum topics, which supports teachers' delivery of the elementary mathematics curriculum. Selected topics in the pedagogy of numeracy are designed to help pupils develop their mathematical thinking in relation to numerical reasoning. In-service teachers will investigate and explore topics of relevance for the effective teaching of elementary school mathematics including number systems, operation sense, rational and irrational numbers, counting principles, and statistics. Three credits.

402 Pedagogical Foundations for Elementary Mathematics Education II: Mathematical Modelling
This course is a survey of curriculum topics, which support teachers' delivery of the mathematical modelling components of the elementary mathematics curriculum. Selected topics in the pedagogy of mathematical modelling are designed to help develop their mathematical thinking in relation to modelling real-world contexts and solve mathematical problems. In-service teachers will investigate and explore selected topics for the effective teaching of elementary school mathematics including functions, algebraic modelling, statistical modelling, and graph theory. Three credits.

403 Pedagogical Foundations for Elementary Mathematics Education III: Geometric Reasoning
This course is a survey of curriculum topics, which supports teachers' delivery of the elementary mathematics curriculum. Selected topics in the pedagogy of modern geometries are designed to help pupils understand the application of geometric reasoning. In-service teachers will investigate and explore topics of relevance for the effective teaching of elementary school mathematics including Euclidean and non-Euclidean geometry, topology, transformational geometry, and geometric constructions. Three credits.

404A Curriculum and Instruction in Early Childhood Mathematics I
This course includes an examination of the elementary school mathematics program focusing on appropriate content and pedagogy from pre-kindergarden to grade two. Students in this course will focus on various approaches to teaching mathematics to young children, with emphasis on exploring strategies for the development of conceptual understanding through multiple representations including concrete models, pictures, symbols, words and contextual situations. Three credits.

404B Curriculum and Instruction in Upper Elementary Mathematics II
This course includes an examination of the elementary school mathematics program focusing on appropriate content and pedagogy for grades three to six. Students in this course will focus on various approaches to teaching mathematics to children in upper elementary, with emphasis on exploring strategies for the development of conceptual understanding through multiple representations. Three credits.

Certificate in Outdoor Education
This program is designed to fulfill a need identified by practitioners across the province in response to curriculum changes in the physical education curriculum in Nova Scotia. The Certificate in Outdoor Education is recognized for a licensing upgrade in Nova Scotia and consists of a sequence of eleven courses which focus on the skills and pedagogy required to offer outdoor pursuits to students of all ages in Nova Scotia schools. This certificate is offered to cohorts of in-service teachers on a part-time basis.

405A Teaching Co-operative Games & Leadership in Public Schools
This course is designed to provide teachers with the skills and teaching strategies for enacting student leadership development through experiential strategies that focus upon co-operative games and team building initiatives primarily for outdoor settings. Teachers will learn to create an experiential-based program to meet the needs of various groups of students by developing strategies for delivering activity-based initiatives for individual and group learning. Teachers will learn to facilitate initiatives ensuring student connections to curricular outcomes. Three credits.

405B Teaching Cycling in Public Schools
This course provides teachers with the knowledge and skills for teaching the fundamental skills and safety practices for urban cycling and mountain biking. It also

helps teachers to understand how to teach their students knowledge about active transportation. Active transportation in this course is specific to cycling and based on teaching children road awareness, rules of the road, cycling skills, and cycling safety to help them consider cycling as a potential life-long activity. Three credits.

405C Teaching Archery in Public Schools

This course is designed to provide teachers with the teaching strategies following the skill progression of the National Archery in the Schools Program. The course will guide the development of safe-range practices, tournament play, inclusion adaptations, and how to develop a comprehensive unit plan, supported by outcome specific lesson plans, with current assessment practices. Furthermore, this course will also address yearlong planning that targets cross-curricular applications and inclusion strategies that are essential for teaching in schools. Three credits.

405D Teaching Canoe Tripping in Public Schools

This course is designed to provide teachers with the skills and teaching strategies for planning a skill-ability appropriate canoe trip for public schools. It prepares teachers to lead canoe excursions as day trips, as well as extended canoeing expeditions (multiple day and night trips). The focus will be on-water safety, environmental hazards, adaptive equipment, portage management, and in-camp preparations. Embedded into all the units taught in this course are practices attuned to wilderness travel and cross-curricular connections and Indigenous knowledge. Three credits.

405E Teaching Canoeing in Public Schools

This course is designed to prepare teachers to be able to engage in flat water canoeing instruction and to help them learn the pedagogical approaches that will assist them in promoting paddling as a life-long activity. The course includes on-water and dockside safety, environmental hazards, adaptive equipment, skill-based games, and helps attune teachers to on-water risks. Teachers will also develop skills and strategies for planning a progression of paddling skills for students in elementary and secondary schools. Three credits.

405F Teaching Core Camping in Public Schools

This course is designed to provide teachers with the skills and strategies for planning and teaching a progression of core camping skills from primary to grade 12. The focus of the course is to prepare teachers in the areas of trip planning, on-the-land skills and managing outdoor risks associated with leading students. Leave-no-Trace approaches are embedded throughout all dimensions of the course to assist teachers to provide a curriculum with an ethic of sustainability and environmental preservation. Three credits.

405G Teaching Kayaking in Public Schools

This course is designed to prepare teachers to be able to engage in flat water kayaking instruction and to help them learn the pedagogical approaches that will assist them in promoting paddling as a life-long activity. The course includes on-water and dockside safety, environmental hazards, adaptive equipment, skill-based games, and helps attune teachers to on-water risks. Teachers will also develop skills and teaching strategies for planning a progression of paddling skills for students in secondary schools. Three credits.

405H Risk Management in Outdoor Education

This course provides teachers with the skills and strategies for emergency planning, conducting risk assessments for their outdoor program. Supporting the preplanning is learning about injury movement in wilderness/remote contexts and training to respond to environmental hazards. The course is structured to include outdoor lesson preparation, safety plans, and emergency response plans. Teachers will review provincial safety guidelines that govern outdoor teaching, as part of the outdoor pursuits listed in the Public Schools Program. Three credits.

405I Teaching Navigation & Orienteering in Public Schools

This course is designed to provide teachers with the skills and strategies for teaching basic and advanced elements of navigation, GPS, and orienteering, as part of their curriculum for public school teaching. In addition to the course hours devoted to development of lessons and assessment skills, additional study will also be completed in general and specific inquiry based methodologies related to the teaching of the curricular topics to meet P-12 learning expectations. Three credits.

405J Teaching Winter Trekking in Public Schools

This course is designed to develop the skills and knowledge associated with the winter trekking activities of the physical education curriculum which are Nordic skiing, snowshoeing, and winter trekking camp skills. Teachers will also develop their abilities for teaching these trekking activities as part of their physical education curriculum while taking into account seasonal realities. Teachers will develop their ability to engage in comprehensive yearlong unit, and lesson planning including assessment practices that target progressive fundamental movement skills. Three credits.

9.16.2 Master of Education

Graduate courses in education are offered in the fall, winter, spring and summer terms primarily online. Students are required to complete a residential component during the month of July immediately following acceptance into the program. Because the majority of M.Ed. candidates study part time, the fall, winter, and spring courses are offered in evenings and occasionally on weekends.

Candidates for the M.Ed. program are normally required to take EDUC 505 and EDUC 534 as their first two courses in Antigonish during the summer session after acceptance into the program. EDUC 505 is a prerequisite for EDUC 506, 507, 508. Normally EDUC 506, 507, 508 are taken after the core courses are completed. EDUC 506 or 507 is required in the thesis and project routes.

Educational Administration and Policy Stream		Credits
505	Introduction to Educational Research	3
506	Quantitative Research Methods in Education	3
	or	
507	Qualitative Research Methods in Education	3
	or	
508	Critical Research Literacy in Education	3
533	Dynamics of Change	3
534	Introduction to the Foundations of Education	3
561	Leadership and Administrative Theories	3
573	Professional Development and Supervision	3
599	Thesis12	
Electives:	in the thesis option	6
	in the course-based option	18

Electives are to be selected from the graduate courses offered in education and should reflect the focus of study chosen by the student.

Curriculum and Instruction Stream		Credits
505	Introduction to Educational Research	3
506	Quantitative Research Methods in Education	3
	or	
507	Qualitative Research Methods in Education	3
	or	
508	Critical Research Literacy in Education	3
527	Principles of Learning	3
532	Curriculum Theory	3
534	Introduction to the Foundations of Education	3
536	Program Development	3
599	Thesis	12
Electives:	in the thesis option	6
	in the course-based option	18

Electives are to be selected from the graduate courses offered in education and should reflect the focus of study chosen by the student. No substitution or transfer of credit will normally be allowed in the core courses.

501 Program Evaluation and School Data Management

This course will explore the purposes, procedures, and strategies inherent in the design and implementation of effective program evaluations. Three credits.

505 Introduction to Educational Research

This introductory course covers reading and understanding educational research. Students will explore research issues and critically interpret the main types of research, including descriptive research, qualitative research, case studies, and empirical studies. Three credits.

506 Quantitative Research Methods in Education

An introduction to fundamental statistical concepts and methods, together with practical advice on their effective application to real-world problems. Students will explore the basic components of a research proposal. Prerequisite: EDUC 505. Three credits.

507 Qualitative Research Methods in Education

This course explores current qualitative methodologies used in educational contexts. Students will explore the components of a research proposal, and develop an understanding of methodologies such as phenomenology, ethnography, critical theory, narrative, and action research. Prerequisite: EDUC 505. Three credits.

508 Critical Research Literacy in Education

This course examines educational research issues and trends from the perspective of professional practice. Students will explore a variety of educational research publications in relation to their own educational context. Prerequisite: EDUC 505. Three credits.

509 Trauma Informed Practice

This course will promote teacher understanding and effective teaching to support students who have or are experiencing simple trauma, complex trauma and/or

intergenerational trauma. Educators will examine the impact of trauma on students and families and explore ways to respond to student needs. The impact of trauma on the concepts of locus of control, self-image and resilience will be studied from the perspective of how teachers can make a difference through building trust and relationships, and utilizing classroom adaptations. Credit will be granted for only one of EDUC 509 and EDUC 569 offered with a similar focus. Three credits.

510 Restorative Approaches in Educational Settings

This course helps educators understand the principles of restorative approaches and the wider peace building movement in education. Educators will critically consider restorative approaches as a way to create safe, engaging and inclusive educational settings. Educators will learn how to create a school climate that is relational and restorative and takes into account the contexts and causes of situations surrounding interpersonal interactions. Credit will be granted for only one of EDUC 510 and EDUC 569 offered with a similar focus. Three credits.

511 Mindfulness and Social Learning

Mindfulness is the ongoing practice of being awake and aware to what is inside and around us in the present moment, nonjudgmentally. In this course students will explore and engage with practices and research related to mindfulness in education. This course will also explore the concept of social emotional learning with a particular emphasis on how to implement social emotional learning through mindfulness in education. Credit will be granted for only one of EDUC 511 and EDUC 569 offered with a similar focus. Three credits.

512 Play-Based Curriculum for Lifelong Learning

This course provides graduate students with a deep understanding of the research and practice of incorporating play in early elementary grades in public schools. Planning, assessing and enacting a play-based curriculum are key course outcomes. Credit will be granted for only one of EDUC 512 and EDUC 569 offered with a similar focus. Three credits.

513 Problems and Issues in Special Education

Covers current theories of, and practices in, the education of children with special needs from pre-school through adolescence. Research relevant to assessment, instruction, counselling, and vocational programming practices will be examined. Proposals to modify program models will be included. Three credits.

514 Teaching Children with Learning Difficulties I

This course presents an overview of the historical and philosophical approaches to teaching children with learning difficulties. Students will examine the learning difficulties children can bring to the classroom. Three credits.

515 Culturally Responsive and Relevant Pedagogy

This course will provide graduate students with an understanding of the vital role culturally responsive and relevant pedagogy plays in creating equitable learning experiences for primary and secondary students. Within this course the students will critically analyze the root of academic failure among marginalized groups across North America, examine the impact of educator belief systems on student achievement. Students will gain an understanding of systemic racism, recognize the central role culture plays in classroom instruction, and identify culturally responsive and relevant instructional strategies appropriate for their own school contexts. Credit will be granted for only one of EDUC 515 and EDUC 569 offered with a similar focus. Three credits.

517 Teaching Children with Learning Difficulties II

This course focuses on the development of individualized instruction for children with learning difficulties who are in the regular classroom. Students will analyze the effectiveness of various approaches. Three credits.

518 Assessment for/of/as Learning

The course explores research that informs how appropriate assessment impacts student motivation, engagement and achievement. Formative assessment will be presented as a process that directly involves both students and teacher in generating quality information that informs the decisions teachers and students make before, during, and after instruction. Practical classroom examples and/or case studies will be explored. The course will also explore summative assessment and critically analyze a variety of tools used to evaluating learning with the aim of finding those that align with current research in assessment. Credit will be granted for only one of EDUC 518 and EDUC 569 offered with a similar focus. Three credits.

520 Current Research in Curriculum

A critical exploration of recent theories and research related to current issues in curriculum with a concentration in one of:

520A English Language Arts
520B French
520C Mathematics
520D Diverse Cultures
520E Science
520F Social Studies
520G Physical Education
520H Arts
520I Health
520J Outdoor/Experiential
520K Second Language
520L Drama
520M Music
520N Visual Arts

Three credits each.

521 Current Research in Instruction

A critical exploration of recent theories and research related to current issues in instruction with a concentration in one of:

521A English Language Arts
521B French
521C Mathematics
521D Diverse Cultures
521E Science
521F Social Studies
521G Physical Education
521H Arts
521I Health
521J Outdoor/Experiential
521K Second Language
521L Drama
521M Music
521N Visual Arts

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 behaviourist theories, the course will focus on the aspects of cognitive learning that are relevant to understanding the diversity of learners. Three credits.

529 School and Teaching Effectiveness

An examination of research on school and teaching effectiveness and the implications of this research for school improvement. Three credits.

532 Curriculum Theory

In this course the ideas of major curriculum theorists will be examined and the implications of each position for program development for schooling will be explored. Three credits.

533 Dynamics of Change

This course examines major concepts in the successful implementation of change. Students will learn to recognize and understand the ways in which change can have an impact on education. Three credits.

534 Introduction to the Foundations of Education

Students are asked to critically examine their own practice and its context. Issues of power and privilege as they operate in the field of education are central unifying themes of the course. The investigative approach includes ethical reasoning, autobiographical reflection, arts and esthetics, deconstruction and sociological analysis. Three credits.

536 Program Development

Program development is investigated from the practitioner's perspective using narrative inquiry to explore relationships among the four curriculum commonplaces of students, teacher, curriculum, and milieu. Three credits.

537 Philosophical Foundation of Curriculum

This course examines the philosophical foundations, criteria, and principles underlying the choice of subjects and curricula in educational institutions. Three credits.

538 Nature of the Reading Process

This course will examine models related to our understanding of the reading process and will explore the contributions of current literary theories to the development of contemporary literacy theories and practices. Three credits.

540 Educational Finance

While providing students with the opportunity to explore public and private funding of education, this course will also examine the moral, political, and economic bases for decisions in educational finance in the context of current educational and societal trends. Three credits.

541 Administration of First Nations Education
An introduction to the historical, legal, and philosophical bases of First Nations education. The course will explore issues related to the roles, responsibilities, and duties of administrators in band-controlled schools. Three credits.

543 Internship
Under faculty supervision, student interns will develop their practical and theoretical knowledge and competence in a particular area of education. Three credits.

544 Cross-Cultural Issues in Education
Students will examine various issues and theories related to cultural and race relations policies and practices in the education system. Three credits.

545 English as a Second Language
The course will cover theoretical and methodological aspects of learning and teaching a second language, focusing on the learning and teaching of English. Students will become familiar with the relevant research and examine the prevalent theories in different ESL areas. Three credits.

553 Assessment for Teaching Students with Learning Challenges I
This course will review trends and practices in assessment. Students will appraise various types of assessment, both standardized and informal, paying attention to characteristics, areas of usefulness, and limitations. Three credits.

554 Assessment for Teaching Students with Learning Challenges II
Students will develop the ability to choose formal and informal measures for assessing individual student achievement. They will learn how to administer, interpret, and communicate the results of these assessments. Relating the results of the assessment to the provincial outcomes suitable for the students will be a critical component of the course. Prerequisite: EDUC 553. Three credits.

561 Leadership and Administrative Theories
This course is an introduction to theory, research and practice in educational administration. Emphasis is placed on the evolutionary nature of administrative theory and its role in the operation of public education systems. Three credits.

562 Contemporary Issues in Educational Administration Theory
This course further explores contemporary issues in the theory, research, and practice of educational administration. Building upon EDUC 561, students will discuss topics such as post-modernism, feminist theory, chaos theory, and critical theory. Prerequisite: EDUC 561. Three credits.

564 Administration of Inclusive Schools
Many Canadian educational systems have inclusive schooling as a priority. This course will provide an overview of the movement towards inclusive schools and will explore proven practices in the administration of these schools. Three credits.

567 School Law
An examination of legal principles and procedures pertaining to school boards, administrators, and teachers. Consideration will be given to legislation and court decisions relative to the organization, policy, and administration of school districts in Nova Scotia. Three credits.

569 Selected Topics in Education
Students will explore in detail the theoretical underpinnings and practical implications of various topics and issues in education. Course content will vary from year to year. Three credits.

571 Specific Issues in School Administration
This course examines recurring and emerging issues in educational administration from the perspective of their theoretical roots. Students will address problems identified in the literature and in their own practice, develop an understanding of the issues involved, examine the theoretical assumptions influencing these problems, and create alternative solution strategies. Three credits.

573 Professional Development and Supervision
This course addresses the role of supervision in an instructional program, focusing on human resources and the professional development process for instructional and support staff. Three credits.

576 Specific Issues in Curriculum Development
This course will examine selected contemporary educational controversies and explore their implications for curriculum decision-making. Students will examine current issues and problems. Three credits.

577 Computers in Humanities Education
This online course provides an overview of the role of computers in elementary and secondary education. By reading articles and books on selected topics, students will have a starting point for online discussions about the issues associated with computer technology in the classroom. Students also study a variety of software packages and Internet websites and create web lessons. Some prior knowledge of computers and basic keyboarding skills is required. This course will be of interest to K-12 teachers who are interested in using computers in language arts, social studies and the arts. Three credits.

578 Computers in Science Education
This online course provides an overview of the role of computers in elementary and secondary education. By reading articles and books on selected topics, students will have a starting point for online discussions about the issues associated with computer technology in the classroom. Students also study a variety of software packages and Internet websites and create web lessons. Some prior knowledge of computers and basic keyboarding skills is required. This course will be of interest to K-12 teachers who are interested in using computers in the sciences. Three credits.

581 The Role of the Principal
An examination of perspectives on educational leadership, delegation of functionally categorized responsibilities, administration of instructional programs, effective enhancement of staff, and the development of productive and satisfying learning environments for students. Three credits.

583 Education Planning and Policy
An examination of political theory as a basis for constructing policy and planning for the implementation of policy. Three credits.

590 Research Project
This course involves individual research, under the supervision of a faculty member, which develops both practical and theoretical understanding and competence in a particular area of education. Six credits.

593 Directed Study
In consultation with the department chair, students may undertake a directed study program in an approved area of interest that is not available through other course offerings. See section 3.5. Three credits.

595 Seminar
Students work under the supervision of a professor who will guide them in the selection of thesis topics and the preparation of thesis proposals. Students will have the opportunity to discuss their work with others as the research proposal is prepared. No credit.

599 Thesis
Twelve credits.

9.16.3 Ph.D. in Educational Studies

The Ph.D. in Educational Studies is offered in partnership by St. Francis Xavier University, Mount Saint Vincent University, and Acadia University. This research-oriented doctoral program is jointly administrated by the Inter-University Doctoral Administrative Committee (IDAC). Applicants are admitted to one university and graduate from that home institution of record.

Doctoral students can focus their studies on one or more of six interrelated themes: curriculum studies, educational foundations and leadership, inclusive education, lifelong learning, literacies, and the psychological aspects of education. Applicants are encouraged to review the research interests of education faculty members at all three participating universities, available at their respective websites. An average of 14 students normally will be admitted each year: six at MSVU, four at St FX and four at Acadia. The IDAC may consider applicants on a case-by-case basis and waive the fixed application date, if deemed warranted and if space is available in the program for that year.

Students enrol in EDUC 9001 and 9002 on site in July at one of the three universities. The site for these two courses will rotate amongst the three universities from year-to-year. Students complete EDUC 9010 and 9100 with their dissertation advisor and their committee at their home institution of record. The remaining courses are delivered using an e-learning platform. In some instances, doctoral students may arrange to enrol in an existing topic-related masters level course, augmented with doctoral level analysis and applications. Doctoral students have the right to take courses and seminars and use the academic facilities of any of the three participating universities in accordance with their approved plan of study.

9001 Foundations of Educational Inquiry
This course examines the purpose, process, nature and ideals of education. Students will engage with enduring educational philosophical and theoretical traditions and perspectives, the history of educational thought and the philosophy of education, in particular. A variety of foundational perspectives provides deeper understandings of the theoretical and methodological underpinnings of education. Co-requisite: EDUC 9002: Three credits.

9002 Methodological Perspectives on Educational Research
This course examines of the importance of methodological paradigms in educational research (building on the foundations of educational inquiry). Students investigate ontological assumptions; epistemological views; the role of logic, sound evidence and justified beliefs; axiology (values and biases); and rhetorical (research reporting structures) components of educational inquiry. Co-requisite: EDUC 9001. Three credits.

9003 Doctoral Seminar: Contemporary Educational Theory
This course explores how educational philosophy, research paradigms and theories are manifested in contemporary educational research debates and dialogues. Through an intensive examination of a range of theories that inform studies in education, students gain an advanced and comprehensive understanding of contemporary educational theory within the Canadian and international contexts. Prerequisites: EDUC 9001, 9002. Co-requisite: EDUC 9004. Three credits.

9004 Focused Educational Studies
This course will provide for focused exploration of research topics that reflect the research interests of the current roster of doctoral students. In a seminar setting, individual students will study the research and theoretical literature in the educational area(s) that inform their research interests. Prerequisites: EDUC 9001, 9002. Co-requisite: EDUC 9003. Three credits.

9005 Advanced Research Seminar: Focus on Methods
Students will gain detailed knowledge and technical expertise related to methods appropriate for their particular research question(s), aligned with their chosen philosophical and methodological orientations. Issues related to particular research design processes will be addressed. Prerequisites: EDUC 9001, 9002. Three credits.

9006 Special Topics Educational Studies
Three credits.

9007 Special Topics Educational Studies
This course provides students with an opportunity to explore selected topics in educational studies related to the literature associated with their research area. Prerequisites: EDUC 9001, 9002. Three credits.

9008 Independent Study
Three credits.

9009 Independent Study
The curriculum for this course will be determined by the supervisor of the course in consultation with the student and other faculty members, as necessary. Prerequisites: EDUC 9001, 9002. Three credits.

9010 Comprehensive Examination: Research/Scholarly Portfolio
Students will develop and orally defend an extensive scholarly portfolio demonstrating sufficient breadth, depth, creativity and engagement to undertake substantive research in their field. The portfolio will demonstrate students' knowledge and competence in each of five areas: general knowledge of educational theoretical traditions and trends, in-depth knowledge of their specific focal area, research and methodological knowledge and competence, professional competency in their focal area, and teaching competency in their professional area. Pass/Fail. The portfolio is created concurrently with EDUC 9001, 9002, 9003, 9004, 9005 and any EDUC 9006, 9007 and/or EDUC 9008. Nine credits.

9100 Dissertation
The dissertation must constitute a substantial and original contribution to the study of education. Students must prepare a research proposal for approval by an appropriate faculty dissertation committee, complete the proposed study, and defend the completed thesis in a final oral examination. Pass/Fail. Prerequisite: EDUC 9010. Eighteen credits.

9.17 ENGINEERING

M. Balzán, Ph.D.
F. Comeau, Ph.D., P.Eng.
E.C. Oguejiofor, Ph.D., P.Eng., FEC

Part Time
P. Doiron, P.Eng.
R. Kent, P.Eng., FEC

Program requirements are found in chapter 7. Year 1 is common to all disciplines. For year 2, students must follow the requirements for the disciplines to which they hold conditional admission at Dalhousie University third-year engineering, as outlined below:

Year 1	36 credits consisting of CHEM 120; ENGR 121, 122, 131, 132, 136, 198; PHYS 121, 122; 6 credits of writing courses taken from one or a combination of ANTH, ART (history), CELT (literature or culture), ENGL, HIST, PHIL, PSCI, RELS, or SOCI. Students wishing to take a writing course not listed here must obtain the approval of the engineering department chair.
Year 2	33 credits consisting of ENGR 144, 211, 221, 222, 224, 232, 237, 242; 9 credits of the discipline-specific courses listed below:
Chemical	ENGR 126, 226, 227
Civil	ENGR 212, 216, 235
Electrical	ENGR 126, 238, 246
Environmental	ENGR 212, 216, 235
Industrial	One or both of ENGR 126 and 216; and one or two of the following for a total of three: ENGR 212, 226, 227, 231, 235, 238, 246
Mechanical	ENGR 212, 231, 235
Mineral Resources	ENGR 216, 235; and one course taken from the arts, social sciences, or humanities. Language acquisition, technical content and economics are not permitted. Please consult with the chair of engineering for course selection.

For up to date information, please visit the department website: http://www.sites.stfx.ca/engineering/

121 Calculus I for Engineers
This course examines the main idea of calculus of a single variable. It covers functions; limits; continuity; differentiation and integration of polynomial, exponential, logarithmic and trigonometric functions; product, quotient and chain rules; applications of differentiation to graphing; maximum-minimum problems and related rate problems; definite and indefinite integrals and the fundamental theorem of calculus. Credit will be granted for only one of ENGR 121 or MATH 106 or 126. Cross-listed as MATH 121. Three credits and one-hour lab and one-hour problem session.

122 Calculus II for Engineers
A continuation of ENGR 121, this course covers applications of integration including areas, volumes, moments, pressure and work; techniques of integration; numerical integration; length of curves; surfaces of revolution; parametric equations; polar co-ordinates; sequences and series and Taylor series. Credit will be granted for only one of ENGR 122 or MATH 107 or 127. Cross-listed as MATH 122. Prerequisite: ENGR 121. Three credits and one-hour lab and one-hour problem session.

123 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. Three credits and two-hour lab.

126 Biology with Engineering Applications
This course provides an introduction to cell structure and function, and ecology. The course focuses on the interrelationship between living systems and man-made environment. Relevance of biology to industrial and engineering applications is emphasized. Three credits and three-hour lab.

131 Engineering Graphics and Fundamentals
This course introduces students to the engineering profession, history and the graphics language. The engineering graphics language is presented through free hand sketches, instrument and computer-aided drawings. Students develop and enhance 3-D visualization skills as well as the ability to produce and interpret simple drawings. Credit will be granted for only one of ENGR 131 or ENGR 133. Three credits and three-hour lab.

132 Technical Communications
The main objective of this course is to provide students with technical communication skills, both written and oral. The history of engineering will be studied. Methods of producing engineering documents and presentations will be covered. Students will learn how to locate, use, and reference engineering information sources. Credit will be granted for only one of ENGR 132 or ENGR 244. Three credits and two-hour lab.

136 Statics
Covers statics of particles and rigid bodies. Designed to teach the principles and application of mechanics, and to develop an analytical approach to solving problems. Vector analysis is used extensively. Three credits and three-hour lab.

144 Computer Programming for Engineers
Using C/C++ language, this course introduces the fundamental principles of computer programming for solving engineering problems. Topics include flow control, modularity, structured programming, algorithms for searching and sorting, and the conversion of these algorithms to C/C++ programs, with the necessary testing and debugging. Credit will be granted for only one of ENGR 144 or CSCI 161. Cross-listed as CSCI 125. Prerequisite: ENGR 132. Three credits and two-hour lab.

198 Selected Topics
The topic for 2017-2018 is Programming-based Design. An introduction to the engineering design process integrated with computer programming. Students will be introduced to conceptual engineering design, as well as practical implementation of designs and report writing. Both group and individual design projects will be implemented on the Arduino platform. The basic programming control structures, data structures, and modularization will be covered using the C or C++ language. Three credits and three-hour lab.

211 Thermo-Fluids I
This is the first of two courses in which the content of the traditional introductory thermodynamics and fluid mechanics courses is presented in a unified manner. Fluid properties; fluid statics; conservation of mass for both steady and unsteady flow systems; the first and second laws of thermodynamics and the application of these laws to closed systems and to steady and unsteady open systems; Bernoulli's equation; vapour and gas cycles will be covered. Credit will be granted for only one of ENGR 211 or ENGR 233 or ENGR 234. Prerequisites: ENGR 121, 122, 136; CHEM 120. Three credits and three-hour lab.

212 Thermo-Fluids II
The second of two courses on thermo-fluids engineering will present availability; irreversibility; the control volume form of the continuity, momentum and energy equations; Euler's equation of motion; fluid kinematics; dimensional analysis and similitude; viscous flow in pipes and ducts. Credit will be granted for only one of ENGR 212 or ENGR 233 or ENGR 234. Prerequisites: ENGR 123, 211. Three credits and three-hour lab.

216 Geology for Engineers
This course covers minerals, igneous rocks, weathering, sedimentary rocks, metamorphic rocks, geologic time, mass wasting, running water, groundwater, glaciations, shorelines, ocean floors, deformation and mountain building, earth's interior, earthquakes. Three credits and two-hour lab.

221 Differential Equations for Engineers
Covers first order linear and non-linear ordinary differential equations; ordinary differential equations of higher order with constant coefficients; applications to engineering problems; Laplace transforms; periodic functions; applications of Laplace transforms to linear systems; Fourier series. Credit will be granted for only one of ENGR 221 or MATH 367. Cross-listed as MATH 221. Prerequisites: ENGR 121, 122 or MATH 121, 122. Three credits and two-hour problem session.

222 Calculus III for Engineers
Extends the ideas introduced in ENGR 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. Credit will be granted for only one of ENGR 222 or MATH 267. Cross-listed as MATH 222. Prerequisites: ENGR 121, 122 or MATH 121, 122. Three credits and two-hour 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. Prerequisite: ENGR 122 or MATH 122. Three credits and two-hour problem session.

226 Fundamentals of Environmental Engineering
This course focuses on sources of environmental pollutants, the effects of pollutants on living and non-living systems, processes by which pollutants are generated or by which their effects can be minimized or remediated. Lectures are supplemented by guest speakers, case studies and field trips. Credit will be granted for only one of ENGR 226 or ENGR 228. Prerequisite: ENGR 211. Three credits.

227 Fundamentals of Process Engineering
Covers mass and energy balances for reacting and non-reacting chemical processes. Topics include the system of units; processes and process variables; mass balances for single-phase and multi-phase systems; Gibbs phase rule; Raoult's law; Henry's law; colligative properties; energy balances; combined mass and energy balances on reactive and non-reactive processes and on transient processes. Prerequisite: CHEM 120. Three credits and two-hour lab.

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. Prerequisites: ENGR 121, 122, 123; PHYS 120 or ENGR 136. Three credits and three-hour lab.

232 Engineering Design and Communications II
This project-based course offers students the opportunity to integrate and apply skills and knowledge learned in previous courses to a constrained engineering design project. Students work individually and as part of a design team. Project design outcomes are presented orally and in formal written reports, as well as electronically on the internet. Elementary project management concepts are introduced. Ethical and legal issues that impact the practice of engineering are discussed. Credit will be granted for only one of ENGR 232 or ENGR 236 or ENGR 248. Prerequisites: ENGR 144 or CSCI 125; ENGR 211, 221, 242; ENGR 237 or PHYS 221. Three credits and three-hour lab.

235 Strength of Materials
An introduction to basic principles of stress, strain, and stability. Topics include plane stress and strain; relationships between stress and strain; mechanical properties of materials; shear force; bending moment; axial force; torsion; stresses and deformations due to foregoing force effects; elastic and inelastic buckling. Prerequisite: ENGR 136. Three credits and three-hour lab.

237 Basic Electric Circuits Theory
Topics include introductory concepts; resistive networks; response to linear circuits with energy storage; exponential excitation functions; steady-state AC circuits; analysis; network analysis; systems. Cross-listed as PHYS 221. Prerequisite: ENGR 221 or MATH 221 concurrent; PHYS 121, 122. Three credits and three-hour lab.

238 Digital Logic
This hands-on, practical course introduces digital electronics with applications to computer hardware and micro-computer peripherals. Topics include the families of digital electronic technology; combinational and sequential logic; digital device characteristics; micro-computer interfacing; data acquisition; instrument control; data transmission. Labs provide an opportunity to design and test practical digital devices. Cross-listed as PHYS 223. Prerequisite: PHYS 120. Three credits and three-hour lab.

242 Engineering Economics
This course provides an introduction to the economic aspects of decision-making in engineering. Topics include fundamental concepts; cash flow diagrams; interest factors; discounted cash flow techniques; rate of return; inflation; accounting; tax; project financing; sensitivity and risk analysis; replacement analysis; public sector analysis. Three credits and two-hour lab.

246 Circuit Analysis
Covers advanced circuit analysis techniques, starting with sinusoidal excitation. Topics include grounding and harmonics; symmetrical components and dealing with unbalanced networks; real and reactive power flow; balanced three-phase circuits for power distribution; phasors and complex impedance. Mutual inductance and magnetically coupled coils are used to introduce transformer behaviour and performance. Cross-listed as PHYS 246. Prerequisites: ENGR 144 or CSCI 125; ENGR 237 or PHYS 221. Three credits and two-hour lab.

9.18 ENGLISH

M. D'Arcy, Ph.D.
J. Khoury, Ph.D.
P.A. Marquis, Ph.D.
M.B. McGillivray, Ph.D.
M.A. Moynagh, Ph.D.
M. Nilges, Ph.D.
J. Potts, Ph.D.
C. Rushton, Ph.D.
D. Smith, Ph.D.
E. Wilputte, Ph.D.
K. Wright, Ph.D.

Part Time
K. Edwards, Ph.D.
A. Simpson, MA

English courses are organized into nine categories.

Medieval Literature

206* World Masterpieces I: The Classical World
207* World Masterpieces II: Medieval and Renaissance
290 The Canterbury Tales
388 Heroic Literature of the Middle Ages
389 The Ricardian Age: Chaucer's Contemporaries
491 Selected Topics: Where Fairy Tales Come From

Renaissance Literature

238 Shakespeare's Early Works
239 Shakespeare's Later Works
304 The Early Tudor and Elizabethan Renaissance *
305 The Later Elizabethan Renaissance
308 Milton and His Time

18th-Century Literature

253 Coffeehouse Culture of 18th-Century England
254 Topics in 18th-Century Literature
355 Restoration and 18th-Century Drama and Prose
356 18th-Century Novel and Poetry

19th-Century Literature

242 The American Renaissance and its Shadows
243 The Protomodern American Novel
246 19th-Century British Short Fiction
255 The British Novel, 1800-1850
256 The British Novel, 1850-1900
270 The Romantic Gothic: 19th-Century Poetry and Short Fiction
271 Gothic Fiction: The 18th- and 19th-Century Gothic Novel
323 Victorian Medievalism
325 The American Novel, 1850-1940
397 Selected Topics: Romantic Poetry and the Science of Impulse

20th- and 21st-Century Literature

201 Science Fiction and Fantasy
211 Introduction to Film and Media Studies
216 Modern Irish Literature
217 British Fiction, 1900-1950
218 Contemporary British Fiction
233 Children's Literature: 1865 to the Present
241 Modern & Contemporary Poetry
257 The 21st-Century American Novel
258 Television Today
311 Photography and Narrative
319 Topics in Film Studies
329 Studies in Women Writers: Feminisms and Their Literatures
330* Studies in Women Writers: Genres, Cultures, and Contexts
337* Children's Literature: Genres and Themes
353 Tolkien and the Inklings
378 Themes in Contemporary American Prose
379 American Literature
492 Selected Topics II: Film Noir and Pulp Fiction

Canadian Literature

263 Canadian Literature I: 18th and 19th Centuries
264 Canadian Literature II: The 20th-Century and After
338 Canadian Drama
366 Topics in Canadian Literature
367 Canadian Prose Fiction
368 Canadian Poetry

Postcolonial Literature

240 Literature of the Middle East
245 Postcolonial Literature
347 Literature of Africa and the African Diaspora

Creative Writing

231 Introduction to Creative Writing
322 Intermediate Creative Writing
422 Advanced Creative Writing

Literary Criticism and Cultural Theory

206* World Masterpieces I: The Classical World
207* World Masterpieces II: Medieval and Renaissance
215 Principles & Practices of Literary Criticism
313 Literary Theory's Histories
314 Contemporary Literary Theory
318 Cultural Theory through Popular Culture

*Courses could satisfy more than one category and/or historical period. See department for clarification.

Department Requirements

ENGL 100, 111/112, or equivalent is required for entrance to all other ENGL courses. A student should have ENGL 100 or 111/112 plus at least three 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.

Major Program

Students majoring in English complete the following courses: ENGL 100, 111/112 or equivalent; six credits Medieval or Renaissance; six credits 18th or 19th century; six credits 20th and 21st century or Canadian or Postcolonial; and 12 credits ENGL electives. Major students will normally complete at least nine credits of English courses before enroling 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 complete the following courses: ENGL 100, 111/112 or equivalent; 24 credits of English electives from four of the five following historical periods, including: Medieval; Renaissance; Restoration and 18th century; 19th century; and 20th- and 21st-century literature; and six credits of senior seminars, one 3-credit senior seminar in the fall term, and another 3-credit senior seminar in the winter term. Students must also write an advanced major thesis in their final year in one of the senior seminars. See section 4.1 for degree regulations.

Honours Program

Students complete ENGL 100, 111/112, and 24 credits of English electives from four of the five following historical periods of literature: Medieval; Renaissance; Restoration and 18th century; 19th century; 20- and 21st-century literature. Students also take 18 credits of English electives from three of the following four categories: Postcolonial literature; literary criticism and cultural theory; Canadian literature; and creative writing. An honours thesis is also required (6 credits), as well as 6 credits of senior seminars. See section 4.1 for degree regulations.

Honours with a Subsidiary Subject

Honours (ENGL) with a subsidiary subject requires 60 credits in the same pattern as the English honours program.

A subsidiary subject in English requires 24 credits in English, with at least 6 credits at the 300 or 400 level.

Senior Seminar

Each year certain advanced courses will be designated senior seminars. All honours and advanced major students must be enroled in two of these during their senior year, one in the first term and the other in the second term. Normally students will have third-year standing and have taken a minimum of 15 credits in English. Priority will be given to honours and advanced major students in English. Students may enrol in additional English seminars as part of their normal degree pattern.

Humanities Colloquium

The humanities colloquium is an optional and interdisciplinary way of studying three first-year courses, usually ENGL 100, HIST 100, and PHIL 100. See section 4.4 for further information.

100 Introduction to Literature and Critical Writing
This course introduces students to the critical tools and methods of literary study, including close reading and argumentative writing. Students will learn about the history of genres (e.g. poetry, drama, and the novel) and forms of literature (e.g. tragedy, realism). Texts may include the earliest writing in English to more recent works in various media. Credit will be granted for only one of ENGL 100, ENGL 110 or ENGL 111/112. Six credits.

Note: ENGL 100, 111/112, or equivalent is required for entrance to all other ENGL courses.

111 Literature and Academic Writing I
This course will give students key skills such as: how to write literary-critical essays; how to build a question or problem from a close-reading of a literary work; how to frame an argument in a way that gives it purpose; how to develop that argument by presenting and analyzing evidence; how to engage in scholarly debate; how to do literary-critical research. Credit will be granted for only one of ENGL 111, 100 or 110. Three credits.

112 Literature and Academic Writing II
This course follows ENGL 111. It introduces students to the study of literature by familiarizing them with literary-critical concepts and terminology, by fostering an understanding of genre and form, by teaching the fundamental skill of close-reading, and by introducing them to literary works from a range of historical periods. Prerequisite: ENGL 111. Credit will be granted for only one of ENGL 112, 100 or 110. Three credits.

201 Science Fiction and Fantasy
This course will examine the history of speculative literature, including the relationship between science and narrative, the rise of ethnic science fiction and fantasy, and ways in which the future and the past might be imagined. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

206 World Masterpieces I: The Classical World
Through a reading of Homer's classical and influential poems (the *Iliad* and *Odyssey*), the course will explore how the ancient world thought texts worked. Readings will include Plato, Aristotle, Longinus, Horace and others. The course will also look at the New Testament's adaptation of older texts, including the Old Testament, from a literary vantage point. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits. Not offered 2017-2018.

211 Introduction to Film and Media Studies
This course will consider concepts and discussions that have developed in the history of film, television, and media studies. Students will be introduced to the vocabulary of film and media studies, techniques of analysis, and major theoretical discussions in these fields. Screenings will introduce students to various kinds of films, dating from the early 20th century to the present. Credit will be granted for one of ENGL 211, 209 or 297 "Analyzing Film." Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

215 Principles and Practices of Literary Criticism
This course builds on the skills students acquire in ENGL 100. Its aim is twofold. On the one hand, it will concern itself with philosophical questions regarding literariness, form and genre, and schools of critical approach (e.g. rhetorical, historical, sex and gender, sociological, political, psychological, neo-formal). On the other, it will develop practical skills by: expanding critical vocabulary; developing abilities to write argumentatively; and increasing proficiency with sources and databases. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

217 British Fiction, 1900-1950
A study of British fiction in the first half of the 20th century. Literary works will be considered in relationship to central cultural and intellectual developments of this period, as well as crucial historical points of reference (the world wars, colonialism and decolonization). Authors to be studied may include Joseph Conrad, E.M. Forster, James Joyce, Virginia Woolf, and Elizabeth Bowen. Credit will be granted for only one of ENGL 217 or ENGL 350. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits. Not offered 2017-2018.

218 Contemporary British Fiction
This course will examine British fiction published since 1950. We will be concerned in particular with the following issues: changing conceptions of British national identity, and the relationship between these changes and the development of British fiction; ongoing discussions in this period on the capabilities and responsibilities of fictional narrative; the notions of postmodernism and late modernism and the pertinence of these periodizing terms to post-war British fiction. Credit will be granted for only one of ENGL 218 or ENGL 350. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

233 Children's Literature: 1865 to the Present
Using the landmark publication of Lewis Carroll's *Alice's Adventures in Wonderland* as a starting point, this course provides a critical survey of children's literature in Britain, America, and Canada. Authors to be studied may include: Carroll, L.M. Montgomery, Maurice Sendak, Roald Dahl, R.L. Stevenson, E.B. White, and various picture books. Credit will be granted for only one of ENGL 233 or ENGL 234. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

CREATIVE WRITING COURSES
Students wishing to enrol in any creative writing course are required to submit a portfolio to the English Department. The portfolio must be submitted electronically to english@stfx.ca as an attachment by June 1. The portfolio should consist of 10-15 pages of prose fiction, poetry, drama, or any combination thereof. If in any calendar year a course is restricted to a particular genre, the portfolio should consist solely of work in that genre. Students must indicate the creative writing course for which they wish to be considered and provide a complete list of English courses previously taken.

231 Introduction to Creative Writing
This course teaches students how to write creatively in two genres -- poetry and fiction -- in a workshop setting. Students will explore those elements of composition (imagery, dialogue, point of view, characterization, etc.) that make for interesting and challenging writing. Six credits. Not offered 2017-2018.

322 Intermediate Creative Writing
Students will be expected to choose one genre through which they will continue to explore and develop the basic elements of composition learned in English 231. Prerequisite: ENGL 100, 110 or equivalent; three credits creative writing. Three credits.

422 Advanced Creative Writing
Explores the techniques of writing prose narrative, poetry, and drama to help students develop their powers of creative expression. Techniques include regular exercises, set assignments, free submissions, parodies, and imitations. Occasional guest writers. Prerequisite: ENGL 100, 110 or equivalent; six credits creative writing. Three credits. Not offered 2017-2018.

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238 Shakespeare's Early Works
An introduction to Shakespeare's early works, covering his writing from 1585 to 1600. Works may include histories, comedies, and poetry. Credit will only be granted for one of ENGL 238 and ENGL 237. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

239 Shakespeare's Later Works
An introduction to Shakespeare's later works, from roughly 1600 to his death in 1616. Works studied may include tragedies, romances, comedies and poetry. Credit will only be granted for one of ENGL 239 and ENGL 237. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits. Not offered 2017-2018.

240 Literature of the Middle East
This course will introduce students to the rich literary heritage of various countries in the Middle East. In addition to the geographic range, the course will also introduce students to various kinds of literature including traditional poetry and folk tales, but the main focus will be the novel and the short story of the twentieth century. Writers to be studied may include Najib Mahfuz, Elias Khoury, Hanan al-Shaykh, Ghassan Kanafani, Tayeb Salih, Muhammad Shukri, and others. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

241 Modern and Contemporary Poetry
A study of some of the major poets of the 20th and 21st centuries, including Elizabeth Bishop, T.S. Eliot, Wallace Stevens, Marianne Moore, W.B. Yeats, Gwendolyn Brooks, Philip Larking, Derek Walcott, Sylvia Plath, Adrienne Rich, Henri Cole, Eavan Boland. Credit will be granted for only one of ENGL 241, 320 or 298 ST: Modern & Contemporary Poetry. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

243 The Protomodern American Novel
In this course we will examine novels written between 1870 and 1910 that establish the concerns that we now associate with modernism. Topics include time, consciousness, inequality, photography, urbanization, art, nativism, utopianism, ethnicity and exile. Authors include Edward Bellamy, Theodore Dreiser, Frank Norris, Jacob Riis, Mark Twain, Henry James, William James, Stephen Crane, Harold Frederic, Ellen Glasgow, Charles Chesnutt, Abraham Cahan, Jack London, Mary Antin and James Weldon Johnson. Credit will be granted for only one of ENGL 243 or ENGL 344. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits. Not offered 2017-2018.

245 Postcolonial Literature
This course will introduce you to the culture of empire and to a growing body of writing that has come to be called "postcolonial." Broadly defined as the literature of peoples who have experienced colonialism, this body of writing raises important

questions about place, identity and belonging, and about the role of literature in representing nation, empire, and globalization. We will read fiction, poetry, and essays by writers from Europe, Africa, South Asia, and the Caribbean. Credit will be granted for only one of ENGL 245 or ENGL 247. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits. Not offered 2017-2018.

253 Coffeehouse Culture of 18th-Century England

A course exploring a variety of works through the lens of the 18th-century coffeehouse. Focusing primarily on the periodical literature of the time—*The Tatler, The Spectator, The Plain Dealer and The Female Spectator*—and novels and poetry, the course will consider themes like conversation, urban space, taste and culture, consumerism, gender fashioning, and the private subject made public. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

254 Topics in 18th-Century Literature

The Whore's Story. This course explores the changing literary, social and cultural significance of the figure of the whore in a variety of 18th century works. Poetry, pornography, and pamphlets, as well as Hogarth's engravings *A Harlot's Progress*, Behn's play, *The Rover*, and Cleland's novel, *Memoirs of a Woman of Pleasure* (a.k.a. *Fanny Hill*) will be studied among other works. Graphic language and content may offend some students. Cross-listed as WMGS 254. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

257 The 21st-Century American Novel

This course will introduce students to recent formal and generic developments in the American novel and situate these trends within the history of the novel as a literary form. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits. Not offered 2017-2018.

258 Television Today

This course introduces students to current debates about television and its role in contemporary culture. We will emphasize the manner in which programs develop narratives (episodically, serially, in story arcs) and the manner in which they are received (weekly, binge watching). Subscription fees for online content providers may be required. Credit will be granted for only one of ENGL 258 and 297 offered in 2016-2017. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

263 Canadian Literature I: 18th and 19th Centuries

This course will survey Canadian poetry and prose in the historical contexts of exploration, settlement, and Confederation. Students will examine early Canadian authors' engagements with the Romantics and Victorians, and will consider the emergence of a national literature. Selected authors may include Frances Brooke, Samuel Hearne, John Richardson, Thomas Chandler Haliburton, Susanna Moodie, James de Mille, Isabella Valancy Crawford, and Sir Charles G. D. Roberts. Credit will be granted for only one of ENGL 263 or ENGL 265. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

264 Canadian Literature II: The 20th-Century and After

This course examines the major genres of Canadian writing during the 20th and 21st centuries, including fiction, poetry, and non-fiction. The course will emphasize key aesthetic developments within the contexts of modernism, feminism, postcolonialism, regionalism, postmodernism, environmentalism, culture and race. Credit will be granted for only one of ENGL 264 or ENGL 265. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

270 The Romantic Gothic: Poetry and Short Fiction

A study of Gothic literature in its historical and philosophical context, this course will explore 19th-century short fiction and poetry as well as a play and influential 18th-century literary sources. Authors may include: Walpole, Burke, Kant, Wordsworth, Smith, Robinson, Hogg, Scott, Coleridge, Keats, Lord Byron, and Baillie. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits. Not offered 2017-2018.

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*. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits. Not offered 2017-2018.

290 The Canterbury Tales

This course will introduce Geoffrey Chaucer's *Canterbury Tales*, but it does more than that. The generic and formal diversity of Chaucer's collection allows for discussion of medieval literary form and content, while also introducing significant aspects of medieval culture (the problem of "courtly love," medical theory and political life). Further, the course allows discussion of manuscript tradition and theories of influence. Credit will be granted for only one of ENGL 290 or ENGL 390. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits. Not offered 2017-2018.

295 Selected Topics

Three credits.

297 Selected Topics

Three credits.

298 Selected Topics

Three credits.

304 The Early Tudor and Elizabethan Renaissance

A study of texts produced during the Tudor dynasty. Authors may include Christopher Marlowe, William Shakespeare, Thomas Kyd, Edmund Spenser, and others. Prerequisite: ENGL 100, 111/112 or equivalent. Three credits.

305 The Later Elizabethan Renaissance

William Shakespeare's sonnet sequence, along with Edmund Spenser's epic allegory, *The Faerie Queene*, will be read in the context of the 1590s, the last full decade of the reign of Elizabeth I. In close readings of these two masterpieces, we will examine the relations between literature and culture and the way in which politics and gender provide a context for aesthetic production. Prerequisite: ENGL 100, 111/112 or equivalent. Three credits. Not offered 2017-2018.

308 Milton and his Time

This course will provide an intensive study of Milton's life and major poems, especially *Paradise Lost*, and some of his polemical prose. The course will also focus on the historical and political contexts of this revolutionary age, and Milton's contributions to the Republicanism of the era. Credit will be granted for only one of ENGL 308 or ENGL 312. Prerequisite: 9 credits ENGL. Three credits.

311 Photography and Narrative

This course examines the role of visual technologies of mechanical reproducibility – including film and photography – in twentieth-century considerations of experience, aesthetics, and memory, addressing in particular the encounter between photography and narrative in literature, theory, and cinema. Authors and visual artists studied may include André Breton, Walter Benjamin, Roland Barthes, Hollis Frampton, and W.G. Sebald. Three credits. Not offered 2017-2018.

313 Literary Theory's Histories

This course introduces students to the histories of literary theory. Depending on the instructor, the course may cover either a specific period in literary studies (e.g. Medieval, Early Modern, Romantic) or a broader historical accounting of contemporary theory's antecedents. Credit will be granted for only one of ENGL 313 or ENGL 445. Prerequisite: 9 credits of ENGL; ENGL 215 is recommended. Three credits. Not offered 2017-2018.

314 Contemporary Literary Theory

This course introduces students to current issues in literary criticism including (but not limited to): formalism, gender and sexuality, materialism, psychology and historicism. Our aim will be to consider the usefulness of different approaches in opening up our readings of texts. We will examine a sample of different types of works – a novel, a play, a film, lyric poems – in testing different theoretical approaches. Credit will be granted for only one of ENGL 314 or ENGL 445. Prerequisite: 9 credits of ENGL; ENGL 215 is recommended. Three credits.

318 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: 9 credits ENGL. Six credits.

319 Topics in Film Studies

This course will address the development of cinema from a historical and formal perspective. Topics to be covered include movements and periods in the history of the cinema, the impact on cinema of technological developments, different modes of narrative cinema, and major categories of formal analysis, such as mise-en-scène, editing, and cinematography. One focus of the course will be on the techniques and conventions of writing about cinema. Prerequisite: 9 credits of ENGL; ENGL 211 recommended. Three credits. Not offered 2017-2018.

323 Victorian Medievalism

This course will examine Victorian treatments of the medieval. Texts studied will include non-fiction, fiction, and poetry. We will also consider the Gothic Revival in architecture and the Pre-Raphaelite movement in painting. Authors may include Thomas Carlyle, Alfred Lord Tennyson, E. B. and Robert Browning, John Ruskin, George Eliot, Edward FitzGerald, William Morris, and Christina and D. G. Rossetti. Prerequisite: 9 credits ENGL. Three credits. Not offered 2017-2018.

325 The American Novel, 1850-1940
What kinds of social creatures are people? What causes our social lives to fall into patterns, shapes, and configurations? How do these forms define our social worlds? In this class we will look at American novels written at the end of the 19th and the start of the 20th century as resources for understanding the complexity of modern social life. Three credits. Not offered 2017-2018.

327 Celtic Kings, Heroes and Monsters- Medieval Ireland
From hot-headed heroes to terrifying monsters and death-tales, this course will examine topics and texts from medieval Irish literary tradition in detail. Credit will be granted for only one of CELT 327 and CELT 221. Cross-listed as CELT 327. Three credits. Not offered 2017-2018.

328 Celtic Kings, Heroes and Monsters-Medieval Wales
From King Arthur to Culhwch and from dragons to giants, this course will examine topics and texts from medieval Welsh tradition in detail. Credit will be granted for only one of CELT 328 and CELT 222. Cross-listed as CELT 328. Three credits. Not offered 2017-2018.

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 WMGS 329. Prerequisite: 9 credits ENGL. Three credits.

330 Studies in Women Writers: Genres, Cultures, and Contexts
This course explores modern and contemporary poetry written by women in English. Cross-listed as WMGS 330. Prerequisite: 9 credits ENGL. Three credits. Not offered 2017-2018.

337 Children's Literature: Genres and Themes
"Child-Soldier Narratives in / as Children's Literature." Children's literature is a particularly fruitful terrain for exploring the kinds of hopes and fears that adults attach to children and to the kinds of worlds those children might make. In this class we will focus on the central tension between children in danger and dangerous children in recent children's literature about child soldiers, as well as in the memoirs of former child soldiers and human rights efforts to protect children. Prerequisite: 9 credits ENGL. Three credits.

338 Canadian Drama
This course will examine how Canadian drama has been (re)defining our national identity for the past four hundred years. Introducing students to theatrical forms such as vaudeville, minstrelsy, clowning, and verbatim theatre, this course will simultaneously consider issues of nationality, race, and gender. Playwrights include Tomson Highway, Margaret Atwood, Djanet Sears, and Guillermo Verdecchia. Credit will be granted for only one of ENGL 338 or ENGL 366. Prerequisite: 9 credits ENGL. Three credits.

347 Literature of Africa and the African Diaspora
A study of the literature of sub-Saharan Africa and / or the African Diaspora, including African-Canadian, African-American, Afro-Caribbean, and Black British literatures. Topics will vary from year to year. Prerequisite: 9 credits of ENGL. Three credits.

353 Tolkien and the Inklings
This course will examine the Inklings and their engagement with mythology. Works by Tolkien (the Silmarillion materials), C. S. Lewis (the Narnia books) and Roger Lancelyn Green will be included. Three credits. Not offered 2017-2018.

355 Restoration and 18th-Century Drama and Prose
The libertine is the Restoration's bad boy and its cultural icon. This course explores the character and philosophy of the libertine as depicted in several Restoration plays, and modeled on the real-life Earl of Rochester. Womanizer, drunkard, poet, wit, and master of masquerade, the libertine embodies the attractive and repulsive aspects of masculinity. Plays include Wycherley's *The Country Wife*, Shadwell's *Libertine*, Etherege's *Man of Mode*, Behn's *The Rover*, and the movie, *The Libertine*. Prerequisite: 9 credits ENGL. Three credits.

356 18th-Century Novel and Poetry
A study of the rise of the novel from Aphra Behn to Laurence Sterne, the course examines the imagined lives of mistresses, misfits, magicians, and crossdressers as authors explore the secret springs of human thought and motivation as they experiment with form and style. Works include Behn's *The Fair Jilt*, Defoe's *Roxana*, Haywood's *Eovaai*, Fielding's T*he Female Husband*, and Sterne's *Tristram Shandy*. Prerequisite: 9 credits ENGL. Three credits.

366 Topics in Canadian Literature
This course will look at the rich development of poetry in English in Atlantic Canada with a particular focus on the period from 1930 to the present. Diverse idioms, forms, and genres of poetry will be encountered, including works by Mi'kmaq and African Nova Scotian poets as well as a few selected Acadian writers in translation. Prerequisite: 9 credits ENGL. Three credits.

367 Canadian Prose Fiction
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. Credit will be granted credit for only one of ENGL 365 and 367. Six credits. Not offered 2017-2018.

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: 9 credits ENGL. Six credits. Not offered 2017-2018.

379 American Literature
This course examines the very recent interest in happiness studies. We'll think about what happiness entails and the difficulties involved in its achievement. Topics discussed will include: sex, money, occupation, marriage, music, family and authenticity. Novels to be examined include: Jonathan Franzen's Freedom, Jeffrey Eugenides' The Marriage Plot, Jennifer Egan's Visit from the Goon Squad and Meg Wolitzer's The Interestings. Prerequisite: 9 credits ENGL. Three credits.

388 Heroic Literature of the Middle Ages
A study of medieval texts which reflect the heroic, aristocratic, and military literature of the Middle Ages, which may include *Beowulf* (in translation), Thomas Malory's *Le Morte Darthur* various romances, including Arthurian texts like *Sir Gawain and the Green Knight*, and selections from medieval historical chronicles. Prerequisite: 9 credits ENGL. Three credits. Not offered 2017-2018.

389 Chaucer's Contemporaries
Prerequisite: 9 credits ENGL. Three credits.

397 Selected Topics in Literature I
The topic for 2017-2018 is Romantic Poetry and the Science of Impulse. This course focuses on "impulse" in the early Romantic period as exemplified in the poetry of Blake, Wordsworth, Coleridge, Keats, and Shelley, and in Wordsworth's preface to the *Lyrical Ballads* and Coleridge's *Biographia Literaria*. The course will pay close attention to the evolving importance of impulse, the moment of insight that impels one to act ways that define the ethical dimensions of character, in both poetry and criticism. Prerequisite: 9 credits English. Three credits.

398 Selected Topics in Literature II
Prerequisite: 9 credits ENGL. Three credits. Not offered 2017-2018.

Notes: Normally students enroling in an honours seminar will have third-year standing and have taken a minimum of 15 credits in English. Priority will be given to honours and advanced major students in English.

400 Honours Thesis
Honours students write a thesis under the supervision of a faculty thesis director. Students must meet the thesis director in March of the junior year to prepare a topic. Honours students must register for the thesis as a six-credit course in their senior year. The thesis must be submitted no later than March 31 of the senior year. See chapter 4. Six credits.

SENIOR SEMINARS

491 Selected Topics I
The topic for 2017-2018 is Where Fairy Tales Come From. In this seminar, we will read classical and medieval texts alongside fairy and folk tales collected in the 18th-19th centuries. These are the sources raided by Disney and other modern producers of content for children, and our task will be to demonstrate the sources are adapted along narrative and didactic lines. Prerequisites: third-year standing and 15 credits ENGL. Three credits.

492 Selected Topics II
The topic for 2017-2018 is Film Noir and Pulp Fiction. This seminar will consider the encounter of American popular crime fiction and cinematic artistry that produced the tradition of film noir. We will consider hard-boiled crime stories of literary figures who contributed to the noir aesthetic—Raymond Chandler, James Cain, Ernest Hemingway—and films from the 1940s and 1950s, the classic period of film noir. In the final section of the course, we will consider some later developments of noir culture. Prerequisites: third-year standing and 15 credits ENGL. Three credits.

497 Advanced Major Thesis
Advanced major students write a thesis as part of the senior seminar. See chapter 4. No credit.

499 Directed Study
In consultation with the department and with approval of the chair, students may undertake a directed study program in an approved area of interest, which is not available through other course offerings. See section 3.5. Three or six credits.

9.19 ENVIRONMENTAL SCIENCES
L. Kellman, Ph.D., Co-ordinator

Advising Faculty	Department
H. Beltrami, Ph.D.	Earth Sciences
J. Cormier, Ph.D.	Chemistry
D. Garbary, Ph.D.	Biology

Environmental sciences is a four-year advanced major or honours program leading to a B.Sc. in one of four different concentrations. Each concentration offers an integrated approach to understanding the interaction of biological, chemical and physical systems and processes in the environment and their sensitivities to human activities.

The B.Sc. in Environmental Sciences is designed to prepare students to become researchers or practitioners in environmental sciences. Students following this degree stream will be well prepared to continue to graduate programs in a variety of fields, and for careers in the government and private sector. The program requires a strong interdisciplinary, science-based education as this approach to solving current environmental problems is increasingly required in academia, government and the private sector.

Students apply for specific programs in year two. Typical course patterns are listed below. Other course options may be available. Further information can be obtained from the department chairs of biology, chemistry, earth sciences, mathematics and physics.

B.Sc. Advanced Major in Environmental Sciences Biology
Year 1 BIOL 112; CHEM 100; ENSC 115; ESCI 171, 172; MATH 106 or 126, MATH 107 or 127; 6 credits arts electives
Year 2 BIOL 201, 203, 222; CHEM 225, 255; ESCI 271; MATH 287; STAT 231, 6 credits arts electives
Year 3 BIOL 202, 315, 345; CHEM 265; ESCI 272, 305; PHYS 100; 6 credits arts electives
Year 4 24 credits from BIOL 311, 312, 321, 384, 407, 470, 472, 474 or CHEM 361; ENSC 491(non-credit); ESCI 366, 3 credits open electives.

B.Sc. Honours in Environmental Sciences Biology
Year 1 BIOL 112; CHEM 100; ENSC 115; ESCI 171, 172; MATH 106 or 126, MATH 107 or 127; 6 credits arts electives
Year 2 BIOL 201, 203, 222; CHEM 225, 255; ESCI 271; MATH 287; STAT 231, 6 credits arts electives
Year 3 BIOL 202, 315, 345; CHEM 265; ESCI 272, 305; PHYS 100; 6 credits arts electives
Year 4 21 credits from BIOL 311, 312, 321, 384, 407, 470, 472, 474, or CHEM 361; ENSC 491 (non-credit), 493; ESCI 366; 3 credits open electives

B.Sc. Advanced Major in Environmental Sciences Chemistry
Year 1 BIOL 112; CHEM 100 or 120; ENSC 115; ESCI 171, 172; MATH 106 or 126, MATH 107 or 127; 6 credits arts electives
Year 2 BIOL 203; CHEM 220, 245, 265; PHYS 120; STAT 231; 6 credits arts electives
Year 3 CHEM 231, 232, 325, 361, 362, 391(non credit); ESCI 272, 305, 366; 6 credits of MATH 253, 254, 267, 367
Year 4 BIOL 202 and 6 credits from BIOL 201, 373, 470, 472; CHEM 255, 341, 342; ENSC 491 (non-credit); 3 credits from ESCI 406, 471, 465, 472; 6 credits arts electives; 3 credits open electives

B.Sc. Honours in Environmental Sciences Chemistry
Year 1 BIOL 112; CHEM 100 or 120; ENSC 115; ESCI 171, 172; MATH 106 or 126, MATH 107 or 127; 6 credits arts electives
Year 2 BIOL 203; CHEM 220, 245, 265; ESCI 272; PHYS 120; 6 credits arts electives
Year 3 BIOL 202; CHEM 231, 232, 325, 361, 362, 391 (non-credit); ESCI 305, 366; 3 credits of MATH 253, 254, 267, 367; STAT 231
Year 4 CHEM 255, 331, 332, 341, 342, 421, 422; ENSC 491 (non-credit), 493; 6 credits arts electives

B.Sc. Advanced Major in Environmental Sciences Biogeochemistry
Year 1 BIOL 112; CHEM 100 or 120; ENSC 115; ESCI 171, 172; MATH 106 or 126, MATH 107 or 127; 6 credits arts electives
Year 2 CHEM 225 or 245, 265; ESCI 246, 271, 272, 3 approved ESCI credits; PHYS 100 or 120; STAT 231; 3 credits open elective
Year 3 BIOL 203, 384; CHEM 361, 362; ESCI 305, 366, 386, 3 approved ESCI credits; 6 credits arts electives;
Year 4 BIOL 472 or 474; ENSC 491 (non-credit); ESCI 406, 465, 472, 3 approved ESCI credits; 6 credits arts electives; 9 credits open electives

B.Sc. Honours in Environmental Sciences Biogeochemistry
Year 1 BIOL 112; CHEM 100 or 120; ENSC 115; ESCI 171, 172; MATH 106 or 126, MATH 107 or 127; 6 credits arts electives
Year 2 CHEM 225 or 245; 265; ESCI 246, 271, 272, 3 additional ESCI credits; PHYS 100 or 120; STAT 231; 3 credits open electives
Year 3 BIOL 203, 384; CHEM 361, 362; ESCI 305, 366, 386, 3 additional ESCI credits; 6 credits arts electives
Year 4 BIOL 472 or 474; ENSC 491 (non-credit), 493; ESCI 406, 465, 472, 499, 3 additional ESCI credits; 6 credits arts electives; 3 credits open elective

B.Sc. Advanced Major in Environmental Sciences Climate and Water
Year 1 CHEM 100 or 120; ENSC 115; ESCI 172; MATH 106 or 126, MATH 107 or 127; PHYS 120; 6 credits arts electives
Year 2 BIOL 112; ESCI 171, 246, 271, 272; MATH 267; STAT 231; 3 credits approved science electives; 6 credits arts electives
Year 3 CHEM 265; ESCI 305, 366, 386, 475; MATH 253; 6 credits approved science electives; 6 credits arts electives
Year 4 BIOL 203; ENSC 491 (non-credit); ESCI 406, 465, 472; 9 credits approved science electives; 9 credits open electives

B.Sc. Honours in Environmental Sciences Climate and Water
Year 1 CHEM 100 or 120; ENSC 115; ESCI 172; MATH 106 or 126, MATH 107 or 127; PHYS 120; 6 credits arts electives
Year 2 BIOL 112; ESCI 171, 246, 271, 272; MATH 267; STAT 231; 3 credits approved science electives; 6 credits arts electives
Year 3 CHEM 265; ESCI 305, 366, 386, 475; MATH 253; 6 credits approved science electives; 6 credits arts electives
Year 4 BIOL 203; ENSC 491 (non-credit), 493; ESCI 406, 465, 472, 499; 6 credits approved science electives; 6 credits open electives

115 Introduction to Environmental Science
Environmental science integrates our understanding of chemical, physical and biological processes to study how anthropogenic activities have altered natural environments. The focus of this course is upon the underlying processes that drive environmental change, e.g. environmental contamination, water resources, biological diversity, global climate change, food production, and deforestation. By developing an understanding of the complex scientific processes that drive environmental changes, students will acquire skills that will equip them to identify solutions to environmental problems. Three credits and lab.

491 Senior Seminar in Environmental Sciences
Seminars on topics of interest in the Environmental Sciences are presented during the year by visiting scientists and faculty. Required for all environmental sciences students in the final year of study. No credit.

493 Honours Thesis
Required for honours students. Three credits.

» **FRENCH** see 9.26 Modern Languages

» **GERMAN** see 9.26 Modern Languages

9.20 HEALTH

The BASc in Health is designed to allow students to approach health and health-related issues from an interdisciplinary perspective. The program aims to provide students with a contemporary education in health by drawing on knowledge from a number of disciplines. Since the field of health is most fully understood with scientific, social, and humanistic contributions to its definition, the program is developed within the BASc structure - a four-year combined degree in both Arts and Science. The program will be suitable for students who come to University with a desire to pursue a career in a health-related field or who want to pursue a graduate degree in health studies or health sciences. This is not a professional program that prepares students to become practitioners, but rather provides students who have an interest in health with the opportunity to explore health from multiple disciplinary perspectives. This program will prepare students for the topics covered in the MCAT exams.

Students are required to meet with their program coordinator or an academic advisor every year to assess their academic progress.

HLTH 101, 102, 201, 202, 203, 301, 302, 401, and 402 are restricted to students enrolled in the BASc in Health program.

Major Requirements

a) 100- level restriction: For the primary concentration, students may complete a maximum of 18 credits at the 100-level (not including STAT 101), and for secondary concentration, students may complete a maximum of 12 credits at the 100-level.
b) 300- and 400-level: 9 credits in the primary concentration. and 3 credits in the secondary concentration. The total number of 300- and 400- level credits needed for major students in BASc, including core courses is 24 credits.
c) Arts: a minimum of 24 credits
d) Science: a minimum of 24 credits, 12 of these credits must include a laboratory component at the 200-level or above.
e) Humanities: 12 credits of humanities in addition to the above-mentioned arts requirement (see glossary definition) from the health humanities designated course list. As part of the humanities requirement, students must complete a minimum of 3 credits from the health ethics designated course list.

Honours Requirements

a) same as major requirements, see above
b) honours students are required to complete 15 credits of 300- and 400- level in their primary concentration, including HLTH 490, as opposed to the 9 credits required of the major, for a total of 30 credits.

Major with Biomedical Concentration (BIME)

Year 1: BIOL 111, 112; CHEM 100; HLTH 101, 102; PSYC 100; SOCI 101, 102;
Year 2: HLTH 201, 202, 203; STAT 101; 3 credits health humanities; 9 credits BIME designated courses; 3 credits SDHE designated courses; 3 credits electives
Year 3: HLTH 301, 302; 6 credits health humanities; 12 BIME designated courses; 3 credits SDHE designated courses; 3 credits electives
Year 4: HLTH 401, 402; 3 credits health humanities, 9 credits BIME designated courses; 6 credits SDHE designated courses; 6 credits electives

Honours with Biomedical Concentration (BIME)

Year 1: same as major above
Year 2: same as major above
Year 3: HLTH 301, 302; 6 credits health humanities; 15 BIME designated courses; 3 credits SDHE designated courses
Year 4: HLTH 401, 402, 490; 3 credits health humanities; 6 credits BIME designated courses; 6 credits SDHE designated courses; 3 credits electives

Major with Social Determinants and Health Equity Concentration (SDHE)

Year 1: BIOL 111, 112; CHEM 100; HLTH 101, 102; PSYC 100; SOCI 101, 102;
Year 2: HLTH 201, 202, 203; STAT 101; 3 credits health humanities; 3 credits BIME designated courses; 9 credits SDHE designated courses; 3 credits electives
Year 3: HLTH 301, 302; 6 credits health humanities; 3 BIME designated courses; 12 credits SDHE designated courses; 3 credits electives
Year 4: HLTH 401, 402; 3 credits health humanities; 6 credits BIME designated courses; 9 credits SDHE designated courses; 6 credits electives

Honours with Social Determinants and Health Equity Concentration (SDHE)

Year 1: same as major above
Year 2: same as major above
Year 3: HLTH 301, 302; 6 credits health humanities; 3 BIME designated courses; 15 credits SDHE designated courses;
Year 4: HLTH 401, 402, 490; 3 credits health humanities; 6 credits BIME designated courses; 6 credits social determinants and health equity designated courses; 3 credits electives

Co-operative Education in Health

This optional academic program allows students have the opportunity to gain 12 months of professional, paid work experience in a range of opportunities in industry, government and not-for-profit across Canada. Students can gain valuable technical and professional experience in field and lab work, research, policy and education to reinforce classroom-based instruction. See section 9.12 for further information.

101 Fundamentals of Health I

This course provides an introduction to perspectives of health from a range of arts and science disciplines. Emphasis is on how health, wellness, illness, and disability have been conceptualized and constructed. Students will compare and contrast social and medical models of health across different historical periods, societies and cultures. Tutorials will develop applied skills for university success in health studies. Three credits and tutorial.

102 Fundamentals of Health II

This course builds on HLTH 101, challenging students to consider systematic variations in the distribution of health, health equity, and social justice among individuals, groups, populations, and societies. Various biological determinants that underpin health, illness, disease, pain, and defect are examined. Various explanations of social determinants that affect health, well-being, illness, and disability are a focus. The relevance of determinants of health in the global context is introduced. Three credits and tutorial.

201 Health Across the Lifespan I

This course provides students with an integrated approach to understanding the health of children in developing and developed countries and will foster an understanding of the multiple determinants of healthy development. Students will identify alternative approaches to health beyond the disease-based approaches and will learn about the role of government in health care. By applying selected developmental theories to healthy physical, cognitive and social development, students will come to understand the contribution of family and community to, and the impact of socio-economic, political, biological, and environmental factors on, child health and development up until adolescence. Prerequisites: HLTH 101, 102. Three credits.

202 Health Across the Lifespan II

This course provides students with an integrated approach to understanding age-related changes of health during adolescence and adulthood in a cross-cultural context including health of indigenous populations. Special emphasis will be placed on using critical thinking to evaluate scientific research related to developmental origins of health beyond the childhood years. Themes covered include determinants of adolescent, adult, and geriatric health, the role of cultural considerations in healthy aging and dealing with death as part of the lifecycle. Prerequisite: HLTH 201. Three credits.

203 Introduction to Health Research Methods

An introduction to quantitative and qualitative research methods used to study health-related topics. A range of study designs will be discussed, with consideration to characteristics such as levels of measurement, sampling approaches, and data collection/generation techniques. The importance of research within the field of health, as well as strengths and weaknesses of different techniques, will be addressed. Discipline-specific methodology will be introduced, such as epidemiology, evidence-based practice, program evaluation, and public health research. Credit will be granted for only one of HLTH 203 and another research method course. Prerequisite: second year BASc in Health status. Three credits and tutorial.

301 Global Health, Equity, and Innovation

This course examines global health within the context of an increasingly uneven, globalized world. The course departs from a biomedical orientation on health to interrogate competing health and health system discourses, the political-economy of global health, factors that perpetuate and underpin global health inequities, as well as insights into the global health governance and policy landscape. Given the imperative for 'health for all', strategies and options for creating and spreading health through social innovation and policy will be explored. Prerequisites: HLTH 201, 202. Three credits.

302 Health in All Policies: An Intersectoral Approach to Health and Health Equity

This course examines approaches to health that extend beyond the delivery of health services. Students will examine the consequences of programs and policies that lie outside health sector on health systems, determinants of health, health, and health equity. A focus is on an intersectoral and systems approach to health and equity that involves government and non-government stakeholders from various sectors. Emphasis is on examining health in all policies and the role stakeholders play in overcoming barriers that hinder intersectoral approaches to complex health and equity issues from a systems perspective. Prerequisite: HLTH 301. Three credits.

398 Selected Topics

The topic for 2017-18 is Human Biomechanics. This course provides a mechanical analysis of physiological processes such as blood flow and introduces the basic physical principles. Current issues from the field of biomedical engineering will be introduced. Students will complete a design project throughout the term. Prerequisite: BIOL 201; PHYS 100 or PHYS 120. Three credits.

401 Health Leadership

This course represents the capstone for students completing the BASc in Health. The first part of the course will introduce leadership strategies within the health care system, and connect students with leaders in the field. In the second part of the course, students will learn about innovation strategies, which will prepare them for a real-world innovation project in HLTH 402. Students will be required to participate in sessions with guest speakers. Prerequisites: HLTH 301, HLTH 302. Three credits.

402 Health Innovation

This course represents the capstone for students completing their BASc in Health. Students will explore a real-world problem in the health system, and through a critical review of the problem create an innovative and viable solution. Prerequisite: HLTH 401. Three credits and tutorial.

490 Honours Thesis

Under the supervision of a professor, each student completes a research project, from conception to completion, over the course of the year. The student is responsible for choosing a topic, the use of resources, the methodological soundness, and literary quality of the final product. Restricted to honours students. Six credits.

499 Directed Study

Three credits.

BIOMEDICAL DESIGNATED COURSES

Departmental prerequisites will apply.

Biology		Credits
BIOL 204	Genetics	3, lab
BIOL 231	Plants and Human Health	3, lab
BIOL 251	Anatomy and Physiology I	3, lab
BIOL 252	Anatomy and Physiology II	3, lab
BIOL 315	Microbiology	3, lab
BIOL 317	Molecular Biology	3, lab
BIOL 335	Developmental Biology	3, lab
BIOL 395	Cell Biology	3, lab
BIOL 416	Immunology	3, lab
BIOL 419	Microbial Pathogenics	3, lab
BIOL 452	Bioinformatics	3

Business Administration		Credits
BSAD 352	Social Entrepreneurship	3
BSAD 356	Entrepreneurship / New Venture Development	3

Chemistry		Credits
CHEM 220	Organic Chemistry	6, lab
CHEM 225	Principles of Organic Chemistry	3, lab
CHEM 255	Introduction to Biochemistry	3, lab
CHEM 355	Advanced Biochemistry	3, lab
CHEM 455	Medicinal Chemistry	3, lab

Computer Science		Credits
CSCI 161	Introduction to Programming	3, lab
CSCI 162	Programming and Data Structures	3, lab
CSCI 215	Social Issues in the Information Age	3
CSCI 364	Mobile Application Development	3, lab

Human Kinetics		Credits
HKIN 215	Introduction to Motor Control and Learning	3, lab
HKIN 236	Foundations of Sport and Exercise Psychology	3, lab
HKIN 365	Exercise Physiology	3, lab
HKIN 392	Exercise Metabolism	3, lab
HKIN 395	Disability, Health and Community Rehabilitation	3
HKIN 425	Child Growth and Development	3, lab
HKIN 416	Advanced Motor Control	3, lab
HKIN 466	Clinical Exercise Physiology	3

Human Nutrition		Credits
HNU 161	Food and Nutrition for Health in Society	3
HNU 261	Introduction to Human Nutrition	3
HNU 262	Principles of Nutrition in Human Metabolism	3
HNU 351	Nutritional Assessment	3, lab
HNU 352	Nutrition in Chronic Disease Prevention & Management	3
HNU 353	Nutritional Management of Human Disease	3
HNU 425	Nutrition in Aging	3
HNU 461	Nutrition in Metabolic Disease	3

Physics		Credits
PHYS 101	Physics for the Life and Health Sciences I	3, lab
PHYS 102	Physics for the Life and Health Sciences II	3, lab

Psychology		Credits
PSYC 220	Cognitive Psychology	6, lab*
PSYC 225	Sensation and Perception	6, lab*
PSYC 230	Brain and Behaviour	6, lab*
PSYC 327	The Psychology of Pain	3
PSYC 328	Neural Mechanisms of Pain Analgesia	3
PSYC 362	Applications of Psychology to the Health Sciences	3
PSYC 367	Basics of Psychopharmacology	3
PSYC 368	Pharmacology of Drugs of Abuse	3
PSYC 373	Human Neuropsychology	3
PSYC 376	Abnormal Psychology	3
PSYC 379	Clinical Psychology	3

*Psychology falls within the Faculty of Arts, therefore, labs completed in these courses are not counted towards the degree's lab requirement.

SOCIAL DETERMINANTS AND HEALTH EQUITY DESIGNATED COURSES

Departmental prerequisites will apply.

Anthropology		Credits
ANTH 111	Introduction to Physical Anthropology/ Archaeology	3
ANTH 112	Introduction to Socio-Cultural Anthropology	3
ANTH 218	Anthropology of Health and Illness	3
ANTH 320	People and Development	3
ANTH 323	Feminist Anthropology	3
ANTH 415	Anthropology of HIV/AIDS	3

Development Studies		Credits
DEVS 211	Local and Community Development Economics	3
DEVS 321	People and Development	3

Economics		Credits
ECON 101	Introduction to Microeconomics	3
ECON 102	Introduction to Macroeconomics	3
ECON 201	Intermediate Microeconomic Theory I	3
ECON 211	Local and Community Development Economics	3
ECON 364	Health Economics	3

Earth Sciences		Credits
ESCI 272	Global Change and the Climate System	3
ESCI 273	Health and the Environment	3
ESCI 274	Health Impacts of Global Environmental Change	3

History		Credits
HIST 101	Western Civilization: Earliest Civilizations to the War of Religion	3
HIST 102	Western Civilization: Columbus to Decolonization	3
HIST 111	Introduction to Global History 1300-1795	3
HIST 112	Introduction to Global History from 1789	3
HIST 113	Life and Times: Pre-Confederation Canada	3
HIST 115	A History of Canada: Post Confederation	3
HIST 317	Canadian Women's and Gender History: From Colony to Nation	3
HIST 318	Canadian Women's History: Modernity	3
HIST 332	The Medieval Body	3
HIST 360	Gender and Sexuality in Modern Europe	3
HIST 398	Themes in the History of Sexuality	3

Human Kinetics		Credits
HKIN 226	Focus on Personal Health	3
HKIN 250	Introduction to Sport in the Humanities	3
HKIN 331	Sociology of Sport	3
HKIN 332	Gender in Sport and Physical Activity	3
HKIN 353	Sport Philosophy	3
HKIN 354	Sport Ethics	3
HKIN 426	Health Education	3
HKIN 433	Introduction to Policy for Health	3

Human Nutrition		Credits
HNU 425	Nutrition in Aging	3
HNU 433	Introduction to Policy for Health	3

Nursing		Credits
NURS 364	Social Justice and Health	3
NURS 365	Gender and Health	3
NURS 408	Advanced Population and Public Health	3
NURS 433	Introduction to Policy for Health	3
NURS 486	International Health and Development	3

Public Policy and Governance		Credits
PGOV 101	Introduction to Public Policy and Governance	3
PGOV 201	Public Policy	3
PGOV 302	Comparative Public Policy	3

Philosophy		Credits
PHIL 100	Introduction to Philosophy	6
PHIL 231	Human Nature I: Consciousness & Epistemology	3
PHIL 232	Human Nature II: The Emotions	3
PHIL 332	Contemporary Moral and Social Issues	3
PHIL 336	Ethics in Health and Medicine	6

Political Science		Credits
PSCI 101	Introduction to Power and Politics	3
PSCI 102	Introduction to Comparative & Global Politics	3
PSCI 221	Canadian Politics I	3
PSCI 247	Environmental Social Science I: Problems and Paradigms	3
PSCI 248	Environmental Social Science II: Power and Change	3
PSCI 341	Canadian Public Administration	3
PSCI 342	Canadian Public Policy	3

Psychology		Credits
PSYC 313	Health Psychology	3
PSYC 364	Psychology of Gender	3
PSYC 365	Developmental Social Psychology of Gender	3
PSYC 372	Cultural Psychology	3
PSYC 378	Human Sexuality	3
PSYC 379	Introduction to Clinical Psychology	3

Religious Studies		Credits
RELS 100	Introduction to Christianity	6
RELS 111	Eastern Religions	3
RELS 112	Western Religions	3
RELS 120	Religion, Spirituality, and Health	6
RELS 200	Introduction to Religious Ethics	6
RELS 217	Ethical Principles for Health Care Providers	3
RELS 300	Health Care Ethics	6
RELS 328	Mind, Self, and Society	3
RELS 401	Religious Approaches to Sexuality	3
RELS 402	Religious Approaches to Sexual Diversity	3

Sociology		Credits
SOCI 211	Sociology of Marriage and Family Life	3
SOCI 217	Race, Ethnicity, Gender and Sex	3
SOCI 234	Social Class as Lived Experience	3
SOCI 242	Technology and Society	3
SOCI 243	Consumer Society	3
SOCI 247	Environmental Social Science I: Problems and Paradigms	3
SOCI 248	Environmental Social Science II: Power and Change	3
SOCI 251	Theories of Deviance and Social Control	3
SOCI 252	Topics in Deviance and Social Control	3
SOCI 364	Food and Society	3
SOCI 397	Sociology of First Peoples	3
SOCI 398	Sociology of Agriculture and Sustainability	3
SOCI 417	Social Difference: Race, Ethnicity, Gender, Class, Sex, and Disability	3
SOCI 424	Women and Work	3

Women's and Gender Studies		Credits
WMGS 100	Introduction to Women's and Gender Studies	6
WMGS 205	Gender, Sexuality and the Body	3
WMGS 210	Sociology of Marriage and Family Life	3
WMGS 217	Race, Ethnicity, Gender and Sex	3
WMGS 317	Canadian Women's and Gender History: From Colony to Nation	3
WMGS 318	Canadian Women's History: Modernity	3
WMGS 324	Feminist Anthropology	3
WMGS 332	Gender in Sport and Physical Activity	3
WMGS 333	The Medieval Body	3
WMGS 343	Psychology of Gender	3
WMGS 344	Developmental Social Psychology of Gender	3
WMGS 364	Social Justice and Health	3
WMGS 365	Gender and Health	3
WMGS 370	Gender and Sexuality in Modern Europe	3
WMGS 378	Human Sexuality	3
WMGS 398	Themes in the History of Sexuality	3
WMGS 411	Religious Approaches to Sexuality	3
WMGS 412	Religious Approaches to Sexual Diversity	3
WMGS 417	Social Difference: Race, Ethnicity, Gender, Class, Sex, and Disability	3
WMGS 424	Women and Work	3

HEALTH HUMANITIES DESIGNATED COURSES

Departmental prerequisites will apply.

Art		Credits
ART 322	Contemporary Issues in Christianity and Science	3

Catholic Studies		Credits
CATH 322	Contemporary Issues in Christianity and Science	3

History		Credits
HIST 332	The Medieval Body	3
HIST 360	Gender and Sexuality in Modern Europe	3
HIST 398	Themes in the History of Sexuality	3

Human Kinetics		Credits
HKIN 250	Introduction to Sport in the Humanities	3
HKIN 353	Sport Philosophy	3
HKIN 354	Sports Ethics	3

Philosophy		Credits
PHIL 231	Human Nature I: Consciousness & Epistemology	3
PHIL 232	Human Nature II: The Emotions	3
PHIL 331	Introduction to Ethics	3

Religious Studies		Credits
RELS 328	Mind, Self, and Society	3
RELS 401	Religious Approaches to Sexuality	3
RELS 402	Religious Approaches to Sexual Diversity	3

Women's and Gender Studies		Credits
WMGS 332	The Medieval Body	3
WMGS 370	Gender and Sexuality in Modern Europe	3
WMGS 398	Themes in the History of Sexuality	3
WMGS 411	Religious Approaches to Sexuality	3
WMGS 412	Religious Approaches to Sexual Diversity	3

HEALTH ETHICS DESIGNATED COURSES

Departmental prerequisites will apply.

Philosophy		Credits
PHIL 332	Contemporary Moral and Social Issues	3
PHIL 336	Ethics in Health and Medicine	6

Religious Studies		Credits
RELS 200	Introduction to Religious Ethics	6
RELS 217	Ethical Principles for Health Care Providers	3
RELS 300	Health Care Ethics	6

9.21 HISTORY

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C. Frazer, Ph.D.
S. Kalman, Ph.D.
G. Lalande, Ph.D.
P. McInnis, Ph.D.
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L. Stanley-Blackwell, Ph.D.
D. Trembinski, Ph.D.
R. Zecker, Ph.D.

Senior Research Professor
P. Phillips, Ph.D.

The Discipline of History

Curiosity inspires every generation to study the lives and societies of people who lived before them. The discipline of history has been developed to help us do this in a systematic, rigorous and critical way. The history program offers a wide-range of fascinating courses, from global history and the history of western civilization to more focused courses about nations, social groups and special topics. As well, its program equips students to develop the critical tools necessary to investigate the past effectively and to express their findings with clarity, vigour and intelligence. Students can take history courses as electives or pairs, or to complete a minor, major, joint major, advanced major, joint advanced major, honours or honours with subsidiary program.

Department Requirements

Students must follow the degree regulations found in chapter 4 and must consult with the department chair to plan their specific program and have it approved. The fundamental requirements of each program are outlined below. Departures from these regulations require the permission of the department chair and/or the Dean of Arts. Students following the major degree programs strive to balance specialization with breadth in their selection of courses. They must have some degree of specialization in one of the three designated areas of concentration: (1) Canadian, (2) European, or, (3) American/Latin American/Asian history.

Transfer credit limitations: Of the 36 credits required for a history major or advanced major, normally at least 24 must be obtained from StFX; of the 60 credits required for a history honours, normally at least 42 must be obtained from StFX; of the 48 credits required for a history honours with subsidiary, normally at least 36 must be obtained from StFX. The seminar and thesis requirements must be completed through StFX.

Note: Six credits from HIST 100, 101, 102, 110, 111, 112, 113, or 115 are required as a foundation for all first- and second-year students taking further history courses but this requirement is normally waived for third- and fourth-year students seeking a first course in history.

Minor or Subsidiary in History

a) 6 credits from HIST 101, 102, 111, 112, 113, 115
b) 18 additional credits above the 100 level
c) Total: 24 history credits with at least 6 credits at the 300/400 level

Major Program

a) 6 credits from HIST 101, 102, 111, 112, 113, 115
b) 6 credits in Canadian history above the 100 level
c) Total of 18 credits in a chosen concentration
d) Total of 12 credits from areas outside the chosen concentration
e) Total: 36 history credits with at least 15 credits at the 300/400 level

Joint Major Program

Same history requirements as major above.

Advanced Major Program

a) 6 credits from HIST 101, 102, 111, 112, 113, 115
b) 6 credits in Canadian history above the 100 level
c) HIST 445 (counts outside the chosen concentration)
d) A senior seminar (counts in the chosen concentration; requires senior advanced major essay)
e) Total of 18 credits in a chosen concentration
f) Total of 12 credits from areas outside the chosen concentration
g) Total: 36 history credits with at least 15 credits at the 300/400 level.

Joint Advanced Major Program

Same history requirements as advanced major above. Students are also required to complete a senior advanced major essay in a 400-level class. However, students are not required to do a senior advanced major essay if they choose history as their major subject B.

Honours Program

a) 6 credits from HIST 101, 102, 111, 112, 113, 115
b) 6 credits in Canadian history above the 100 level
c) HIST 445 (counts outside the chosen concentration)
d) A seminar (counts in the chosen concentration)
e) Total of 33 credits in a chosen concentration (includes HIST 490)
f) Total of 21 credits from areas outside the chosen concentration
g) HIST 490 (Thesis, 6 credits) with a faculty member
h) Total: 60 history credits with at least 24 credits at the 300/400 level.

Honours with a Subsidiary Subject

a) 6 credits from HIST 101, 102, 111, 112, 113, 115
b) 6 credits in Canadian history above the 100 level
c) HIST 445 (counts outside the chosen concentration)
d) A seminar (counts in the chosen concentration)
e) Total of 27 credits in a chosen concentration (includes HIST 490)
f) Total of 15 credits from areas outside the concentration
g) HIST 490 (Thesis, 6 credits) with a faculty member
h) Total: 48 history credits with at least 18 credits at the 300/400 level.

Recognized Courses

Subject to the restrictions stated below, students may count the following courses for credit in the Department of History: Celtic Studies - CELT 131/132 and 331/332; Art - ART 251, 252, 371, 372, 373, and 435 (ART 142 or 371 or 373 or permission of instructor prerequisite). Students completing a minor, major, advanced major, joint advanced major or honours in history are permitted to count no more than twelve credits of the aforementioned courses as history courses; similarly, no more than six credits of these courses may be taken from any one department. For a history pair, students are permitted no more than six credits of these recognized courses.

101 Western Civilization: Earliest Civilizations to the War of Religion

This course explores the varied history of our modern world from early complex societies to the Wars of Religion in the 17th century. From the ziggurats of ancient Mesopotamia, to the fracturing of "Christendom" during the Reformation, this class explores the events that shaped the modern world. The course also provides an introduction to the practices of history. Lectures are supplemented by discussions, exercises and assignments about how historian find and use sources. Credit will be granted for only one of HIST 101 or HIST 100. Three credits.

102 Western Civilization: Columbus to Decolonization

This course explores the history of Western Civilization from the European conquest of the Americas to the end of the Cold War. Topics include: Europe's overseas expansion; the age of absolutism; the scientific revolution; the Enlightenment; the American War of Independence; the French Revolution and Napoleon Bonaparte; the Industrial Revolution; Nationalism, liberalism, feminism, and imperialism; the two World Wars; decolonization; and the Cold War. Credit will be granted for only one of HIST 102 or HIST 100. Three credits.

111 Introduction to Global History 1300-1795

By the 1300s technology allowed sea trade to supplant overland trade between western and eastern Asia. More closely connected societies became culturally distinct, while growing economies allowed for political stability. This three-credit survey traces the growing interconnectedness of human society and historical processes that have shaped institutions and ideas from the 14th century to the end of the 18th century. Credit will be granted for only one of HIST 111 or HIST 110. Three credits.

112 Introduction to Global History from 1789

We are all connected in this global world. The ideas that sparked the French Revolution were in part the result of earlier exploration and they generated change throughout the Atlantic world and as far away from Europe as south Asia. The world has remained interconnected ever since. This course examines how this is the case by investigating human society and the historical processes that have shaped institutions and ideas since the 18th century. Credit will be granted for only one of HIST 112 or HIST 110. Three credits.

113 Life and Times: Pre-Confederation Canada

This introductory survey lecture course is designed to examine the life and times of the Pre-Confederation Canada from a political, social, cultural and economic perspective. In this journey back in time in Canadian history, student will learn about the diversity of historical figures, experiences, events and ideas. Credit will be granted for only one of HIST 113 or HIST 200 or HIST 213. Three credits.

115 A History of Canada: Post Confederation

This course provides an introduction to the major themes in Canadian history from Confederation to the contemporary era. It will explore the crucial political, economic,

and social themes in Post-Confederation history. Regional, racial, ethnic, and gender variations will be addressed in this survey. Students will learn to identify, analyze, and discuss key issues in Canadian history. Credit will be granted for only one of HIST 115 or HIST 200 or HIST 215. Three credits.

216 Modern France, 1789 to the Present

Explores French history from the end of the old regime to the present. Topics include the 1789 revolution and its aftermath, Napoleon, the July Monarchy, the Second Empire, class and gender in 19th-century France, the Third Republic, the Dreyfus Affair, the "Hollow Years" of the interwar era, the defeat of 1940 and the authoritarian Vichy Regime, decolonization and the rise of De Gaulle, and the role of feminism/memory/multiculturalism in post-war France with concentration on social, intellectual, cultural trends, and politics. Prerequisite: Six credits from HIST 100, 101, 102, 110, 111, 112, 113, or 115 or permission of the instructor. Three credits.

221 Medieval Russia

Topics include the origins of the Slavs; their adoption of Christianity; the establishment and development of the Kievan state; the coming of the Mongols and the Mongol "yoke"; the slow emergence of Muscovy; Ivan the Terrible and the Time of Troubles. Three credits.

222 Imperial Russia

Topics include 17th-century Muscovy: the Romanovs, serfdom, schism, and territorial expansion; the 18th century: Peter the Great, Catherine II, and Westernization; and the 19th century: autocracy, culture, the abolition of serfdom, industrialization, the revolutionary movement, foreign policy, World War I and the collapse of tsarism; the revolution of 1917. Three credits.

228 History of Maritime Provinces: Pre-Confederation

This survey course examines the political, social, cultural and economic development of the Maritime Provinces from the 16th century to the 1860s. It will explore such topics as relations between Europeans and First Nations; the clash of empires; the Acadian Expulsion; the impact of immigrant cultures; the Age of Sail; and federation with Canada. Credit will be granted for only one of HIST 228 and HIST 209. Three credits.

229 History of Maritime Provinces: Post-Confederation

This survey lecture course is designed to examine the political, social, cultural and economic development of the Maritime Provinces from the 1860s to the 1960s. It will examine such topics as the federation with Canada; industrialization and deindustrialization; labour unrest; social reform; the world wars; the impact of modernity and state intervention; out-migration; and the historical experiences of African-Maritimers, Mi'kmaq, Acadians, and Maritime women. Credit will be granted for only one of HIST 229 and HIST 209. Three credits.

231 Martyrs, Monks & Marauders: Piety & Violence in Early Medieval Europe (300- 1050 CE)

The history of the Early Middle Ages has been much debated in recent years. Did Rome fall as Germanic warlords poured over its borders or were the Germanic migrations peaceful? Did Vikings only seek to pillage and destroy or to trade goods and share knowledge? What were the social, political and military roles of early Christian martyrs and monks? This course will answer such questions, while providing an overview of the history of Europe between 300 and 1050 CE. Credit will be granted for only one of HIST 231 or HIST 230. Three credits.

232 Surviving Chivalry & the Four Horsemen: Europe's High & Late Middle Ages (1050-1521 CE)

In 1050, Europe embarked on a long period of economic, intellectual and cultural growth. This was the time of the Crusades, chivalry and scholasticism. Beginning in 1300, however, Europe faced new crises characterized by some as the horsemen of the Apocalypse: famine, plague, war and death. Yet out of this disastrous period of history, new intellectual and artistic growth occurred, leading to the Renaissance. This course traces the history of medieval Europe through the highs and lows discussed above. Credit will be granted for only one of HIST 232 or HIST 230. Three credits.

233 French Imperialism

This course examines the history of French Imperialism during the 19th and 20th centuries in the Maghreb, Africa, Asia, and the Pacific. It explores various themes associated with colonial politics, society, economy, and culture, including the historiography of French imperialism, the construction and maintenance of the colonial governing system, the gendered nature of colonial discourse and practice, the social impact of religious customs in various locations within the empire, racial hierarchies and concomitant administrative repression, colonial representations in metropolitan French culture, and nationalist movements and revolts before and during the era of decolonization. Prerequisite: Six credits from HIST 100, 101, 102, 110, 111, 112, 113, or 115 or permission of the instructor. Three credits.

235 Introduction to South Asian History

The Indian sub-continent has been a crossroads of people and cultures throughout human history and its diasporas provide working communities, successful business models, rich history and beautiful culture from yoga to Freddy Mercury. South Asia is of central geopolitical, economic and cultural importance in the modern period. This course begins with the arrival of the Mughals in the 16th century and ends with decolonization and partition in 1947. Three credits.

242 The United States Before 1865

Survey of the US from colonial times to the Civil War, with emphasis on aboriginal beginnings and civilizations; colonization; the rise of slavery and racism in British North America; the place of the colonies in the British Empire; the War of Independence; territorial expansion; the beginning of industrialization and its effects on the Jeffersonian notions of republicanism; the "problem" of slavery and growing sectionalism; and the road to Civil War and disunion. Three credits.

244 The United States After 1865

Topics emphasized are the Civil War as a black freedom movement; the federal government's brief and grudging commitment to black citizenship during Reconstruction; the abandonment of Reconstruction and the imposition of segregation in the late 19th century; industrialization and age of fabulous robber barons and desperate immigrants; the Depression and the coming of the New Deal; the civil rights movement and Vietnam and its sequels. Three credits.

247 Crusades and Their Cultures

This class explores history of the medieval religious wars that are now known as the crusades. Although often treated collectively, these wars differed greatly in character, from penitential crusades to the holy land to disciplinary crusades against the Cathars and Hussites, to the economic war of aggression that was the Fourth Crusade. Organized as a brief chronological survey of the crusades from 1096 to 1430. This course will also examine various themes in recent crusade historiography. 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 labour; 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 History of Colonial Latin America

Surveys Spanish and Portuguese America, 15th to the 19th centuries. Themes include the indigenous, African and Iberian heritages of Latin America; the clash of civilizations and conquest in the Americas; the interaction of diverse cultures and the creation of new societies; the social, economic and cultural evolution of colonial Latin America; the age of piracy and challenges to the Spanish and Portuguese empires; the rise of hierarchies and inequalities based on gender, sexuality, ethnicity and class; and the struggle for independence. Three credits.

256 History of Modern Latin America

Introduces the political, social, economic and cultural history of Latin America from independence to the present. Themes include the struggles for independence; the creation of new nations and cultures in the 19th century; the abolition of slavery; the struggles of indigenous peoples to preserve their culture; modernization in the late 19th century; the evolution of social classes and ideas about ethnicity, gender, and sexuality; economic dependency and neocolonialism; nationalism and revolution; foreign intervention in Latin America; and the contemporary impact of democratization and globalization. Three credits.

257 Canada and the "Global South": Connections and Disconnections in the 20th Century

This course examines economic, political, military, and cultural ties between Canada and the Global South during the 20th century. The course explores how Canada's relationships with the Global South was shaped by its own colonial history and then examines different aspects of governmental, organizational, and person-to-person relations. Topics will include: policies on immigration and refugees, business investments, concerns related to human rights, and international aid. Three credits.

261 Europe in the 19th Century

A survey of the European "long" 19th century from the French Revolution until the Great War. The course covers a variety of political, economic, social, cultural, and intellectual themes, including: Revolutionary/Napoleonic France, the Industrial Revolution, the age of ideologies (liberalism, conservatism, nationalism, socialism), bourgeois and working class society and culture, Italian/German unification, the evolution of gender roles, the rise of consumerism/material culture, scientific/technological/intellectual trends, the "new" Imperialism, and the origins of the Great War. Three credits.

262 Europe in the 20th-Century
A survey of the European "short" 20th century from the Great War to the collapse of the USSR. The course covers a variety of political, economic, social, cultural, and intellectual themes, including: the Great War/Russian Revolution, European society and culture during the "roaring 1920s", the Great Depression, interwar dictatorships (Fascist Italy, Nazi Germany, Stalin's Russia), World War II/the Holocaust, the Cold War, Decolonization, post-1945 economic prosperity and social change, intellectual/cultural trends and protest during the 1960s, and the fall of the Soviet Union. Credit will be granted for only one of HIST 262 or HIST 260. Three credits.

282 Cool Britannia: Four Nations & One State
This course surveys the political, social and economic history of Great Britain from the Acts of Union until the present. Over this period Britain shifted from an agrarian society ruled by aristocratic landowners to an industrialized nation comprised of distinct but complicated classes with competing interests. It also became an imperial power with possessions circling the globe. By the mid-20th century empire ended formally but this past still reshapes the social and political climate of Britain. Three credits.

283 Making Britain Great
Britain was the world's first modern superpower. From the late 18th century it dominated the world. This course will examine both the measurable of imperial domination, but also the intangibles; Britons themselves came to believe that they exemplified national characteristics that denoted imperial rulers. What led to that mindset, and how was it viewed by subject populations. Regional studies enable us to understand relationships between the metropole and the settlers, administrators and people of British colonies. Three credits.

297 Selected Topics
The topic for 2017-2018 is Canada and the Monarchy. This course will explore the history of Canada's constitutional monarchy from the earliest days of European settlement. From Francois 1er and Henry VII, to The Queen and Will & Kate, the people who have inhabited this land from the past five centuries have had a deep and complicated relationship with a long succession of monarchs, both French and British, and now Canadian. We will explore the many ways in which Monarchs and their representatives have shaped Canada, going well beyond the constitution to explore the role of the monarchy in patronizing and encouraging the arts, culture, and national unity; we will also discuss the relevance of the institution, and the people who embody it, for Canadians in the 21st century. Three credits.

299 Selected Topics
The topic for 2017-2018 is World War II: Causes and Battles. Students will study the political, economic, cultural, and social origins as well as the course of the Second World War – the largest and most deadly conflict in human history. Three credits.

300 A Cultural and Intellectual History of Canada
From long houses to skyscrapers, from oral legends to action comics, from petroglyphs to abstract paintings, Canada's architects, writers and painters have shaped and reflected Canada's cultural and intellectual development. This survey course, covering the period from pre-Contact to 1967, demonstrates how literature, art and architecture offer multi-dimensional and fresh perspectives on Canadian history. Cross-listed as ART 300. Six credits.

303 Working People and Capitalism in Early Canada
This course considers the emergence and reconstitution of a working class in Canada between1800-1910. The course examines three spheres of working-class life: the conditions that gave rise to permanent wage-labour in industry; the changing nature of the working-class household, and; the social and cultural dimensions of working-class communities and the challenges posed by moral reformers and mass commercial culture. The course attempts to determine the extent of working-class identity that has emerged in Canada and how it has changed. Credit will be granted for only one of HIST 303 or HIST 309. Three credits.

304 Working People and Capitalism in Modern Canada
A continuation of HIST 303, this course considers the emergence and reconstitution of a working class in Canada from 1910-2010. The course attempts to determine the extent of working-class identity that has emerged in Canada and how it has changed into the contemporary era of the 21st century. Credit will be granted for only one of HIST 304 or HIST 309. Three 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, labour, and popular culture. Three credits.

317 Canadian Women's and Gender History: From Colony to Nation
This course introduces students to major themes in the field of Canadian women's and gender history. Covering the period from the late 16th century to the late 19th century, the course examines the historical development of women's roles, experiences, identities and gender relations. Particular attention is given in this course to the impact of colonialism, and the intersection of gender, race, economic/class status, and Indigenous/non-Indigenous status in shaping women's work, family roles, sexuality, political engagement and activism. Credit will be granted for only one of HIST 317 or HIST 308. Cross-listed as WMGS 317. Three credits.

318 Canadian Women's & Gender History: Modernity
This course introduces students to major themes in the field of Canadian women's and gender history. Covering the period from the late 19th century to the late 20th century, the course examines the historical development of women's roles, experiences, identities and gender relations. Particular attention is given to the intersection of gender, race, economic/class status, and Indigenous/non-Indigenous status in shaping women's work, family roles, sexuality, political engagement and activism. Credit will be granted for only one of HIST 318 or HIST 308. Cross-listed as WMGS 318. Three credits.

319 Myth and Memory in Canadian History
What is told? How is it told? Why is it told? And, who is telling the story? By examining a variety of events, hero figures, communities, regions and time periods, students will look critically at how Canadians have used myth and memory to create their pasts and to construct group identities and national narratives. 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.

322 Canadian Immigration, Race & Ethnicity to 1896
This course traces the history of Canadian immigration, settlement, ethnicity, race relations, and multiculturalism to 1896. It demonstrates the central contribution of immigrants to the formation of Canada while also introducing important debates about immigration policy, refugees, minority rights, equality of opportunity, racism, ethnic identity, the commemoration of ethnic pasts, the creation of transnational communities, concepts of citizenship, and the policy of multiculturalism. Credit will be granted for only one of HIST 322 or HIST 310. Three credits.

325 Eastern Europe, 1848-1995
This course covers the Ottoman, Austro-Hungarian, Russian, and German empires of the long 19th century; World War I, the interwar 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; and the dismantlement of Yugoslavia and Czechoslovakia. Six credits.

326 History of Cuba from Independence to the Revolution
This course examines Cuban history from the early 19th century to the present. This includes the late stage of Spanish colonialism and the slave economy based on sugar, coffee and tobacco; the struggle for abolition and national independence; the Spanish-American War of 1898 and U.S. domination in the 20th century; the 1933 revolution and armed struggle against the Batista dictatorship; Fidel Castro, Che Guevara and the socialist experiment; the Cold War and Cuba's role in Latin America; and Cuban society in a post-Soviet world. The course will also address Afro-Cuban culture, gender and sexuality, and human rights. Prerequisite: HIST 255 or 256 recommended. Three credits.

332 The Medieval Body
This class explores late medieval conceptions of the physical body, which were always essential to identity in the Middle Ages. Medieval discussions of the practice of reading, clothing and fashion and even spiritual union with God, often involved debates and metaphors based upon the physical body. Through an exploration of primary and secondary texts along with seminar discussions, the class will explore the interconnectedness of late medieval ideas of corporeality, identity, spirituality and sexuality. Cross-listed as WMGS 333. Three credits.

333 The Individual in Medieval Society
Common scholarly discourse posits that individualism developed in the wake of the "civilizing process" of the early modern period and the 18th-century Enlightenment. Yet many medieval scholars decry this chronology, citing examples of medieval people who seem to satisfy the requirements for modern individualism and exploring medieval theories of identity that permit the development of something like modern individualism. This course will explore and take part in this intense debate both by

reading the scholarly literature on the subject and by reading primary sources that describe the experiences of medieval people. Credit will be granted for only one of HIST 333 or HIST 330. Three credits.

334 Society and Ritual in the High Middle Ages

Like people living in the modern West, medieval individuals marked significant rites of passage such as birth, marriage and death with rituals. In the medieval West, these rituals usually revolved around the Catholic Church. This class will explore the major rites of passage through which medieval peasants, townspeople and nobles alike marked their lives, exploring not only the meaning and purpose of the rituals, but the rich social lives of those individuals participating in them. Credit will be granted for only one of HIST 334 or HIST 330. Three credits.

337 History of Modern Mexico

This course examines the history of modern Mexico from independence to the present. This includes the independence war of 1810-1821; civil war, rebellion, and banditry in the 19th century; indigenous peoples' struggles to preserve their culture in the 19th and 20th centuries; foreign intervention and Mexican relations with North America and Europe. Special attention is paid to the Mexican Revolution of 1910. The course follows developments in the post-revolutionary era to explore popular culture, gender and sexuality, modernization, democracy and social justice. Prerequisite: HIST 255 or 256 recommended. 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. Survey of African American history includes slavery; white-black relations; abolition; the Civil War and Reconstruction; Jim Crow segregation; the Harlem Renaissance and the great migration; black nationalism; the long civil-rights movement; and conservative backlash to affirmative action. 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. Explores the nature of protest and its effectiveness in the era. Topics include radical Reconstruction; populism; women' suffrage; radical pacifism; industrial unionism; and the unemployed people's councils of the Great Depression. Three credits.

347 American Social Movements, 1945-Present

Examines the triumphs and failures of social movements from New Deal era to the present. Students will study the tactics and achievements, as well as failures, of grassroots social movements. The nature of civil disobedience in the second half of the 20th century will be studied through topical case studies. Movements covered include industrial unionism; anti-nuclear activism; McCarthyism; black civil rights; gay rights; and the conservative backlash of groups such as Moral Majority. Three credits.

351 United States Immigration and Ethnicity

Explores the history of immigration to the U.S. and the role of ethnicity in American social, cultural and political life. Topics include immigrant images of status and success; migration and return migration; American acculturation; bi-nationalism, and the persistence of ethnic identities; anti-immigrant xenophobia; and the construction of immigrants' "white" identities. Three credits.

353 Explorers and Exploration before Columbus

Though tradition credits Christopher Columbus with beginning an age of exploration, Columbus himself knew that he drew from a long tradition of explorers who came before him including peoples as diverse as Islamic scholars, Venetian merchants, Basque fishermen and Viking sailors. He knew about the multicultural cities of Jerusalem and Karakorum where individuals from all over Eurasia traded knowledge and goods. This course will examine the science, technology, literature and history of exploration that so inspired Columbus and the extent to which the different cultures of the premodern world were interconnected by trade, pilgrimage and exploration. Three credits.

355 The Sixties: A Social History

Examines the tumultuous 1960s and situates the Canadian experience within the international context - primarily the USA and Western Europe. Connections will be made between civil rights movements, anti-colonialism, environmentalism, "second-wave" feminism, Québécois nationalism, the New Left, student activism, and the importance of the counter-culture. The course will retain a historical perspective but draw upon interdisciplinary scholarship. The decade's lasting significance and its current invocation as a cultural and political artefact will be debated. Three credits.

356 History of Early Israel

Cross-listed as RELS 351; see RELS 351. Three credits.

360 Gender & Sexuality in Modern European Empires

This course examines major issues in the history of gender and sexuality in the new imperialism. Themes to be covered include imperial families, race, gender and professionalism, gender, sexuality and citizenship, and women in imperialism and global movements. Cross-listed as WMGS 370. Three credits.

362 European Fascism

This course will explore the history of fascism from its late 19th-century origins to the present day. Topics include the political and doctrinal origins of fascism and its crystallization during the Great War; the fascistization of politics, economy and society in Mussolini's Italy and Hitler's Germany; anti-Semitism; the appeal of fascism in interwar Europe; and its subsequent apogee during World War II and the Holocaust. Prerequisites: 6 credits of HIST 100, 101, 102, 110, 111, 112, 113, 115 or permission of the instructor. Three credits.

363 Reformation Europe

Topics include the Catholic Church on the eve of the Reformation, Renaissance humanism, Martin Luther and Lutheranism, John Calvin and Calvinism, Henry VIII and Anglicanism, radical reformers, women and witchcraft, the Jesuits and the Council of Trent, the wars of religion within the Holy Roman Empire and France, Philip II and his Grand Project, the rivalry between Spain and England, the Thirty Years' War (1618-48), and the historiography of the Reformation. Three credits.

364 The Holocaust

Explores the history and legacy of the destruction of the Jews in Europe during World War II. Topics include historical anti-Semitism; the rise of the Nazis; euthanasia; the ghettos; the death camps; the actions of collaborationist regimes; Jewish and non-Jewish resistance; the role of ordinary Germans; the establishment of Israel; and post-war trials and controversies. Three credits.

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. Credit will be granted for only one of HIST 372 or HIST 370. Three credits.

374 The People's Republic of China

Covers the revolution of 1911, World War I, and warlordism; Chiang Kaishek and the Guomindang; Mao Zedong and the Chinese Communist Party; World War II (1937-45); the civil war (1945-1949); the profound economic, social, cultural, and political transformations of the country under Mao Zedong and Deng Xiaoping; China as a world power today. Credit will be granted for only one of HIST 374 or HIST 370. Three credits.

383 Victorian Britain: Quakers, Queens, and Queers

The long 19th century was understood by Britons as 'theirs'. An industrial powerhouse, grown on science and credit, Britain gained access to raw materials worldwide. Politically dynamic, British democracy went global, and a stable monarchy allowed for seemingly unparalleled Progress. Not everyone experienced this change in the same manner, however. It will explore how broad historical trends - changing ideals of citizenship and democracy, industrial growth, urbanism and the challenge of racial diversity - were experienced in this era. Three credits.

384 20th-Century Britain: State and Identity

Britain began the 20th century as a leading world power. By the end of the century this was much less the case, but the country had become one of the foremost welfare states. During this transformation, Britain faced important challenges in the two world wars, the ending of empire, and the Irish Question. This course deals with these and other challenges and the responses to them. Three credits.

386 Tudor England

Beginning with the foundation of Tudor rule in 1485, the course will explore the Reformation under Henry VIII and the statecraft of Elizabeth I. Students will explore the social, economic, political, religious, and diplomatic developments during this period. Three credits.

390 World War I

This course is an in-depth study of the major aspects-social, cultural, economic, political, and military-of the Great War. Six credits.

398 Themes in the History of Sexuality

A comparative study of the history of sexuality during the modern period from the eighteenth through the twentieth centuries. Following a broadly chronological and thematic approach to a diverse history of sexualities, the course will explore

in particular the changing meanings of and interconnections between sexuality, race, class and gender. Topics will include: indigenous sexual cultures; sexuality and colonialism; inter-racial sexual relationships; the 'invention of heterosexuality'; moral panics, prostitution, the regulation of sexual desire; and sexual subcultures. Cross-listed as WMGS 398. Three credits.

401 Topics in Canadian History

This course examines important themes and interpretations in Canadian history. The specific focus of the seminar will reflect the interests of the professor and the students. Three credits.

445 Historiography

This is a seminar in theories and methods in the discipline of history, with corresponding readings in the related historiography. Combining a survey of historiography across time with writing and research projects, the seminar will introduce students to key concepts, methods, and interpretations of history. The subject matter will emphasize 20th-century historiography, including the impact that diverse approaches have had on the discipline today. This course is mandatory for all advanced major and honours students. Majors may take this course with the permission of the instructor. Three credits.

Seminar Notes:

a) Seminars are open to advanced major and honours students. Majors may take a seminar with the permission of the instructor. Advanced majors complete a senior research paper in the context of a seminar.
b) Seminars will be offered on a rotating basis depending on faculty resources and student demand, normally two per year; the department will make every effort to ensure that honours students will have the opportunity to study their chosen field of history at an advanced level.

455 Topics in Medieval European History

This course examines important themes and interpretations in Medieval European history. The specific focus of the seminar will reflect the interests of the professor and the students. Three credits.

457 Topics in American History

This course examines important themes and interpretations in American history. The specific focus of the seminar will reflect the interests of the professor and the students. Three credits.

461 Topics in Modern European History

Explores major developments in 19th- and 20th-century European history. The specific focus of the seminar will reflect the interests of the professor and the students. Three credits.

462 Topics in Latin American History

This course examines important themes and interpretations in Latin American history. The specific focus of the seminar will reflect the interests of the professor and the students. Three credits.

490 Thesis

Each student works under the supervision of a chosen professor who guides the selection of a thesis topic, use of resources, methodological component, quality of analysis and execution, and literary calibre of the final version. Required for all honours students. Six credits.

499 Directed Study

Under the direction of a faculty member, students may pursue an individual program of study in an area of history not available in the course offerings. For eligibility, see section 3.5. Three or six credits.

9.22 HUMAN KINETICS

J. Boucher, Ph.D.
A. Casey, Ph.D.
D. Kane, Ph.D.
A. Kolen, Ph.D.
M. Lam, Ph.D.
S. Mackenzie, Ph.D.
O. Nzindukiyimana, MA
M. Palmer, Ph.D.
R. Rasmussen, Ph.D.
D. Vossen, Ph.D.
C. Weaving, Ph.D.

The Department of Human Kinetics offers a four-year arts or science degree program in the study of human movement from a humanities, social sciences or scientific perspective. Both the BA and the B.Sc. in Human Kinetics offer the student further specialization with the option to major in either the kinesiology program or the pre-education program, both of which are nationally accredited.

Selection of the major comes at the end of the second year of study and is dependent upon the student's interests and desired educational outcome. Each of the two majors consists of required and elective HKIN courses, arts/science electives, an approved and open elective, and selected activity courses.

Depending on course selection, the major in kinesiology prepares students for a variety of professional and educational options, including: professional programs such as medicine, dentistry, physiotherapy, athletic therapy, occupational therapy; and massage therapy; direct employment in the health and fitness sector; or graduate programs in sport psychology, sociology, philosophy, history, exercise physiology, biomechanics, child growth and development, health promotion and adapted physical activity/adapted physical education. Students interested in teaching in the school system should select the pre-education major. The students in pre-education must choose six additional activities, three activities in each of the third and fourth years. Of the twelve required activities students must take outdoor camp, gymnastics (2 credits), one dance, one team sport, and one exercise and health related fitness activity. Students who plan careers in other teaching-related professions should also choose the major in pre-education. Students may consult the department chair to ensure course selection for acceptance to B.Ed. programs. See chapter 6 for admission requirements to the StFX B.Ed. program.

Candidates must follow the degree regulations in chapters 4 and 7.
For entrance requirements, see chapter 1.

The normal sequence for the two human kinetics degrees and six majors are as follows: Subject A and Science A are minors in the respective programs below.

BA in Human Kinetics with Major in Kinesiology

Year 1	HKIN 105, 115; 6 credits each of arts subjects A and B; 12 credits arts/science electives
Year 2	HKIN 105 or 205, 215, 236; 3 credits HKIN elective; BIOL 251, 252; 6 credits each of arts subjects A and B
Year 3	HKIN 365, 376, 396 or 397; 6 credits HKIN electives; STAT 101; 12 credits arts subject A
Year 4	6 credits from HKIN 250, 254, 331, 332, 352, 353, 354, 443, 455; 12 credits HKIN electives; 6 credits each approved electives and open electives

BA in Human Kinetics with Major in Pre-Education

Year 1	HKIN 105, 115; 6 credits each of arts subjects A and B; 12 credits arts/science electives
Year 2	HKIN 105 or 205, 215, 236; 3 credits HKIN elective; BIOL 251, 252; 6 credits each of arts subjects A and B
Year 3	HKIN 365, 376, 385, and 3 activities; 6 credits HKIN electives; 12 credits arts subject A
Year 4	HKIN 425, 426, and 3 activities; 6 credits from HKIN 250, 254, 331, 332, 352, 353, 354, 443, 455; 3 credits HKIN elective; 6 credits each approved elective and open elective

Candidates must follow the degree regulations in section 4.1.

B.Sc. in Human Kinetics with Major in Kinesiology

Year 1	HKIN 105, 115; 6 credits each of science subjects A and B; 6 credits each of arts subject X and Y
Year 2	HKIN 105 or 205, 215, 236; 3 credits HKIN elective; BIOL 251, 252; 6 credits science A; 6 credits Arts X
Year 3	HKIN 365, 376, 396 or 397; 6 credits HKIN electives; STAT 101; 12 credits science A*
Year 4	6 credits from HKIN 250, 254, 331, 332, 352, 353, 354, 443, 455; 12 credits HKIN electives; 6 credits each approved electives and open electives

*If science A is biology then science B is normally chemistry.

B.Sc. in Human Kinetics with Major in Pre-Education

Year 1	HKIN 105, 115; 6 credits each of science subjects A and B; 6 credits each of arts subject X and Y
Year 2	HKIN 105 or 205, 215, 236; 3 credits HKIN elective; BIOL 251, 252; 6 credits science A; 6 credits Arts X
Year 3	HKIN 365, 376, 385, and 3 activities; 6 credits HKIN electives; 12 credits science A*
Year 4	HKIN 425, 426, and 3 activities; 6 credits from HKIN 250, 254, 331, 332, 352, 353, 354, 443, 455; 3 credits HKIN elective; 6 credits each approved elective and open elective

*If science A is biology then science B is normally chemistry.

B.Sc. in Human Kinetics with Major in Kinesiology and Minor in Health Sciences

Year 1	HKIN 105, 115; CHEM 100; BIOL 111, 112; ENGL 100; 6 credits of PSYC 100 or SOCI 101/102

Year 2 HKIN 105 or 205, 215, 236; 3 credits HKIN elective; BIOL 251, 252; CHEM 220; 6 credits Arts X (ENGL, PSYC, or SOCI)
Year 3 HKIN 365, 376 and 396 or 397; 9 credits HKIN electives; CHEM 255; PHYS 101/102; STAT 101
Year 4 6 credits from HKIN 250, 254, 331, 332, 352, 353, 354, 443, 455; 9 credits HKIN electives; one of BIOL 201, 204 or 315; 6 credits each approved elective and open elective

B.Sc. in Human Kinetics with Major in Kinesiology and Minor in Nutrition

Year 1 HKIN 105, 115; BIOL 111, 112; CHEM 100; 6 credits each of Arts subject X and Y
Year 2 HKIN 105 or 205, 215, 236; 3 credits HKIN elective; BIOL 251, 252; 6 credits Arts X; 6 credits approved elective
Year 3 HKIN 365, 376, 396 or 397; 3 credits HKIN elective; CHEM 225, 255; HNU 145, 261, 262; STAT 101;
Year 4 6 credits from HKIN 250, 254, 331, 332, 352, 353, 354, 443, 455; BIOL 215; HNU 363; 12 credits from HNU 146, 161, 235, 351, 365, 366, 405, 425, 467 and 475; 6 credits open elective

For completion of B.Sc. in HNU in 5th year, see required course pattern below.

B.Sc. in Human Nutrition degree in 5th year for B.Sc. Human Kinetics students with minor in Human Nutrition

B.Sc. Human Kinetics students majoring in Kinesiology and minoring in Human Nutrition who wish to pursue a degree in Human Nutrition in 5th year should follow the course pattern below. The required six credits of open electives in the HKIN degree must be BSAD 102 and HNU 146. In third year, students must take HNU 146, moving the 3 credit HKIN elective to fourth year. In fourth year, students must take HNU 161, 235, 351 and 365 as their required 12 credits of HNU electives. HKIN 396 or 397 fulfills the requirement of HNU 385 in the HNU degree program.

Recommended Course Pattern

Years 1-4 HNU 145, 146, 161, 235, 261, 262, 351, 363, 365; BSAD 102
Year 5 HNU 352, 353, 405, 475, 15 credits HNU electives; 3 credits open electives

Students must submit re-entry application.

BA & B.Sc. in Human Kinetics with Honours

See chapters 4 and 7 for requirements. In addition to the major requirements, students in the kinesiology program must complete HKIN 491 (seminar) and 493 (thesis). Students in the pre-education program must complete STAT 101; one of 391, 396 or 397; 491; and 493 (thesis). The additional 3 credits (thesis) replace an HKIN elective in the major pattern.

A student who fails to satisfy one or more requirements for the honours degree may be eligible for the advanced major degree.

B.Sc. Joint Advanced Major in Human Kinetics & Biology

See chapter 7 for requirements.

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 & 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.

Students enroled in the pre-education major must choose six additional activities, three activities in each of the third and fourth years. Of the twelve required activities students must take outdoor camp, gymnastics (2 credits), one dance, one team sport, and one exercise and health related fitness activity.

Fall Adapted physical activities, basketball I, contemporary dance, fitness, football I, golf, low organized games, rugby I, rugby II, soccer, squash, track and field, and weight training
Winter Badminton I, basketball I, basketball II, fitness, world dance, hockey I, gymnastics I, handball, indoor soccer, low organized games, movement education, racquetball, soccer II, social dance, squash, volleyball I, and volleyball II
Spring Badminton I, fitness, world dance, football II, golf, gymnastics I, hockey II, indoor soccer, racquetball, squash, volleyball I, volleyball II, weight training, and yoga
TBA Fall (Sep 15-17; Sep 22-24) and winter outdoor education camps (additional fees will be applied), gymnastics II, mountain biking (Sep 8-9, Sep 15-17)

115 Principles of Human Movement

This course provides an introduction to human kinetics. The functional and psychosocial aspects of human movement form the core components of this course. Topics include physical activity, physical fitness, sedentary behaviours, healthier eating, stress, chronic diseases, mental health, body composition and issues with weight management, and behaviour change. Three credits and lab.

215 Introduction to Motor Control and Learning

This course offers students a comprehensive overview of the major areas of study in motor control and learning. Students will first learn how the nervous system perceives and integrates sensory input and generates motor output through the musculoskeletal system (motor control). They will then be introduced to the processes involved in motor skill acquisition (motor learning) and the factors that enhance or inhibit an individual's capability to perform a motor skill. Three credits and lab.

222 Care and Prevention of Athletic Injuries

A study of the injuries that occur in popular physical activities, including the nature, course, prevention, and non-medical management of these injuries. Prerequisite: BIOL 251. Three credits and lab.

226 Focus on Personal Health

This multidisciplinary and personally reflective course addresses personal health of university students. Topics include healthier living and behaviour change, mental health, dietary intake, physical activity, drugs, the environment and sexuality. 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 counselling, teaching, coaching, and fitness instruction. Three credits and lab.

241 Introduction to Sport Management

This course provides an overview of the business of sport and fitness. Students will understand how the basic principles of business management, including marketing, sport promotion, public relations and finance are integrated into sport and fitness. Three credits.

250 Introduction to Sport in the Humanities

Emphasizing critical thinking as the methodology of philosophers, this course serves as an introduction to the philosophical and sociocultural dimensions of human movement. Topics include the construction and deconstruction of logical arguments, the conceptualization of sport, and the relationship between sport and values. Ideas to be explored include the nature and significance of sport, the relationship between sport, identity, health, beauty, excellence and knowledge, and ethical issues of equality and sporting conduct. Three credits.

254 Introduction to Ethics in Sport

The course will introduce students to some of the main themes, topics and issues in ethics of sport. The course is designed to provide an introduction and critical analysis of classic and contemporary readings in the ethics of sport. We will explore issues such as fair play and cheating, doping, equity and gender, the use of animals in sport, violence, and disability. Three credits.

262 Performance-Enhancing Substances

The drive to succeed in sports and exercise has led to the use of nutritional, chemical, pharmacologic, and physiologic means of performance enhancement. The purpose of this course is to provide an overview of substances used in sports and exercise, addressing their mechanisms of action, safety and efficacy in consultation with valid scientific literature. Prerequisite: HKIN 115. Three credits.

271 Selected Topics

Three credits.

316 Perceptual-Motor Deficits in Special Populations

This course offers students the opportunity to contrast their understanding of the processes underlying movement in a healthy population with various special populations (e.g., cerebral palsy, Parkinson's disease). More specifically, students will be encouraged to recognize that the motor system does not work alone. Instead, perceptual processes interact with motor processes (i.e., perceptual-motor behaviour) in the production of motor output (action). Service learning is required for this course. Prerequisite: HKIN 215. Three credits.

321 Advanced Care & Prevention of Athletic Injuries

An in-depth study of the assessment and management of athletic injuries. Students will learn proper assessment protocol, advanced assessment techniques, and specialized taping techniques. Prerequisites: BIOL 251; HKIN 222. Three credits.

331 The Sociology of Sport

This course provides students with a social interpretation of sport in Canadian

society. Emphasis will be given to the culture of sport and its relationship to other societal institutions such as the mass media and education. Attention will be given to the connection between sports and socialization and to the role of sports in cultural values such as fitness, entertainment, and consumerism. Three credits.

332 Gender in Sport and Physical Activity
Explores the role of women and men in sport/physical activity/recreation from a historical, philosophical, and sociocultural perspective. This course covers embodiment, objectification, equity, racism, homophobia, politics of difference and identity. Cross-listed as WMGS 332. Three credits.

334 Coach Leadership and Planning
This is a planning course designed for entry-level coaches. Completion of this course gives an accreditation in the National Certification Coaching Program, Competition A and B. Lab experience will be offered in the varsity program. Three credits and lab.

352 Historical Foundations of Sport and Physical Activity in Canada
An overview of the history of sport in Canada. Using the forces of class, ethnicity, race and gender as an interpretative foundation, the class will examine the context and social conditions under which Canadians have created, refined, participated in and interpreted sports. Three credits.

353 Sport Philosophy
This course serves as a philosophical inquiry into the nature, meaning and significance of sport. The advancement of a philosophy of existential practice represents a central feature of the curriculum. Topics include the relationships between sport, game and play, mind, body and spirit, as well as game-playing and the ideal of existence. Ideas to be explored include sporting intelligence, sport as spiritual practice, being-in-the-zone, and the game of life. Three credits.

354 Morality and Sport
This course serves as a philosophical inquiry into the sport experience as a trail of the moral self. The advancement of a philosophy of moral practice represents a central feature of the curriculum. Topics include rules, values, competition, conflict, ethics, and the pursuit of excellence. Ideas to be explored include cheating, sportspersonship, fairness, the strategic foul, sporting violence, performance-enhancement, and the status of sport within humanity's moral ideal. Three credits.

365 Exercise Physiology
An introduction to the responses and adaptations (acute and chronic) of the musculoskeletal, cardiovascular, and respiratory systems to disruptions to homeostasis due to muscular activity. Covered also: basic neurological and endocrine aspects, training for sport, and exercise in extreme environments. Prerequisites: BIOL 251, 252. Three credits and lab.

371 Selected Topics in Human Kinetics
The topic for 2017-2018 is Mixed Research Methods. This course introduces students to mixed methods research design and its application in human kinetics. The course will help answer such questions as why, what, how and where we are mixing. Students will learn the concepts and skills necessary to use a mixed methods research, and design a research project. Specifically, the course is designed to provide an understanding of the purpose of research, the research process, research design, research approaches, data collection, and research proposal development and report. Students also will have the opportunity understand ethical issues related to the conduct of research. Three credits.

376 Biomechanics
Students will be exposed to the concepts of kinetic analysis of motion through the application of Newton's Laws. The course will provide the mechanical information necessary to enable the student to objectively criticize any human movement which the student may one day have to teach, coach or ergonomically evaluate. Three credits and lab.

385 Adapted Physical Education
Future educators learn about the philosophy of inclusion, advocacy as well as the nature of various physical, intellectual, developmental and emotional disabilities. Students are asked to translate this theoretical knowledge into practice by forming collaborative partnerships, designing individualized education plans and participating in the Motor Activities at X applied laboratory alongside people with disabilities. Credit will be granted for only one of HKIN 385 or HKIN 395. Three credits and practicum.

392 Exercise Metabolism
An in-depth study of the metabolic adaptations (acute and chronic) by the human body to disruptions to homeostasis caused by muscular activity. Covered also: effects of exercise on metabolic disease, metabolic bases of training monitoring and prescription, and cellular physiology of exercise. Prerequisites: BIOL 251, 252; HKIN 365. Three credits and lab.

395 Disability, Health and Community Rehabilitation
Students learn to design, deliver, and evaluate community-based physical activity initiatives for marginalized populations. This course focuses on implementation science, evidence-based practice and clinical research design in the field of disability, health and rehabilitation. This includes the study of autism spectrum disorder, Down syndrome, intellectual disability, orthopedic impairment, aging, mental health, deafness, as well as other unique medical concerns and diagnoses. Credit will be granted for only one of HKIN 395 or HKIN 385. Three credits and 20 hours total practical experience.

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; required for third-year honours students. Three credits.

397 Qualitative Research Methods
An overview of qualitative research methodologies, including the major theories, methods, and approaches (i.e. case studies, content analysis, interviews, observations, and ethnography). Problem identification, literature review analysis, research design, theoretical and empirical analysis, and dissemination are the major focus of this course. Practical experience will be included. Restricted to third- and fourth-year students; required for third-year honours students. Three credits.

398 Selected Topics
The topic for 2017-2018 is Aging and Exercise. Aging is an innate feature of human biology, and among the greatest known risk factors for most human diseases. Regular physical activity, on the other hand, is associated with a reduction in many disease risk factors, and can help maintain or improve the functional capacity and quality of life in older adults. This course involves an in-depth study of the changes in exercise capacity and sport performance that occur beyond adulthood, with a focus on changes attributable to aging itself compared to aspects linked to an increasingly sedentary lifestyle. The role of physical activity and exercise training in minimizing aging-related losses in performance capacity and physical conditioning is also addressed through practical, experiential learning with older adults. Prerequisites: BIOL 251, 252, HKIN 365 is recommended. Three credits.

416 Advanced Motor Control
This course offers students a more in-depth consideration of information processing within motor control. Students will also be introduced to the two visual systems hypothesis, the mirror neuron system, internal models, and neuroplasticity. Students will gain an understanding of the current state of knowledge about motor control and its development, and an appreciation of several contemporary issues in motor control. Prerequisite: HKIN 215. Three credits and lab.

425 Child Growth and Development
This course covers the physical growth, maturation, and development in children and adolescents. The implications of changes in structure and function as they relate to physical education, physical activity, and physical fitness will be discussed. Prerequisites: BIOL 251, 252; HKIN 365. Three credits and lab. Service learning option.

426 Health Education
This course introduces the basic concepts and topics associated with the physical, and mental health with specific application to children and adolescents. Emphasis will be placed upon the application of these concepts to the promotion of health in the school system and more broadly in the community. Service learning option. Three credits.

433 Introduction to Policy for Health-Interdisciplinary Strategies
Designed to create an interdisciplinary learning experience for nursing, human nutrition and human kinetics students, this seminar course is an introduction to public policy change for health. The objective is to develop a basic understanding of healthy public policy development, analysis, and change from interdisciplinary and social justice perspectives. Issues such as healthy public policy, social determinants of health, social justice, health equity, and interdisciplinary/cross-sectoral and citizen lead policy action are explored. This course would be beneficial for students pursuing professions in the health care field. Credit will be granted for only one of HKIN 433 and NURS 495, HKIN 495, HNU 495. Cross-listed as NURS 433 and HNU 433. Three credits.

435 Psychology of Motivation and Performance in Sports
An analysis of motivational factors and psychological principles with reference to sport and motor performance, and a study of motivational techniques. Three credits.

441 Organization and Administration of Physical Activity and Sport
An analysis of research relating to the theory and practice of administration in physical activities and sports with emphasis on planning, organizing, staffing, directing, co-ordinating, and controlling. Three credits.

443 Modern Olympic Games
This advanced seminar course is designed to provide opportunities for students to critically examine the Olympic Games and the modern Olympic Movement. Students will examine the Olympic Games from a sociocultural interdisciplinary approach. Restricted to third and fourth year HKIN students. Three credits. This course will only be offered in the second term of Olympic years (Winter 2018, Winter 2020, and Winter 2022).

445 Instructional Strategies in Human Kinetics
Students become familiar with both traditional and alternative teaching and learning strategies before applying this theoretical knowledge while teaching physical activity classes to diverse learners. Students will practise various instructional strategies in order to foster different levels of decision making and accommodate for individual differences and learning objectives. Three credits and practical experience.

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 periodized 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.

447 Rehabilitation Techniques for Sports Medicine
This course will provide human kinetic students with an interest in further pursuing therapy as a career, a comprehensive guide to designing, implementing and supervising rehabilitation programs for sports related injuries. Prerequisite: HKIN 321. Three credits.

455 Games, Life & Leadership
This course serves as a philosophical inquiry into the human condition. The conceptualization of life as a game we are playing represents a central feature of the curriculum. Topics include the relationship between work, game and play, the ideal of existence, the meaning of life, and servant leadership. Ideas to be explored include the goals, means and obstacles of life as well as the quest for existential meaning and significance. Prerequisite: HKIN 353 or HKIN 354. Three credits.

456 Fitness Assessment and Exercise
This course is designed to provide the theory and practical experience in a wide range of exercise science-related laboratory techniques and exercise training principles. Components of this course are intended to provide students with the necessary background information to pursue personal trainer certification through the Canadian Society of Exercise Physiology. Prerequisites: HKIN 365; BIOL 251, 252. 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. Restricted to fourth-year students. Prerequisites: BIOL 251, 252; HKIN 365. Three credits.

471 Selected Topics in Human Kinetics I
The topic for 2017-2018 is Sport and Identity. This course is designed to explore the intersection of sport with social identities, with a focus is put on the identities of those who are involved in sport (as participants, spectators/viewers, and organizing/governing bodies). Using seminars, lectures, readings, and films, students will explore how various social identities have and are shaped through the sporting institution, reinforced by sport participants, and that, in turn, affect the shape of sport itself. Through the lens of sport, students will examine the historical foundation of categories of identity with a focus on race, ethnicity, social class, gender, sexuality, and nation, as well as the various ways they intersect to produce unique sporting experiences. Three credits.

473 Selected Topics in Human Kinetics II
The topic for 2017-2018 is Exercise Physiology in Extreme Environments. Human physiology is marvellously adaptable, and we are able to function in variable environments and under a wide variety of stresses. Generally, a greater stress provokes a greater adaptation. Exercise is one such stress, but coupling exercise with extreme temperatures, pressures or energy balances can lead to monumental success and catastrophic failure. It is the goal of this course to explore how the human physiological system operates in non-normal conditions, and explore the limits of human exercise potential. Emphasis will be placed on interpretation and critical analysis of current, primary research that related to environmental exercise physiology and mitigation strategies. Three credits.

474 Applied Biomechanics
This course will further the student's understanding of the qualitative approach to biomechanics, and provide the necessary skills for conducting a quantitative biomechanical analysis of human motion. Students will be introduced to several techniques used in biomechanics research. Emphasis will be placed on the collection and analysis of biomechanical data. Concepts will be illustrated with examples taken from areas of sport and exercise with a special focus on the practical applications to golf. Prerequisites: HKIN 376; MATH 106 or 126 and PHYS 102 recommended. Three credits and lab.

491 Senior Seminar
In addition to classroom sessions and round table discussions, the senior seminar may include lectures by visitors, faculty, and staff on aspects of human movement. Required for all honours students. The theses of honours students form the basis of their presentations. No formal credit is given for the senior seminar; however, satisfactory attendance and seminar presentation is a requirement for the BA or B.Sc. in Human Kinetics with Honours. No credit.

493 Honours Thesis
Honours students must submit a thesis under the direction of a faculty member. The thesis will document the student's research work. Students must meet all department deadlines and requirements, and submit an acceptable thesis to earn a BA or a B.Sc. in Human Kinetics with Honours. Restricted to honours students. Prerequisites: HKIN 301/STAT 101; 396 or 397. Three credits.

495 Selected Topics
The topic for 2017-2018 is Designing Interventions for Population Health. The design of effective community-based intervention strategies targeting positive health outcomes across diverse populations is becoming increasing important for individuals, rehabilitation professionals and policy makers. This advanced course focuses on the creative process behind the development and implementation of evidence-based health promotion interventions for individuals and populations at-risk for primary and secondary health concerns. Subject matter will encourage students to overcome barriers related to health equity and apply their knowledge in new and tangible ways through community-based practice. Possible topics include preventative medicine, pediatric/geriatric rehabilitation, vulnerable population health, comorbidities, rural health, accessibility, sustainability, community-engaged scholarship as well as knowledge transfer and results. This course will include applied experience with evidence-based practice (20hrs) through the Motor Activities with X (MAX) community-based lab. Three credits and lab.

499 Directed Study
Designed for students with high academic standing who wish to pursue a directed, in-depth study in a selected topic. See section 3.5. Three credits.

9.23 HUMAN NUTRITION
M. English, B.Sc.
A. Fox, Ph.D., P.Dt
L. Gougeon, Ph.D.
J. Jamieson, Ph.D.
L.A. Wadsworth, Ph.D., P.Dt., FDC

Part Time
F. Haley, M.H.S.A., P.Dt., C.H.E.
P. Mazier, Ph.D.
L. Reid, M.Ed., P.Dt., C.D.E.
P. St. James, M.Sc., P.Dt.

The B.Sc. in Human Nutrition is a professional program which integrates foundational knowledge meeting core requirements in foods, nutrition and related areas with studies in biology, chemistry, statistics, business, humanities and social sciences. Collectively, the course requirements are designed to provide graduates with the expertise needed by food and nutrition professionals today. Depending upon the choice of emphasis, the Human Nutrition program prepares graduates for careers in areas such as dietetics, education, health promotion, industry, food service management, and research and development in food and nutrition. Graduates may qualify for entrance to a Dietitians of Canada approved dietetic internship program (comprehensive practicum), or for graduate study in human nutrition, food science, and other professional programs such as pharmacy, medicine, business administration and education.

In second year, students who meet the requisite average may apply for either the advanced major program, which has a seminar requirement; or the honours program, which has a seminar requirement, a three-credit thesis course and 21 credits HNU electives (minimum 12 credits at the 400-level). Students' selection of seminar topics will reflect the research areas of faculty members.

With the proper selection of courses (including HNU 325, 352, 353, 356 and HNU 456 as HNU electives), students may meet the requirements for admission to a Dietitians of Canada approved graduate dietetic internship program or the Dietitians of Canada approved StFX Integrated Dietetic Internship Program. The StFX Integrated Dietetic Internship enables students to attain Dietitians of Canada competencies for entry-level dietetic practice. Students must normally declare their intent to apply for the StFX Dietetic Internship Program by the end of their second year at the normal time of application for the advanced major or honours program. This Integrated Internship consists of three 14-week practicum courses. Each practicum includes one or more supervised placements in dietetic practice settings. At the earliest, students may commence the first practicum after completing the third-year sequence of HNU courses. Students must have an overall average of 70 in the HNU program, a minimum overall average of 75 in HNU courses, and satisfy the criteria for acceptance. Formal submission of the full application must be made by January 31.

With an appropriate selection of courses, students may also meet the requirements for admission to a B.Ed. program. In order to qualify for a family studies teachable, students must present a core of at least 18 credits of human nutrition. These courses must be augmented by a combination of courses in other subject areas which address the field of family dynamics. In general, these courses may be drawn from biology, psychology, sociology, and business administration. Students interested in pursuing this particular option should consult with the Faculty of Education. In addition, courses such as HNU 353 and HNU 461 can be used towards a biology teachable either as a minor or as a second major. (See section 6.1.4 for more details).

See chapter 7 for information on degree patterns, applications for advanced major and honours, advancement and graduation requirements.

All third- and fourth-year human nutrition students are required to attend the presentations in HNU 491. The attendance of first- and second-year students is recommended.

Bachelor of Science in Human Nutrition

The normal sequence for the program is shown below.

Year 1	BIOL 111; CHEM 100; HNU 145, 161, 235; 6 credits humanities electives; 6 credits social sciences electives
Year 2	BIOL 215, 251, 252; BSAD 102; CHEM 225, 255; HNU 146, 261, 262; STAT 101
Year 3	HNU 351, 365, 385; 12 credits HNU electives; 6 credits humanities or social sciences electives for a pair; 3 credits open electives
Year 4	HNU 405, 475; 12 credits HNU electives; 12 credits open electives

B.Sc. in Human Nutrition with Advanced Major

The normal sequence for the advanced major program is identical to that of the program above, with the addition of HNU 491 in year 4.

B.Sc. in Human Nutrition with Honours

The normal sequence for the honours program is shown below.

Year 1	BIOL 111; CHEM 100; HNU 145, 161, 235; 6 credits humanities electives; 6 credits social science electives
Year 2	BIOL 215, 251, 252; BSAD 102; CHEM 225, 255; HNU 146, 261, 262; STAT 101
Year 3	HNU 351, 365, 385; 12 credits HNU electives; 6 credits humanities or social sciences electives for a pair; 3 credits open electives
Year 4	HNU 405, 475, 491, 493; 15 credits HNU electives (minimum 12 credits at the 400-level); 6 credits open electives

Application to the StFX Integrated Dietetic Internship and the Dietitian of Canada's Graduate Internship

Students planning to apply for dietetic internship programs follow the normal course sequence for B.Sc. in Human Nutrition with the exception of years 3 and 4.

Year 3	HNU 325, 351, 352, 356, 365, 385; 6 credits humanities or social sciences for a pair; 3 credits open electives
Year 4	HNU 353, 405, 456, 475; 9 credits HNU electives; 12 credits open electives

Co-operative Education Program in Human Nutrition

The Co-operative Education Program offered in conjunction with the Gerald Schwartz School of Business offers another learning alternative for HNU students. These are normally five-year programs leading to degrees with co-operative education designations. The program assists students who are interested in career options that complement the human nutrition degree. A combination of professional development training and practical work experience enables students to develop the knowledge and skills they have acquired in their degree program. The co-op education graduate with a HNU degree will be prepared to work within the food industry (product development and evaluation, food safety, etc.), public relations, consumer affairs, or marketing with various employers including not-for-profits, industry or government and other related areas of practice. See section 9.12 for further information.

B.Sc. in Human Nutrition degree in 5th year for B.Sc. Human Kinetics students with minor in Human Nutrition

B.Sc. Human Kinetics students majoring in kinesiology and minoring in human nutrition who wish to pursue a degree in human nutrition in 5th year should follow the course pattern below. The required six credits of open electives in the HKIN degree must be BSAD 102 and HNU 146. In third year, students must take HNU 146, moving the 3 credit HKIN elective to fourth year. In fourth year, students must take HNU 161, 235, 351 and 365 as their required 12 credits of HNU electives. HKIN 396 or 397 fulfills the requirement of HNU 385 in the HNU degree program. Students must submit re-entry application.

Recommended Course Pattern

Years 1-4	HNU 145, 146, 161, 235, 261, 262, 351, 363, 365; BSAD 102
Year 5	HNU 405, 475, 21 credits HNU electives; 3 credits open electives

Students who select HNU 325, 352, 353, 356 and 456 as HNU electives while completing year 5 are eligible to apply for the StFX Integrated and Graduate Dietetic Internship programs.

B.Sc. in Human Kinetics degree in 5th year for B.Sc. Human Nutrition students

B.Sc. Human Nutrition students who wish to pursue a degree in human kinetics should complete the normal sequence of their HNU program and be sure to include BIOL 112 and 3 credits of HKIN electives. In year 5 students will complete a HKIN degree with the following courses: HKIN 215, 236, 250, 254, 365, 376, 6 credits of HKIN 105, and 2 courses from HKIN 331, 332, 352, 353, 354, 443, 455; 6 credits of HKIN electives,. Students must submit re-entry application.

135 Introductory Nutrition for Nursing

This course introduces nursing students to the fundamentals of nutrition with emphasis on macronutrients and micronutrients along with their functions, dietary sources, digestion and metabolism, and how and why nutrient needs change throughout stages of the life cycle. Discussion will include use of current dietary recommendations and guidelines for health and wellbeing by health professionals. The importance of inter-professional practice for nutritional care will also be introduced. Credit will be granted for only one of HNU 135, 215, 253, 261. Three credits.

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 various types of 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

This course provides an introduction to scientific concepts as a basis for understanding foods as a complex chemical system. It includes a study of the properties of food components affected by chemical and physical changes; the foundations of various food preservation methods; food safety; and the principles of food evaluation by sensory and objective methods. Students will complete the TRAINCAN Management Level Food Safety Training. Three credits and lab.

161 Food and Nutrition for Health in Society

This foundation course examines the evolving role of food and nutrition in society from historical and contemporary perspectives. Students will be introduced to local, national and global influences on societal food consumption trends and factors influencing individual food choice and behaviour. The impact of socioeconomic factors and culture, such as customs and worldviews, on food selection and dietary practices will be explored. Credit will be granted for only one of HNU 161 or HNU 185. Three credits.

215 Nutrition for a Healthy Lifestyle

This course introduces nutritional science and the role that nutrition, exercise, and other lifestyle behaviours play in the promotion of health. Topics include the

function of food and its role in maintaining and promoting health, vegetarianism, food safety, body weight, and healthy eating. Credit will be granted for only one of HNU 215 or HNU 261. Not acceptable for credit in the HNU, HKIN (minor in HNU) or NURS programs. Three credits.

235 Communications

This course introduces the principles of human communications and the development of interpersonal, group, and public communication skills. It enables students to understand (through lectures) and apply (through labs) the written and oral communication process and the factors that influence its effectiveness in a wide range of dietetic practice and health promotion settings. Credit will be granted for only one of HNU 235 or HNU 335. Prerequisite: HNU 161. Three credits and a lab.

261 Introduction to Nutrition

Students will learn the fundamentals of the science of nutrition with emphasis on energy nutrients, minerals and vitamins, their functions, their dietary sources, and how the body handles them from ingestion through excretion. Topics include the recommended nutrient intakes and guidelines for healthy eating. Credit will be granted for only one of HNU 261 or HNU 215. Prerequisites: CHEM 100 or 150; BIOL 111 or 105. Three credits.

262 Principles of Nutrition in Human Metabolism

Building on HNU 261, students will apply the principles of nutrition with an emphasis on nutrient functions and metabolism while drawing on foundational knowledge in biology and chemistry. Topics will include: energy metabolism, weight management, and nutritional concerns across the life course and the emerging role of nutritional genomics. Credit will be granted for only one of HNU 262 or HNU 263. Prerequisites: HNU 261; BIOL 251, 252, completed or concurrent; CHEM 225, 255, completed or concurrent. Three credits.

325 Professional Practices in Dietetics

This course provides an introduction to the foundational knowledge and competencies integral to the profession of dietetics. It will examine the role of the nutritional care process as applied across the spectrum of diverse dietetic practice settings. Students will be engaged in simulation exercises involving critical thinking and evidence-based decision making. Key topics will include reflective practice, ethical practice, nutrition education and counselling, cultural competence and interprofessional practice. Credit will be granted for only one of HNU 325 and HUN 398 offered in 2016-2017. Prerequisites: HNU 235, 262 and 351 concurrently. Three credits.

351 Nutritional Assessment

This course addresses the principles and methods in nutritional assessment of individuals and populations with consideration for variations in health status and stages across the life course. It provides the theoretical foundation for nutritional assessment in the nutritional care process. Methods for dietary, anthropometric, biochemical, ecological and clinical evaluations of individuals and populations are examined, along with the development and appropriate use of the Dietary Reference Intakes. Prerequisites: HNU 262; CHEM 225, 255; BIOL 251, 252. Three credits and a lab.

352 Nutrition in Chronic Disease Prevention & Management

Nutrition care principles will be applied while examining the epidemiology, pathophysiology, and role of nutrition in the prevention and management of chronic diseases including, but not limited to, weight management, cardiovascular disease, diabetes mellitus, and renal disease. The course will explore and provide applications of the nutrition care process including medical terminology and documentation of care. Prerequisite: HNU 351, completed or concurrent. Credit will be granted for only one of HNU 352 or HNU 361. Prerequisite: HNU 351. Three credits.

353 Nutritional Management of Human Disease

This course examines the etiology, pathophysiology, and nutritional management (including conventional feeding, enteral and parenteral nutrition therapy) of specific clinical conditions related to the upper and lower gastrointestinal tract, the liver and pancreas, the pulmonary system, neoplastic disease, HIV/AIDS, and metabolic stress. The nutrition care process and drug-nutrient interactions permeate the content. Case studies provide an opportunity to apply the knowledge from lectures. Credit will be granted for only one of HNU 353 or HNU 362. Prerequisite: HNU 352, completed or concurrent. Three credits.

356 Introduction to Food Service & Quantity Food Production

In this introduction to food service systems and quantity food production, principles, policies, and practices applied to the successful operation of quantity food service systems are examined. Topics include menu management; quantity recipe standardization and costing; procurement, production and service of quality food; marketing; quantity food service equipment; and environmental management. Prerequisites: HNU 262, 146. Three credits and a lab.

363 Sport Nutrition

This course involves identification of the specific nutrient needs of the individuals engaged in vigorous physical activity, with a focus on the role of nutrients in energy metabolism as a means to support exercise performance. Students will demonstrate an understanding of energy, nutrient and fluid guidelines appropriate for power, endurance and team sports and apply the guidelines to food choices for training and competition. Skills in evaluating scientific evidence in the field of sports nutrition will be emphasized. Prerequisite: HNU 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 behaviour; processes available for planning, delivering, and evaluating community nutrition services; and necessary tools, skills and techniques for practice. Prerequisite: HNU 262. Three credits.

366 Maternal and Child Nutrition

This class takes a life-course approach to examine the role of nutrition within the context of normal human development from pre-conception to adolescence. Emphasis is placed on nutritional concerns and recommended dietary practices during pregnancy, lactation, and early childhood. The management of common childhood and adolescent dietary concerns is also discussed. Prerequisites: BIOL 252; HNU 262 or 263. Three credits.

385 Research Methods

This course will provide an introduction to research techniques used to study human nutrition questions. Students will develop a research plan with focus on the research question through review of existing literature, and articulating methods that will best answer the research question. Different approaches to research will be covered including qualitative, quantitative and mixed methodologies, noting that each approach consists of multiple methods that can be used. Prerequisites: STAT 101 or 201 and credit for all courses in the first two years of the human nutrition program sequence. Three credits.

398 Selected Topics

Three credits.

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 students in all faculties. Three credits.

425 Nutrition in Aging

A study of nutrition related to older adults. Emphasis is on nutritional concerns and dietary recommendations for the older adult population. Topics covered include healthy aging, attitudes and demographic trends around aging in Canada. Dietary management of common concerns in older adulthood (including dementia and osteoporosis) is discussed. Prerequisites: HNU 262 or 263; BIOL 251, 252. Three credits.

428 Functional Foods

This course will introduce students to the growing global food industry trend of functional foods and their relationship to health and disease. Bioactive components of functional foods, their sources, chemistry, efficacy, safety, and metabolism will be examined. Evaluation of aspects of marketing and the regulatory environment related to health claims for functional foods will focus on consumer perceptions and roles of health professionals. Credit will be granted for only one of HNU 428 or HNU 496 (completed in 2015, 2016). Prerequisites: HNU 145, HNU 146; HNU 262 completed or concurrent. Three credits with lab.

433 Introduction to Policy for Health-Interdisciplinary Strategies

Designed to create an interdisciplinary learning experience for nursing, human nutrition and human kinetics students, this seminar course is an introduction to public policy change for health. The objective is to develop a basic understanding of healthy public policy development, analysis, and change from interdisciplinary and social justice perspectives. Issues such as healthy public policy, social determinants of health, social justice, health equity, and interdisciplinary/cross-sectoral and citizen lead policy action are explored. This course would be beneficial for students pursuing professions in the health care field. Credit will be granted for only one of HKIN 433 and NURS 495, HKIN 495, HNU 495. Cross-listed as NURS 433 and HKIN 433. Three credits. Three credits.

445 Advanced Food Study
Building on the fundamental principles of food chemistry and food safety the emphasis of this course will be on food product development from concept to market place. In addition, students will apply principles of research methods and will use objective and subjective food evaluation methods in controlled laboratory experiments. Prerequisites: HNU 145, 146; CHEM 225, 255; STAT 101(201). Three credits and a lab.

456 Food Service System Management
Building on material introduced in HNU 356, this course focuses on managerial decision-making relevant to human resource and financial management of food service systems in a range of settings in the public and private sectors. Using a problem-based learning approach, students working in small groups on problems assigned by the professor will examine current issues in food service practice and learn to apply quality assurance mechanisms in their management. Prerequisites: HNU 356; BSAD 102. Three credits.

461 Nutrition in Metabolic Disease
This course examines the etiology and pathophysiology of nutrition-related metabolic diseases, with a focus on the evidence leading to clinical practice guidelines for these disorders. Topics will include rheumatic disorders, autoimmune diseases and select inherited metabolic diseases in nutrient metabolism including phenylketonuria, hemochromatosis, glycogen storage diseases, and thalassemias. Skills in evaluating clinical research evidence will be emphasized. Prerequisite: HNU 353, completed or concurrent. 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 262; BIOL 251, 252; CHEM 225, 255. Three credits.

471 Entrepreneurial Practices for Nutrition Professionals
This course examines the relationship of a variety of factors for entrepreneurial behaviours both in the workplace and in new venture development. Creativity and self-awareness are emphasized while basic business skills and planning processes are developed as the necessary tools for bringing goals and ideas to reality. Guest speakers from nutrition-related enterprises and business support agencies will augment the learning and creative experience in the classroom. Prerequisites: BSAD 102; HNU 261, 262, completed or concurrent. Restricted to HNU students. Three credits.

475 Effecting Change
This capstone course focuses on the study of change, particularly as it relates to promoting and supporting healthy eating and nutritional health among individuals and population groups. Students will learn about various theories of change and their applications to effecting individual and social change for the purpose of enhancing nutritional aspects of health and wellness. Prerequisites: HNU 365 and credit for all courses in first two years of the HNU program sequence. Three credits.

481 Internship Practicum I
A 14-week practicum course which prepares students to meet the entrance requirements for Dietitians of Canada. Students work with preceptors in institutional and community settings to develop their assessment and communication skills; learn to plan; learn the basis of nutritional care; and choose a practice-based research project. Prerequisites: HNU 145, 146, 161, 235, 325, 351, 352, 353, 356, 365, 385; an overall average of 70 in the HNU program and an overall average of 75 in HNU courses; acceptance into the IDI program. Six credits. Graded as pass/fail.

482 Internship Practicum II
A second 14-week (minimum) practicum course which provides opportunities to integrate theory and practice in a preceptor-supported 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 HNU program with an overall average of 70 and an overall average of 75 in HNU courses; HNU 353, 456, 481. Six credits. Graded as pass/fail.

483 Internship Practicum III
The final 14-week (minimum) practice course of the IDI program provides an opportunity to integrate theory with practice in a preceptor-supported 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. Graded as pass/fail.

486 Qualitative Research Methods
An introduction to qualitative research methodologies, highlighting the major approaches, theories and methods. Emphasis is on preparation of research questions, sampling procedures, data collection techniques, and data analysis. Limited enrolment. Prerequisite: HNU 385.Three credits. Not offered 2017-2018.

491 Advanced Major and Honours Seminar
A critical study of current research in areas related to human nutrition. No credit.

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. HNU honours degree. Three credits.

495 Selected Topics
The topic for 2017-2018 is Advanced Research Methods. This course will provide an advanced understanding of approaches, theories and methods used in human nutrition research. Building on topics covered I HNU 385, students will apply, analyze and critique qualitative, quantitative, and mixed methods approaches. Formative research approaches using mixed methodologies will highlight nutrition program development and evaluation. Knowledge mobilization and dissemination of research findings is highlighted. Credit will be granted for only one of HNU 495, 497 (offered in 2016-2017) and HNU 486. Prerequisite: HNU 385. Three credits.

497 Selected Topics
The topic for 2017-2018 is Nutrition in Global Health. This course focuses on nutrition in tackling global disease burdens and achieving global health equity. It explores concepts, actors, governance, interventions, Sustainable Development Goals, nutrition transition, and other nutrition-related risk factors. The knowledge-translation framework, together with assets-based and integrated “bottom-up” approaches to community development, permeates the course and gives basis to the major course assignment. Various local and international guest speakers broaden the understanding of lecture topics. Prerequisites: HNU 351, 365. Three credits.

499 Directed Study
Designed for students with high academic standing who wish to explore, in depth, some aspect of human nutrition not available in other course offerings. See section 3.5. Three credits.

9.24 INTERDISCIPLINARY STUDIES

Service Learning Program
M. Oxner, Ph.D., Co-ordinator
M. Turner, MA, Program Manager

Service learning is an innovative way to integrate experiential learning, academic study, and community service. It is an opportunity for students to apply what they learn in the classroom in a community setting. The goal is to blend service and learning so that the service reinforces, improves, and strengthens learning. Service learning is possible in many disciplines and in a broad range of courses and service experiences. Third and fourth year students can also enrol in the independent course, IDS 306.

Course-Based Service Learning
Course-based service learning is a form of experiential education where students work with community members on community problems and where academically rigorous assignments are designed to explicitly link those experiences to specific learning outcomes. Students complete a service experience in the local community, the nature and length of which will be determined by the professor. Students prepare a final report for the professor which determines the grade on this assignment. For information on courses offering a service learning component, see www.mystfx.ca/academic/servicelearning and click on information for students.

Immersion Service Learning
Students become involved in intense service experiences in communities, including inner-city settings and international locations. Guided by faculty, students will explore community issues and dynamics in a development context. Students can participate in immersion as a personal (non-credit) experience or may integrate an immersion experience into their chosen course of study through optional course credit with the approval of the professor or through IDS 305. Students must apply for admission. The deadline is mid-October; for more information, contact servicelearning@stfx.ca

305 Immersion Service Learning
Designed for third- and fourth-year students who have applied and been accepted to participate in the immersion service learning program during the winter term. Under faculty supervision, students will develop their information retrieval, term

paper writing, and presentation skills through completion of an academic paper connected with the immersion service learning experience. Students must apply to the service learning office for admission to the immersion program (mid-October deadline) as well as registering on-line for this course. Oral presentation component. This course can be used as part of DEVS requirement or as an elective in any program. Three credits.

306 Service Learning: Theory and Practice

At the core of this course, students will spend 30 hours working with a community organization. In seminar style classes, students will explore theories about service learning, experiential learning, volunteerism, social justice and community-university relationships. Students will reflect on, question and discuss how these ideas relate to their service learning experiences. The course encourages a deep understanding of education and community engagement. This course can be used as part of DEVS requirement or as an elective in any program. Three credits.

398 Selected Topics: Service Learning in Ghana

Six credits.

9.25 MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE

J. Apaloo, Ph.D.
K. De'Bell, Ph.D.
S. Finbow, Ph.D.
I. Gondra, Ph.D.
J. Levman, Ph.D.
M. Lin, Ph.D.
R. Lukeman, Ph.D.
W. MacCaull, Ph.D.
T. Taylor, Ph.D.
M. van Bommel, Ph.D.
R. van den Hoogen, Ph.D.
P. Wang, Ph.D.
L. Yang, Ph.D.
P. Zhou, Ph.D.

Professor Emeritus
S. Aalto, Ph.D.
J. Quinn, Ph.D.

The scope of mathematics ranges from computer science to philosophy, from physics to finance, from biology to art. Mathematics emphasizes precision and logic, but also creativity, elegance and problem-solving. While mathematics is a subject with a rich history (some techniques, results and open problems go back thousands of years), it is also a subject that is very much alive, with new theories and applications continually arising. While mathematical and statistical models and methods form the basis of scientific and engineering fields, they are also used in such diverse areas as modern communication, cryptography, animation, banking and finance, policy development and consultation, public health care, and architecture. With an undergraduate degree in mathematics and statistics, students often go on to pursue an education degree to become a teacher or a graduate degree to become a researcher. However, the career options are much broader. Students with a strong background in mathematics and statistics develop problem-solving skills, logical thinking, and creativity, which serve them well for any career path.

Statistics is the science of data and is a useful tool for research in virtually all areas of human endeavor. It involves collecting, organizing, summarizing, and analyzing information in order to draw conclusions. The practice of statistics takes into account the notion of uncertainty (variability), which leads to error when estimating something, predicting something, or making a decision. It is important, therefore, to measure and, if possible, control error. The framework for quantifying uncertainty is probability, which is a mathematical theory used to describe and analyze chance events. For this reason, probability is the foundation of statistics. Statistics is used in many different fields: medical studies, economics, GNP growth, forecasting, stock market valuations, futures pricing, sociological studies, social policy, marketing research, opinion polls, political polls, industrial processes, environmental processes, and ecological processes and issues.

The Department of Mathematics, Statistics, and Computer Science offers degrees in both the Faculty of Science and the Faculty of Arts. Because of the diversity of programs offered, students are encouraged to consider their academic goals at an early stage in their studies, and to consult the chair and other members of the department regarding course selection.

Degrees Offered

BA with Major, Advanced Major, and Honours
BA Honours with subsidiary subject programs are available with the departments of economics and English
B.Sc. with Major, Advanced Major, and Honours
B.Sc. with Advanced Major in Mathematics with Business Administration
Joint B.Sc. programs are available with the departments of biology, chemistry, earth sciences and physics
Students interested in these programs should consult with the relevant department chairs. General requirements for these degrees are in chapters 4 and 7.

Concentrations

It is evident from descriptions of computer science given in section 9.11 and mathematics and statistics given in this section, that there are diverse career paths possible within the mathematical sciences. Concentrations for students planning to pursue a career in secondary teaching, statistics, or actuarial science are given in this section. Information on concentrations for other possible career paths within the mathematical sciences are available from the department chair.

Department Regulations

The following pairs or groups are considered so similar that a student may not receive credit for both: MATH 106 or 126(111) and 121; MATH 107 or 127(112) and 122; STAT 101(201), 231 and 224; MATH 221 and 367; MATH 222 and 267; MATH 223 and 253; CSCI 125, 161, ENGR 144 and INFO 155(255); CSCI 162, and INFO 156(256); CSCI 275 and INFO 275; CSCI 465 and INFO 465; CSCI 483 and INFO 355.

MATH 101,102(100), 105 cannot be counted in the major, advanced major or honours credits.

The senior seminar, MATH 491, is required for all major, advanced major and honours candidates. In addition, MATH 493 is required for all honours students.

COMPUTER SCIENCE

Requirements for the BA and B.Sc. in computer science are listed in section 9.11.

MATHEMATICS

All students who want to pursue a major, advanced major, or honours degree in mathematics must take the following core courses: MATH 106 or 126(111), 107 or 127(112), 253, 267, 277, 491; STAT 231 (101(201)) if the degree is in the Faculty of Arts); CSCI 161 is required for advanced major and honours students but cannot be counted in the advanced major or honours credits, (CSCI 162 is also recommended).

Major in Mathematics

Additional courses in MATH, STAT, and CSCI to meet the requirements of the Faculty.

BA Major in Mathematics

Typical Pattern:

Year 1	MATH 106 or 126(111), 107 or 127(112); CSCI 161
Year 2	MATH 253, 267, 277; STAT 101(201)
Year 3	9 credits from MATH/STAT
Year 4	MATH 491; 6 credits from MATH/STAT

B.Sc. Major in Mathematics

Typical Pattern:

Year 1	MATH 106 or 126(111), 107 or 127(112); CSCI 161
Year 2	MATH 253, 267, 277; STAT 231
Year 3	9 credits from MATH/STAT
Year 4	MATH 491; 6 credits from MATH/STAT

BA or B.Sc. Major, Advanced Major or Honours in Mathematics (Actuarial Science Concentration)

Students wishing to pursue a concentration in actuarial science should follow the applicable major/advanced major/honours program in mathematics as listed, with 9 of the MATH/STAT credits being STAT 333, one of 435 or 331, and MATH 236. In addition, the following courses are required: ECON 101, 102; and BSAD 221, 241, 342, any of which may be used as approved electives for this concentration.

STAT 435 (or 331), MATH 236; ECON 101, 102; BSAD 241, 342 have been approved for Validation by Educational Experience (VEE) credits by the Society of Actuaries (SOA) for the period ending December 12, 2019. STAT 333 covers a large portion of the material on the first preliminary examination (Exam P–Probability) of the SOA. Students planning a career in actuarial science are strongly encouraged to complete two or more of the SOA preliminary exams by graduation date.

BA or B.Sc. Major in Mathematics (Pre-Education Concentration)

Students wishing to pursue the pre-education concentration should follow the applicable major in mathematics as listed above. In years 3 and 4, 15 credits of MATH/STAT must be chosen from MATH 254, 347, 371, 372, 387; STAT 333.

Second teachable may be chosen from any subject category identified in section 6.1.4. Candidates must follow the degree regulations in the sections 4.1 or 7.1.

BA or B.Sc. Major in Mathematics (Statistics Concentration)

Students wishing to pursue the statistics concentration should follow the applicable major in mathematics as listed above. In years 3 and 4, nine of the 15 credits of MATH/STAT must be STAT 311, 331, 333.

Advanced Major in Mathematics

In addition to core courses, MATH 254 and one of 354 or 366 are required. Additional courses must include nine credits of MATH or STAT courses at the 300 or 400 level, and an additional three credits (nine for B.Sc. students), which may be chosen from MATH/STAT; MATH 493 or STAT 493 is optional.

Typical Pattern:

Year 1	MATH 106 or 126(111), 107 or 127(112); CSCI 161, 162
Year 2	MATH 253, 254, 267, 277; STAT 231 or 101(201)
Year 3	MATH 354 or 366; additional MATH/STAT courses
Year 4	MATH 491; additional MATH/STAT courses

BA or B.Sc. Advanced Major in Mathematics (Statistics Concentration)

Students wishing to pursue the statistics concentration should follow the applicable advanced major in mathematics as listed above. In years 3 and 4, 12 credits of MATH/STAT must be STAT 311, 331, 333, 334.

B.Sc. Advanced Major in Mathematics and Business

In addition to the requirements for an advanced major in mathematics, students take CSCI 135(235), plus 36 credits in business and economics. Details of the program can be obtained from the department chair.

Honours in Mathematics

In addition to core courses, MATH 254, 354, 366, 367, 493 or STAT 493 for statistics concentration, CSCI 162 and one of MATH 454, 466, or STAT 435 are required. Additional courses must include at least twelve credits in MATH or STAT credits at the 300 or 400 level, with no fewer than three credits at the 400 level, plus 12 credits which may be chosen from MATH/STAT.

Typical Honours Pattern:

Year 1	MATH 106 or 126(111), 107 or 127(112); CSCI 161, 162
Year 2	MATH 253, 254, 267, 277, STAT 231 or 101(201)
Year 3	MATH 354, 366, 367; additional MATH/STAT courses
Year 4	MATH 454, 466 or STAT 435; MATH 491, 493 or STAT 491, 493 for statistics concentration; additional MATH/STAT courses

BA or B.Sc. Honours in Mathematics (Statistics Concentration)

Students wishing to pursue the statistics concentration should follow the applicable honours in mathematics as listed above. In years 3 and 4, 15 credits of MATH/STAT must be STAT 311, 331, 333, 334, 435; and STAT 493.

Co-operative Education Program in Mathematics

This optional academic program offers mathematics students the opportunity to gain 12 months of professional, paid work experience in a range of opportunities in industry, government and not-for-profit across Canada. Students can gain valuable technical and professional experience in areas including (but not limited to) modeling, analysis and design to reinforce classroom-based instruction. See section 9.12 for further information.

Minor in Mathematics

Students planning to complete a minor in mathematics should complete 6 credits of calculus, 3 credits of statistics, 3 credits of computer science, and 12 additional credits of MATH or STAT courses. Student completing a minor and who plan to pursue a career in secondary school teaching with mathematics as their second teachable are advised to select the remaining 12 credits of MATH or STAT from the following: MATH 101 (BA only), 102 (BA only), 105 (BA only), 253, 277, 347, 371, 372; STAT 311.

MATHEMATICS

101 Mathematical Concepts I: Sets, Logic, and Number Theory

This course surveys topics from diverse areas of mathematics, including problem solving, set theory, logic, historical numeration systems, and number theory. Students will solve problems using processes such as abstraction, pattern recognition, deduction and generalization. Credit will be granted for only one of MATH 101 or MATH 100. Acceptable for credit only in the Faculties of Arts and Business and the Departments of Human Kinetics, Human Nutrition and Nursing. Prerequisite: Grade 12 math or equivalent. Three credits.

102 Mathematical Concepts II: Graphs, Functions, Geometry, and Probability

The course surveys interesting and useful topics from diverse areas of mathematics, including problem solving, algebra, graphs and functions, geometry, counting methods, and probability. Students will solve problems using processes such as abstraction, pattern recognition, deduction and generalization. Credit will be granted for only one of MATH 102 or MATH 100. Acceptable for credit only in the Faculties of Arts and Business and the Departments of Human Kinetics, Human Nutrition and Nursing. Prerequisite: Grade 12 math or equivalent. Three credits.

105 Business Mathematics

This course will give an introduction to some of the quantitative methods used in the fields of business. A presentation of mathematics applicable to business, including functions, modelling, finance, regression, forecasting, simulation, and linear programming. Use of spreadsheets will be a fundamental part of this course. Acceptable for credit in all programs. May only be used as an open or an approved elective in mathematics or computer science programs. Credit will be granted for only one of MATH 105 and MATH 205. Three credits and one-hour lab.

106 Calculus I

An introduction to differential calculus of a single variable, with applications to 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. The format of MATH 106 has been structured to provide students with additional learning resources to support and foster a conducive learning environment. Credit will be granted for only one of MATH 106, ENGR 121 or MATH 126. Prerequisite: Grade 12 pre-calculus or equivalent. Six credits of calculus is required in the B.Sc. major, advanced major or honours program. Three credits and one-hour problem-session and one-hour lab.

107 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. The format of MATH 107 has been structured to provide students with additional learning resources to support and foster a conducive learning environment. Credit will be granted for only one of MATH 107, ENGR 122 or MATH 127. Prerequisite: MATH 106 or 111 or 126. Six credits of calculus is required in the B.Sc. major, advanced major or honours program. Three credits and one-hour problem-session and one-hour lab.

121 Calculus I for Engineers

This course examines the main idea of calculus of a single variable. It covers functions, limits, continuity; differentiation and integration of polynomial, exponential, logarithmic, and trigonometric functions; product, quotient, and chain rules; applications of differentiation to graphing; maximum-minimum problems, and related rate problems; definite and indefinite integrals, and the fundamental theorem of calculus. Credit will be granted for only one of MATH 121 or MATH 106 or 126(111). Cross-listed as ENGR 121. Prerequisite: grade 12 pre-calculus or equivalent. Three credits and one-hour lab and one-hour problem session.

122 Calculus II for Engineers

A continuation of ENGR 121, this course covers the applications of integration, including areas, volumes, moments, pressure, and work; techniques of integration; numerical integration; length of curves; surfaces of revolution; parametric equations; polar co-ordinates; sequences and series; and Taylor series. Credit will be granted for only one of MATH 122 or MATH 107 or 127(112). Cross-listed as ENGR 122. Prerequisite: MATH 121. Three credits and one-hour lab and one-hour problem session.

126 Calculus I

An introduction to differential calculus of a single variable, with applications to 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. Credit will be granted for only one of MATH 106, ENGR 121 or MATH 126. Prerequisite: Grade 12 pre-calculus or equivalent. Six credits of calculus is required in the B.Sc. major, advanced major or honours program. Three credits and a one-hour lab every other week.

127 Calculus II

An introduction to integral calculus for functions of one variable. Topics include definite and indefinite integrals; 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. Credit will be granted for only one of MATH 107, MATH 127

or ENGR 122. Prerequisite: MATH 106 or MATH 111 or MATH 126. Six credits of calculus is required in the B.Sc. major, advanced major or honours program. Three credits and a one-hour lab every other week.

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. Credit will be granted for only one of MATH 221 or MATH 367. Cross-listed as ENGR 221. Prerequisite: MATH 122. Three credits and two-hour 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. Credit will be granted for only one of MATH 222 or MATH 267. Cross-listed as ENGR 222. Prerequisite: MATH 122. Three credits and two-hour 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. Credit will be granted for only one of MATH 223 or MATH 253. Cross-listed as ENGR 123. Prerequisites: MATH 122. Three credits and two-hour problem session.

236 Data Modeling for Business
Evidence-based decision-making in business required the use of the mathematical models to analyze data and to help identify and assess possible answers to what-if questions. This course introduces the student to what should be considered when using mathematical models for business. Topics include model construction, analyzing and modeling data sets, optimization, risk analysis and model testing. Prerequisite: MATH 106 or 126(111) or 105. Three credits.

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. Credit will be granted for only one of MATH 253 or MATH 223. Prerequisite: MATH 101/102 or 107 or 127(112) or 122 or CSCI 162. Three credits.

254 Linear Algebra
An introduction to abstract vector spaces, including discussion of bases, dimension and homomorphisms of vector spaces; linear transformations, including invariant subspaces; matrix representations and diagonalization procedures. Prerequisite: MATH 253. Three credits.

267 Calculus III
Topics include the Taylor polynomial theorem; indeterminate forms and l'Hôpital's rule; improper integrals; infinite and power series and tests of convergence; parametric equations; partial differentiation; and selected concepts from multivariate differential calculus, and multiple integration. Credit will be granted for only one of MATH 267 or MATH 222. Prerequisite: MATH 107 or 127(112) or 122. Three credits.

277 Discrete Structures
An introduction to sets, binary relations and operations; induction and recursion; partially ordered sets; simple combinations; truth tables; Boolean algebras and elementary group theory, with applications to logic networks, trees and languages; binary coding theory and finite-state machines. Cross-listed as CSCI 277. Prerequisite: MATH 101/102 or 107 or 127(112) or 122 or CSCI 162. Three credits.

287 Natural Resource Modelling
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. Prerequisite: MATH 107 or 127(112). Three credits. Offered 2017-2018 and in alternate years.

335 Management Science
This course prepares students for careers as analysts and consultants in industries with a focus on enhancing business value through operations, logistics and supply chain management. A variety of successful implementations of management science/operations research tools in different application areas will be studied. Tools such as linear programming, project scheduling with uncertain activity times, various inventory models and simulation will be introduced and coupled with application in the fields of managing operations in manufacturing, long term financial planning and management of healthcare systems. Cross-listed as CSCI 335. Prerequisites: MATH 106/126 or MATH 105 or CSCI 161. Three credits.

347 Combinatorics
The course covers the principle of inclusion and exclusion; generating functions; recurrence relations; rings and modular arithmetic; finite state machines; group and coding theory; Pólya's method of enumeration; finite field and combinatorial design; graph theory. Prerequisite: MATH 277. Three credits. Not offered 2017-2018; next offered 2018-2019.

354 Modern Algebra I
This course introduces algebraic structures such as groups, rings and fields along with fundamental algebraic concepts such as symmetries, permutations, isomorphisms and homomorphisms. Applications from diverse areas may include coding theory, crystallography, circuits, logic, geometry and graph theory. Prerequisites: MATH 254, 277. Three credits.

361 Advanced Vector Calculus
Topics include vectors; vector differentiation including gradient, divergence, and curl; vector integration including the Gauss and Stokes theorems. Prerequisites: MATH 222 or 267 and 223 or 253. Three credits.

366 Real Analysis I
This course considers rigorous development of the real number system; numerical sequences and series; properties of continuous functions; metric spaces; sequences and series of functions. Prerequisites: MATH 254, 267 and 277. Three credits.

367 Differential Equations
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. Credit will be granted for only one of MATH 367 or MATH 221. Prerequisites: MATH 107 or 127(112). Three credits.

371 Modern Geometries
A brief survey of geometries including projective, affine, similarity, equiareal, Euclidean, and non-Euclidean. Emphasis is on the invariants of transformational geometry. Prerequisite: MATH 277. Three credits. Not offered 2017-2018; next offered 2018-2019.

372 Number Theory
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 2017-2018 and in alternate years.

384 Numerical Methods
This course covers methods used to solve mathematical problems on computer systems, including mathematical background and error analysis of solutions to non-linear equations; polynomial interpolations; integration and differentiation; quadrature methods; systems of equations and differential equations. Prerequisites: MATH 223 or 253; CSCI 161 or 125. Three credits. Offered 2017-2018 and in alternate years.

387 Mathematical Modelling
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 or 267, and MATH 223 or 253. Three credits. Not offered 2017-2018; next offered 2018-2019.

389 Financial Mathematics
Topics include stochastic models of financial markets; forward and futures contracts; European options and equivalent Martingale measures; hedging strategies and management of risk; term structure models and interest rate derivatives; and optimal stopping and American options. Ito's lemma and Girsanov's theorem to develop methods for pricing financial derivatives are examined. Pricing problems are considered in discrete (Binormal option price model) and continuous-time (Black-Scholes Merton price model). Credit will be granted for only one of MATH 389 or MATH 471 offered in 2012-2013. Prerequisites: MATH 106 or 126(111); STAT 101(201) or 231. Three credits. Offered 2017-2018 and in alternate years.

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. Not offered 2017-2018; next offered 2018-2019.

462 Complex Variables
Topics include complex numbers, elementary functions, series and integration, Laurent series, and residue theory. Prerequisites: MATH 221 or 367 and 222 or 361. Three credits. Not offered 2017-2018; next offered 2018-2019.

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 2017-2018 and in alternate years.

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. Three credits. See http://sites.stfx.ca/mscs/math_courses for more information.

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 and 221 or 367 and MATH 267 or 222. Three credits. Offered 2017-2018 and in alternate years.

491 Senior Seminar
Cross-listed as CSCI 491 and MATH 491.The purpose of this non-credit course is to assist students in carrying out research, composition, and oral presentation. Students will present a project topic in the fall term and their project in the spring. Attendance at departmental seminars is mandatory. No credit.

493 Senior Thesis
Students will prepare and present a thesis based on original research conducted under the supervision of a faculty member. Required for honours students; permitted for advanced major students. Three credits.

STATISTICS

101 Introductory Statistics
This course will give an introduction to descriptive and inferential statistics. Topics include descriptive statistics; graphical display of data, random variables and probability distributions, parameter estimations, hypothesis testing and simple linear regression. Students will learn to use statistical software tools; to identify bias in data collection; to organize and summarize data; to make inferences from data and to be able to test the significance of the results. Acceptable for credit in the Faculties of Arts and Business, and the Departments of Human Kinetics, Human Nutrition and B.Sc. Nursing. STAT 101.H will focus on applications to health sciences and STAT 101.B will focus on applications to business and economics. Credit will be granted for only one of STAT 101, STAT 201, STAT 224, STAT 231, PSYC 290(292), HKIN 301. Three credits.

224 Probability and Statistics for Engineers
This course covers probability laws and the interpretation of numerical data, probability distributions and probability densities, functions of random variables, joint distributions, characteristic functions, inferences concerning mean and variance, tests of hypotheses, linear regression, and time series analysis. Engineering applications are emphasized and statistical computer packages are used extensively. Credit will be granted for only one of STAT 224, STAT 101(201), STAT 231, PSYC 290(292). Cross-listed as ENGR 224. Prerequisite: ENGR 122 or MATH 122. Three credits and two-hour problem session.

231 Statistics for Students in the Sciences
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. Credit will be granted for only one of STAT 231, STAT 101(201), STAT 224, PSYC 290(292). Prerequisite: MATH 107 or 127(112) or 122. Three credits and a one-hour lab.

311 Survey Sampling Design
Topics include simple random sampling, stratified sampling, systematic sampling, cluster sampling, multi-stage sampling, bootstrap samples. Prerequisite: STAT 101(201) or 224 or 231. Three credits and a one-hour lab. Not offered 2017-2018; next offered 2018-2019.

331 Statistical Methods
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. Credit will be granted for only one of STAT 331, PSYC 394, PSYC 390. Cross-listed as BIOL 331. Prerequisite: STAT 101(201) or 224 or 231. Three credits and a one-hour lab.

333 Introductory Probability Theory
Material will include: combinational analysis; axioms of probability; the law of total probability and Bayes' Theorem; discrete and continuous random variables; mathematical expectation and variance; joint distributions; introduction to moment-generating functions and their applications; limit theorems. Prerequisites: MATH 222 or 267 and MATH 223 or 253. Three credits.

334 Mathematical Statistics
Topics include distribution theory; order statistics; point and interval estimation; MVUEs and the Rao-Blackwell theorem; consistency and sufficiency; the method of maximum likelihood; the method of moments; uniformly most powerful tests and the Neymann-Pearson fundamental lemma; likelihood ratio tests; least squares theory; statistical models and estimation in ANOVA. Prerequisite: STAT 333. Three credits. Offered 2017-2018 and in alternate years.

435 Regression Analysis
Topics include straight-line regression, multiple regression, variable selection, residual analysis, multicolinearity, multiple and partial correlations, analysis of co-variance, logistic regression. Prerequisite: STAT 231 or 333. Three credits and a one-hour lab. Offered 2017-2018 and in alternate years.

445 Statistical Learning and Data Mining
The course covers the most current techniques used in data mining and machine learning and their background theoretical results. Two basic groups of methods are covered in this course: supervised learning (classification or regression) and unsupervised learning (clustering). The supervised learning methods include Recursive Partitioning Tree, Random Forest, Linear Discriminant and Quadratic Discriminant Analysis, Neural Network, Support Vector Machine. The unsupervised learning methods include Hierarchical Clustering, K-means, K-nearest-neighbour, model-based clustering methods. Furthermore, the course also covers the dimensional reduction techniques such as LASSO and Ridge Regression, and model checking criteria. Prerequisites: CSCI 161, STAT 224 or 231 or permission of instructor. Three credits. Offered 2017-2018 and in alternate years.

472 Topics in Statistics
This course will cover a selection of current statistical topics, such as sampling theory, time-series analysis, stochastic processes, design and analysis of experiments, bootstrap methods, multivariate analysis, and bioinfomatics. Three credits. See http://sites.stfx.ca/mscs/stats_courses for more information.

491 Senior Seminar
Cross-listed as CSCI 491 and MATH 491. The purpose of this non-credit course is to assist students in carrying out senior paper research, composition, and oral presentation. Students will present their research topic in the fall term and their completed research in the spring. Attendance at Departmental seminars is mandatory. No credit.

493 Senior Thesis
Students will prepare a thesis based on original research conducted under the supervision of a faculty member. Required for honours students; permitted for advanced major students. Three credits.

» **MI'KMAQ** see 9.26 Modern Languages

9.26 MODERN LANGUAGES

M. Arpin, Ph.D.
V. Kocay, Ph.D.
E. Langille, D. ès L.
R. LeBlanc, Ph.D.
M. Paz, Ph.D.
W. Tokarz, Ph.D.

Part Time
M. Lade, M.Ed.

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 registrants in French, depending on their background. Please note:

a) First time registrants in French at StFX must complete the online placement test prior to registering. This test is to assist in registering in the appropriate section (basic, intermediate or advanced level French). The link to the on-line placement test is http://moodle.stfx.ca, search French Placement Test.
b) First-time registrants who have not completed high school core French or its equivalent should enrol in FREN 111.

c) Results on the placement test are a determining factor in the enrolment for first-time registrants.
d) Students with native proficiency may register in any 200-level course.
e) The department reserves the right to place students.

Recommendations

Candidates for the major, advanced major or honours degrees in French are strongly encouraged to spend at least one summer (five weeks) in a French-speaking environment through an immersion program or one year in the junior year abroad program. Please see below for details.

Students hoping to pursue masters or doctoral studies in the humanities or social sciences are reminded that these programs often carry language requirements.

Minor or Subsidiary Program

A minor or subsidiary in French requires at least 6 credits at the 300- or 400-level. The minor or subsidiary in Spanish includes required courses: SPAN 306 and 334.

Major Program

Major in French

A student may take a major in French by completing 36 credits in FREN (excluding FREN 111/112), including FREN 312(215) and at least 15 credits at the 300- or 400-level. A thesis is not required.

Major in Spanish

The Department of Modern Languages offers a major in Spanish (language and literature) for students who have completed a minimum of one semester in a Hispanic country. Students completing the major requirement abroad will have to complete their course work at the 300- or 400-level, or equivalent, excluding courses already completed at StFX. Students who wish to apply for the major degree must seek permission from the department chair and submit relevant course descriptions of work to be done abroad to the Dean's office for approval.

Joint Major in French and Spanish

A student may do a joint major in French and Spanish. The requirements for each subject are the same as for a major in French and a major in Spanish.

Advanced Major Program

A student may take an advanced major in French by completing 36 credits in FREN (excluding FREN 111/112), including FREN 312(215) and at least 21 other credits at the 300- or 400-level. Students registered in the advanced major program in French are required to do FREN 492, a three-credit senior seminar comprising a thesis in French of approximately 4,000 words.

Honours Program

A student may take an honours degree in French by completing 60 credits in FREN (excluding FREN 111/112), including FREN 312(215) and at least 33 other credits at the 300- or 400-level. Twelve of the 60 credits may be taken in a related field with department permission. Students registered in the honours program in French are required to do FREN 492, a three-credit senior seminar comprising a thesis in French of approximately 6,000 words.

Certificate of Proficiency in French

This certificate is awarded to students who wish to have their proficiency in French officially acknowledged by a distinction appearing on their transcript. It is not necessary to do a major in French in order to take the test, although certain requirements must be met. Students who wish to sit for the exams should make their intentions known by 15 December. The exams will take place during the last week of classes.

Requirements:

a) At least 18 credits beyond the 100 level, including FREN 312(215), and at least 6 credits at the 300- or 400-level.
b) A minimum grade of 70 is required in each FREN course.
c) Written and oral examinations with a minimum of 70 on each part (exam may be repeated after one year). The structure of the exam includes:
    i) An exam covering grammar and usage (2 hours), specifically on the following points: verb conjugations (all tenses and moods), relative pronouns, object pronouns, prepositions, agreement of adjectives, plural of nouns and adjectives, complex sentence structures.
    ii) A composition on a subject prompt provided (1 hour)
    iii) An oral exam: 45 minutes to read a text provided, and 15 minutes to present its content and answer questions from three professors (1 hour).

Transfer Credit for French Immersion Courses

Students may request a maximum of six transfer credits for a successfully completed immersion course. The following guidelines apply:

a) Newly admitted students may request transfer credit in French only for courses taken after completing grade 12 French. Normally, transfer credit will not be granted for courses taken five years prior to admission.
b) **Students must obtain a letter of permission from their Dean prior to enroling in an immersion course if credit is sought.**
c) The Explore summer immersion course in French may not be used in a major or minor, but may be used as part of a pair or as an arts elective in any degree program. Other immersion courses will be assessed on an individual basis.

Summer Language Bursary Program

Official Languages Programs

To promote the study of Canada's official languages, the Council of Ministers of Education, Canada (CMEC), in co-operation with the provinces and territories, administers Accent (formerly OLMP, part-time), Odyssey (formerly OLMP, full-time), Explore (formerly SLBP), and CMEC also co-ordinates official-language activities related to agreements between the federal and provincial/territorial governments.

For information on the summer language bursary program contact the provincial co-ordinator, French language bursaries, Department of Education, Box 578, Trade Mart Building, Halifax, NS, B3J 2S9, 902-424-5283, or visit the following websites: EXPLORE: www.myexplore.ca

For information on immersion courses in France during the summer contact the French Consulate, 777 rue Main Suite 800, Moncton, NB, E1C 1E9, 506-857-4191. Program information is also available from the department chair.

Junior Year Abroad Program

The department encourages students in a four-year program to spend their junior year in a French-speaking environment. To this end, a study abroad program has been put into place allowing students to spend their third year at the Centre International d'Etudes Françaises in Angers, France. See section 3.18. For information about this program, see the chair or designate.

Department Requirements

A pair or a minor must be in one language. Students who complete a minor or a major in one language may also count a pair in a second language.

FRENCH

111 Basic University French I

This course corresponds to level A1 of the Common European Framework of Reference for Languages (CEFR). Students will acquire the necessary competence in the four language skills: listening, speaking, reading and writing, to use familiar words and simple phrases for concrete communication situations such as introduction of self, answering basic questions about home, family and surroundings. This course is restricted to students with little previous background in French and who have not completed grade 12 core French. Credit will be granted for only one of FREN 111 or FREN 110. Three credits and one-hour lab.

112 Basic University French II

This course is a continuation of FREN 111 and corresponds to level A2 of the Common European Framework of Reference for Languages (CEFR). Students will learn to understand and communicate during easy or habitual tasks and will understand isolated phrases and common expressions that relate to areas of high personal relevance (like personal or family information, shopping, immediate environment, work). This course is recommended for students with some background in French or who have completed grade 12 Core French. Credit will be granted for only one of FREN 112 or FREN 110. Three credits and one-hour lab.

Notes:

a) The department reserves the right to refuse admission to these courses to students whose knowledge of French is inadequate according to the department placement test.
b) FREN 111 and FREN 112 may not be used as credit toward a major, advanced major or honours degree. They may be used toward a minor or subsidiary in French, as part of a pair, or as electives.
c) Closed to students who have completed 200-level French courses or higher, as well as to students from French schools and French Immersion programs.

211 Intermediate French I

This course corresponds to level B1 of the Common European Framework of Reference for Languages (CEFR). Students will acquire the necessary competence in the four language skills: listening, speaking, reading and writing, and will be able to communicate with some confidence on matters related to his/her interests and professional field. Students will be able to express thoughts on more abstract, cultural topics such as films, books, music etc. Recommended for students who have completed high school French Immersion Program, have completed FREN 112 (with a grade of at least 60), or who are placed into the course through the placement test. Credit will be granted for only one of FREN 211 or FREN 115. Three credits and one-hour lab.

212 Intermediate French II
This course corresponds to level B1 of the Common European Framework of Reference for Languages (CEFR). Students will acquire the necessary competence to interact with fluency and spontaneity and produce detailed text on a wide range of subjects. Recommended for students who have a strong background in French, who have completed FREN 211, or who are placed into the course through the placement test. Credit will be granted for only one of FREN 212 or FREN 115. Three credits and one-hour lab.

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 211(115) or permission of the department chair. Three credits.

253 Langue et culture: le francais en Europe
A history of French language and culture, starting with its Latin, Celtic and Germanic origins, and stressing the ethnic, political, social, technological factors that have helped shape the language down through the centuries. Specifically examined are the influence of such institutions as feudalism, the monarchy, the Church, the universities, print culture, the French Academy, colonialism and so forth. Credit will be granted for only one of FREN 253 and FREN 220. Prerequisite: FREN 212. Three credits. Not offered 2017-2018.

254 Langue et culture: Le français dans le monde
This course focuses on contemporary French language and culture as spoken and lived in the Francophone world. Emphasis will be on discovering cultural similarities and differences featured in literary texts, songs, cinema, legends, superstitions, beliefs, and celebrations in some of the 29 countries where French is an official language. This course may be of particular interest to current or prospective French teachers. Credit will be granted for only one of FREN 254 and FREN 220. Three credits.

271 Survey of French Literature: Origins to Renaissance
A study in historical context and sequence of the most important works written in French from 1000 to 1600. Extracts of literary works in modern translation extending from *la Chanson de Roland* to Montaigne's Essays and including, medieval romance, early poetry, plays, the works of Villon, Rabelais and Ronsard. Recommended for all French major, advanced major, and honours students. Credit will be granted for only one of FREN 271 and FREN 216. Prerequisite: FREN 212. Three credits. Not offered 2017-2018.

272 Survey of French Literature: Classical Period to 1900
A study in historical context and sequence of the most important works written in French from 1600-1900. Extracts taken from the literary works of Corneille, Racine and Molière, and including eighteenth and nineteenth century writers such as Marivaux, Voltaire, Diderot, Hugo, Baudelaire, Verlaine, Balzac, Flaubert, Daudet, Zola and Maupassant. Recommended for all French major, advanced major, and honours students. Credit will be granted for only one of FREN 272 and FREN 216. Prerequisite: FREN 212. Three credits. Not offered 2017-2018.

298 Selected Topics
The topic for 2017-2018 is French for Professionals. This course focuses on practical and useful thematic vocabulary pertaining to professional life such as: contacts, appointments, agenda, travel, restoration, business, work, job search, presentations and protocol for meeting procedures. Emphasis will be placed on challenges in communication, importance of grammar and cultural discrepancies. The objective is to further develop and enhance student's French written and oral skills while discovering the professional and business worlds. Three credits.

311 Advanced French I
This course corresponds to level B2 of the Common European Framework of Reference for languages (CEFR). This focus is on complex sentence structure, the use of the verb tenses and moods, as well as on expressions of cause and consequence. Emphasis will be place on language acquisition by means of text analysis, writing exercises (notably the structure of the résumé) and oral presentations. Credit will be granted for only one of FREN 311 or FREN 215. Prerequisite: FREN 212(115) or completion of French School, or an exceptional result on the placement test. Three credits.

312 Advanced French II
This course corresponds to the level B2 of the Common European Framework of Reference for languages (CEFR). The focus is on complex sentence structure, including the use of relative pronouns, active and passive voice structures, indirect discourse, terms of articulation, expressions of attenuation and restriction. Emphasis will be placed on language acquisition by means of text analyses, writing exercises (notably descriptive and argumentative texts) and oral presentations. Credit will be granted for only one of FREN 312 or FREN 215. Prerequisite: FREN 311 or permission of the department chair, or who are placed into the course through the placement test. Three credits.

314 Selected Topics in French Studies
Three credits.

318 Classical French Theatre
This class offers an introduction to 17th-century French literature with a primary focus on representative works by three major dramatists: Corneille, Molière and Racine. It explores their vision of humanity and assesses their contribution to French literature and the history of ideas. Credit will be granted for only one of FREN 318 or FREN 316. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits. Not offered 2017-2018.

319 Literary Works of the grand siècle (Les Moralistes)
This course studies a selection of primarily prose and poetry works from the classical period that was 17th-century France. It includes a study of works by Pascal, Descartes, La Rochefoucauld, La Fontaine, Boileau, Mme de Lafayette, and La Bruyère. Credit will be granted for only one of FREN 319 or FREN 316. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits. Not offered 2017-2018.

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 212(115) or permission of the department chair. Three credits.

322 18th-Century French Theatre
An introduction to 18th-Century French theatre. This course focuses on the evolution of the field of theater during the Enlightenment. Presented in chronological sequence, the course gives special attention to works by Lesage, Voltaire, Marivaux, Diderot and Beaumarchais. Credit will be granted for only one of FREN 322 or FREN 326. Prerequisite: 6 credits of FREN at the 200 level, completed or concurrent or permission of the department chair. Three credits. Not offered 2017-2018.

324 18th-Century Literature: The Novel
An Introduction to the 18th-century French novel, this course gives special attention to works by Lesage, Montesquieu, Prévost, Voltaire, Marivaux, Diderot, Rousseau and Bernardin de Saint-Pierre. Credit will be granted for only one of FREN 324 or FREN 326. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits. Not offered 2017-2018.

327 French Writing I
An introduction to the techniques of composition through the study and practice of appropriate sentence structure. This course is designed to improve students' expression of complex thought and to familiarize them with the idiomatic use of French language in a variety of contexts. The course combines vocabulary enrichment, detailed analysis of texts and a variety of writing activities: descriptions, portraits, narrations, and correspondence. Emphasis is on describing and narrating. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits.

329 Children's Literature
A critical survey of French children's literature. Authors to be studied include La Fontaine, Perrault, Ségur, Daudet, Cendrars, Aymé, Gripari, Sempé et Goscinny, PEF, Tournier. Prerequisites: 6 credits of FREN at the 200 level or permission of the department chair. Three credits. Not offered 2017-2018.

333 20th-Century French Literature I
A close study, from historical, ideological and aesthetic perspectives, of selected works of prose, poetry and drama of the first half of the 20th century. Authors studied may include Proust, Gide, Éluard (and other Surrealists), Sartre, Camus. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits.

334 20th-Century French Literature II
A study of the theatre of the absurd and the 'nouveau roman'. Authors may include Beckett, Ionesco, Robbe-Grillet, Sarraute, Duras and Simon. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits. Not offered 2017-2018.

341 Linguistics I: Phonetics
An introduction to linguistics, this course presents the major concepts used in linguistics and outlines the phonetic structure of the French language as revealed in word formations and in sentence structures. It includes pronunciation exercises.

Credit will be granted for only one of FREN 341 or FREN 340. Prerequisite: one of FREN 115, 211 or 212 or higher-level French course. Three credits. Not offered 2017-2018.

342 Linguistics II: Morphology, Syntax & Semantics

This course presents three of the major branches of contemporary linguistics, morphology, or word form, syntax, or sentence structure, and semantics, or word meanings. Students will acquire an understanding of linguistic concepts and linguistic analysis through the student of practical examples. Credit will be granted for only one of FREN 342 or FREN 340. Prerequisite: one of FREN 115, 211 or 212 or higher-level French course. Three credits.

347 French Literature from the Romantic Period

A study of major writers from the period known as French Romanticism (early 19th century), including Mme de Staël, B. Constant, Chateaubriand, Hugo, Lamartine, Vigny, and Musset among others. Major themes of the period will be presented in a literary context as well as in the social context of the French Revolution and the subsequent Napoleonic regime. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits. Not offered 2017-2018.

348 French Literature from Realism to Symbolism

A study of major French writers of the 19th century, from the realist movement to symbolism, including Balzac, Sand, Stendhal, Flaubert, Zola, Baudelaire, Verlaine, Rimbaud, and Mallarmé among others. Major themes of the period will be presented in a literary context as well as in the social context of the period. Credit will be granted for only one of FREN 348 or FREN 336. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits. Not offered 2017-2018.

351 Stylistic Comparison of French and English

This course develops theoretical and practical knowledge specific to the field of translation. Students will be initiated to the techniques and instruments of translation in order to reflect upon the notions of comparative stylistics and accordingly understand the fundamental differences between the English and French languages. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits. Not offered 2017-2018.

361 Acadian Literature

A critical description of the historical, socio-cultural, linguistic, and literary significance of Acadian writing. Consideration will also be given to stylistic evolution, from oral literature to poetry, novels, and short stories. Credit will be granted for only one of FREN 361 or FREN 376. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits. Not offered 2017-2018.

362 Acadian Language and Culture

This course will examine the current linguistic situation in the Acadian communities of the Atlantic provinces. Students will study the cultural, social and historical circumstances which have influenced and contributed to the distinct cultural identity of the Acadian people. Credit will be granted for only one of FREN 362 or FREN 376. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits. Not offered 2017-2018.

363 Québécois Literature I: Révolution tranquille to the Present

An introduction to the study of Québécois literature since the Quiet Revolution. Through a sampling of works representing the major literary genres, this course focuses on the role of literature in Quebec's political and social affirmation as a society. Special attention is given to the works of Marie-Claire Blais, Pierre Vallières, Michel Tremblay, Gaston Miron and Gabrielle Roy. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits. Not offered 2017-2018.

364 Québécois Literature II: Origins to the Révolution tranquille

A study of the major literary forms and authors of French Canada from the beginning of the colony to the Révolution tranquille (ca. 1960). Emphasis is placed on a structural and thematic approach to narrative, set against a background of cultural and ideological influences. Prerequisites: 6 credits of FREN at the 200 level or permission of the department chair. Three credits. Not offered 2017-2018.

410 Medieval French Literature

A study of literary genres from the chanson de geste, courtly romance, and the novels of chivalry to early French poetry covering the five hundred year period from 1000-1500. Credit will be granted for only one of FREN 410 or FREN 400. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits. Not offered 2017-2018.

415 Renaissance French Literature

A study of the Renaissance period in literature and language through the works of Marot, Rabelais, Du Bellay, Ronsard, Montaigne and the poets of the baroque. The century's concern with the French language provides a convenient introduction to the study of the development of modern French. Credit will be granted for only one of FREN 415 or FREN 400. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits. Not offered 2017-2018.

456 Literary Criticism (Roman et Société)

The objective of this course is to introduce the field of French literary criticism and to illustrate several analytical methods based on current schools of literary theory. After establishing a socio-historical background, the class will focus in detail on five major schools of textual analysis, springing from the concepts of structuralism and post-structuralism: *narratologie, sémiotique, psychocritique, thématique*, and *sociocritique*. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits. Not offered 2017-2018.

457 French Poetry from the Symbolist Movement to the Present

A study of major French poets beginning with the Symbolist Movement at the end of the 19th century and concluding with current trends in poetry. Authors include: Stéphane Mallarmé, Paul Valéry, Guillaume Apollinaire, Pierre Reverdy, Francis Ponge, Paul Claudel, Andre Breton, Henri Michaux, Francis Jammes, Blaise Cendrars, Jules Supervielle, Paul Eluard, René Char, Jacques Reda. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits. Not offered 2017-2018.

492 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. Three credits.

GERMAN

101 German for Beginners I

This course is an introductory course intended for students with no previous knowledge of the language. This course provides student with a sound basis for learning German as it is used in spoken and written communication today within the context of German-speaking culture. This course will also familiarize students with contemporary life and culture in German-speaking countries. Credit will be granted for only one of GERM 101 or GERM 100. Three credits and language lab.

102 German for Beginners II

This course is a continuation of GERM 101 and stresses progress and systematic practice in the four language skills: listening, speaking, reading and writing. This course will provide a more advanced foundation in the basic elements of grammatical and syntactical structures in the target language. It promotes understanding of the culture of German speaking countries. Credit will be granted for only one of GERM 102 or GERM 100. Prerequisite: GERM 101 or permission of department chair. Three credits and language lab.

201 Language and Culture

This course corresponds with the A2 level of the Common European Framework of Reference of Languages (CEFR), and is designed for students desiring to broaden and enhance their knowledge in the four language skills: listening, reading, speaking and writing through the study of authentic materials gleaned from German cultural productions. Students will be given the opportunity to understand and appreciate German culture through the introduction of language, texts, film, music, etc. Credit will be granted for only one of GERM 201 or GERM 200. Prerequisite: GERM 102. Three credits.

202 Communications: Culture & Business

The course corresponds with the A2 level of the Common European Framework of Reference of Languages (CEFR) and puts the accent on understanding, speaking and writing. Students will review grammar structures and acquire active vocabulary appropriate to the business world. Students will learn and practice communication skills in context. This course will provide a sound basis for students planning to do an internship, work or study in a German-speaking country. Credit will be granted for only one of GERM 202 or GERM 200. Prerequisite: GERM 102. Three credits

300 German Language III

This course will develop proficiency in speaking and listening. Emphasis will be placed on advanced writing skills and grammatical structures. This course will also enhance knowledge of the German speaking world through insights into the cultural and literary life in German speaking countries. Prerequisite: GERM 200 or 201. Six credits.

315 Selected Topics

Prerequisite: GERM 200. Three credits.

MI'KMAQ

105 Introduction to Mi'kmaq Language & Culture

Introduces students to the various aspects of the Mi'kmaq language: phonetics, morphology, semantics, syntax, and language acquisition. Comparison will be made between French and English language structures an applied to the language acquisition of Mi'kmaq students. Three credits.

205 Advanced Mi'kmaq

This course is intended for student whose first language is Mi'kmaq or who are proficient speakers of the language. The aim of the course is to develop substantive knowledge of Mi'kmaq literacy. Students will be introduced to the different writing systems used by the Mi'kmaq over time. Three credits.

SPANISH

101 Spanish for Beginners I

This course is intended for students with no previous knowledge of the language. Students will develop basic communicative skills in the target language, study Spanish grammar as a means to effective communication, express themselves in spoken and written Spanish, integrate their knowledge of grammatical structures and functions with thematically relevant vocabulary, and be introduced to the diversity of the Spanish-speaking world. Credit will be granted for only one of SPAN 101 or SPAN 100. Three credits and lab.

102 Spanish for Beginners II

This language course, in which communicative objectives are centred on personal life, and range from talking about family to narrating past events, focuses on past tenses, the use of indirect and direct object pronouns, and grammatical constructions with the present tense. This course continues to develop students' writing, speaking, and comprehension skills through a variety of written, oral, and audio-visual activities that integrate cultural elements. Credit will be granted for only one of SPAN 102 or SPAN 100. Prerequisite: SPAN 101 or permission of the department chair. Three credits and lab.

221 Intermediate Spanish I

This course is an intermediate course intended for students with previous knowledge of Spanish. It combines language and cultural elements that will allow students to improve their communicative competence in Spanish, review and practice the grammatical structures studied in 100-level Spanish courses, refine their language skills in reading, writing, listening, and speaking, and learn about the cultures of the Hispanic world. Credit will be granted for only one of SPAN 221 or SPAN 200. Prerequisite: SPAN 102 or 100. Three credits and language lab.

222 Intermediate Spanish II

A continuation of SPAN 221, students will learn advanced grammatical structures and further develop skills in reading, writing, listening, and speaking in Spanish, while continuing to learn about contemporary Hispanic cultures. Credit will be granted for only one of SPAN 222 or SPAN 200. Prerequisite: SPAN 221 or SPAN 299. Three credits and language lab.

255 Cultural Production and Human Rights in Latin America

Conducted in English, this interdisciplinary course will examine the history and reception of contemporary Latin American cultural production related to the defense of human rights. The course will cover controversial topics concerning repressed social group with a focus on textual and visual artifacts. This course will include the study of literature, films, documentaries, testimonies, street theatre performances and photography. The course provides a foundation for subsequent courses in Hispanic literature and culture. Three credits. Not offered 2017-2018.

299 Selected Topics

The topic for 2017-2018 is Introduction to Latin American Cultural Studies. This course will introduce students through the study of established texts and authors to the main ideas developed at the intersection of symbolic production and living experiences of social reality in Latin America ranging from art and literature, to sports and media, to social lifestyles and beliefs, and connect them to the socio-political reality of the region. The material discussed in class will be organized around five themes: neocolonialism, modernity and modernization, the national question and hybridity, the popular, and identities/alterities/ethnicities. SPAN 299 will be conducted in English, however, students who are interested in counting it towards a minor or major in Spanish will have to submit their work in Spanish. Three credits.

306 Advanced Spanish

A follow-up to SPAN 222, this course is an extensive review of the conventions that govern grammar and language usage in Peninsular and Latin-American Spanish. Students will improve their overall communicative proficiency in spoken and written Spanish. Representative texts from the target culture with an aim in developing the critical reading and writing skills at the upper-intermediate level will be discussed. Required course for a minor in Spanish. Credit will be granted for only one of SPAN 306 or SPAN 305. Prerequisite: SPAN 222 or permission of the department chair. Three credits.

315 Hispanic Civilization to 1800

Students completing this course can expect to be able to read and discuss advanced texts in Spanish. Reading and course material for this course will be drawn from texts on Hispanic civilization in the Iberian Peninsula and in the New World to 1800, with emphasis on the age of exploration and discovery. Credit will be granted for only one of SPAN 315 or SPAN 300. Prerequisite: SPAN 222 or permission of the department chair. Three credits. Not offered 2017-2018.

325 Hispanic Civilization, 1800 to the Present

Students completing this course can expect to be able to read and discuss advanced texts in Spanish. Reading and course material for this course will be drawn from texts on the social and cultural development of Spanish speaking countries from 1800 onward. The decline of Spain as a major cultural power is counterbalanced by the emergence of Spanish American countries. Their quest for independence in the 19th century gives this course a natural narrative. Credit will be granted for only one of SPAN 325 or SPAN 320. Prerequisite: SPAN 222 or permission of the department chair. Three credits. Not offered 2017-2018.

327 Spanish Language Cinema

This course, for advanced students, is an introduction to Spanish language films. It studies films and their language in a cultural, historical and geographic context. Essays, readings and film analysis are the main activities for this course. Students are advised that film screenings will be in addition to scheduled class time. Prerequisite: SPAN 222 or permission of the department chair. Three credits.

334 Spanish Composition

An intermediate to advanced level composition course designed for students with a working knowledge of the language. Students will improve their overall proficiency in written Spanish, be exposed to representative texts from the target culture appropriate to developing their critical reading and writing skills, attain a deeper understanding of the significant socio-cultural aspects of the Spanish-speaking world, and learn the necessary writing skills to be able to participate in higher level academic courses in Spanish. Required course for a minor in Spanish. Prerequisite: SPAN 222 or permission of the department chair. Three credits. Not offered 2017-2018.

427 Spanish and Latin-American Literature and Cinema

This course will explore films based on novels. Students will acquire an understanding of the socio-cultural factors that engendered Spanish and Latin-American novels and cinema. These socio-cultural issues pertain to, but not limited to: race, ethnicity, gender, politics, globalization and human rights. At the same time, students will acquire a critical perspective of contemporary issues addressed and incorporated in Latin-American and Spanish novels and cinema. Prerequisite: SPAN 222 or permission of the department chair. Three credits. Not offered 2017-2018.

431 Topics in Latin American Literature

This course provides a survey of Latin American literature through the works of Latin American. This course will cover a selection of key literature readings, from the early nineteenth-century to present, with an emphasis on the ways in which literature gives a voice to value systems, traditions, and beliefs. The course is intended to complement language studies, and provides a sufficient grounding for subsequent courses in Hispanic literature and culture. Conducted in Spanish. Credit will be granted for only one of SPAN 431, 374 or 464. Prerequisite: SPAN 306 or SPAN 334. Three credits. Not offered 2017-2018.

434 Topics in Spanish Literature

The course covers Spanish literature from different regions of Spain. This course presents a selection of key literature readings from the early nineteenth-century to the present in their historical context. The course is intended to complement language studies, and provides a foundation to courses in Hispanic literature and culture. Conducted in Spanish. Credit will be granted for only one of SPAN 434, 363 or 463. Prerequisite: SPAN 306 or SPAN 334. Three credits. Not offered 2017-2018.

498 Selected Topics

Three credits.

9.27 MUSIC

R. Billington, M.Mus.
K. Brunkhorst, M.Mus.
J. Hanlon, M.Mus.
P. Tynan, M.Mus.

Part Time
B. Bannerman, BA
T. Easley, B.Mus.
T. Roach, B.Mus.

Professor Emeritus
J. O'Donnell, C.M., M.Mus., Ph.D.(hon) StFX

Degrees and Diplomas in Music

The Department of Music offers a curriculum that focuses on jazz studies and contemporary music. Degrees and diplomas are windows to graduate study and commercial applications in the field of music. In addition to academically appropriate course work, award-winning faculty stress performance and composition as part of a well-rounded program.

General Admission Requirements

In addition to the general admission requirements listed in chapter 1, candidates for admission to the music program are required to pass an audition on a major instrument or voice; see section 1.3 c. Re-entry students must re-audition.

Music students are initially admitted to the Bachelor of Arts in Music (Jazz Studies) or to the Diploma in Jazz Studies. Students must then apply for admission to the Bachelor of Arts in Music (Jazz Studies) with Advanced Major or Honours by March 31 of the second year of study. Students who fail to meet the admission requirements to one of these three programs may be eligible for the BA with Major in Music.

A candidate who fails to meet the requirements for the Bachelor of Music with Honours may be eligible for the Bachelor of Arts in Music with Honours; one who fails to meet the requirements for the BA in Music with Honours may be eligible for the BA in Music with Advanced Major, and one who fails to meet the requirements for the advanced major may be eligible for the BA in Music.

Placement Auditions

It has become the practice of the department in certain instrument areas to provide instruction in the first year of study as a group format. The decision to place students in group/private lessons will be made in accordance with placement auditions held during registration/orientation week and private instructor availability.

Students will participate in regular juried exams each term. Entrance to the Bachelor of Music Honours program will be by invitation and based on grades.

All courses offered by the Department of Music are available to any student who satisfies the prerequisite and audition requirements. Applied performance courses are only available to non-music majors with the permission of the instructor and the department chair.

For requirements for programs with jazz concentrations, see chapter 4.

Diploma in Jazz Studies

The Diploma in Jazz Studies is a two-year program designed for students who wish to enter the field of commercial music but do not wish to pursue the BA in Music (Jazz Studies) degree. Instruction is offered in theoretical, aural, and improvisational skills.

Students in the diploma program who subsequently wish to pursue studies towards BA in Music (Jazz Studies) with Honours or Advanced Major or Bachelor of Music (Jazz Studies) with Honours degrees must achieve the appropriate grade in their Applied Music juries and have no grade of less than 60 for the advanced major, or 70 for the honours, in any MUSI course.

Major in Music

Students may complete a major in music in the BA program by completing a minimum of 36 credits from the following in consultation with the chair: required 101, 165; 30 credits to be selected from 103, 106 or 107, 117, 118, 195, 203, 206 or 207, 217, 265, 275, 276, 295, 306 or 307, 315, 316.

An audition is required for admission to this degree if applied music classes are chosen as an option. See section 4.1.3 for other degree requirements. Minimum grade requirements do not apply to the major in music.

Minor in Music

No audition is required for admission to the BA with music minor. Students may complete a minor in music in the BA or BBA program by completing 24 credits from the following courses or others in consultation with the chair: MUSI 101, 103, 106 or 107, 117, 118, 165, 206 or 207, 217, 275, 276,315, 316, 416. No audition is required for admission to a minor; see section 1.3 c. Minimum grade requirements in music do not apply to the minor in music.

Pair in Music

If music is chosen as a pair, the courses must be 12 credits in music history, music theory, choral ensemble, or performance ensemble.

Applied Music Fees

Students (including non-music majors) take music lessons with our outstanding faculty. Due to the costs associated with applied music instruction, additional fees, above tuition, are applicable. A fee of $1,500 will be applied for registration in a 6-credit applied music course. A fee of $750 will be applied for registration in a 3-credit applied music course. Should a student withdraw from an applied music course, regular refund policies will be applicable. See http://sites.stfx.ca/financial_services/StudentAccounts

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 203, 206 or 207, 217, 265, 275, 276, 290; 6 credits arts/science electives

Bachelor of Arts in Music (Jazz Studies) with Honours or Advanced Major

Typical Course Pattern

Year 3	MUSI 306 or 307, 315, 316, 395; 18 credits electives
Year 4	MUSI 406 or 407, 416, 495, 497; 18 credits electives

Bachelor of Music (Jazz Studies) with Honours

Typical Course Pattern

Year 3	MUSI 306 or 307, 315, 316, 325, 390; 12 credits electives
Year 4	MUSI 406 or 407, 416, 426, 465, 490, 497; 9 credits electives

The minimum grade requirement of 60 applies only to students enroled in the degrees BA Mus.(Jazz), B.Mus.(Jazz), and BA with Advanced Major in Music.

101 Structure of Music

This course covers the fundamentals and basic concepts of music theory, notation, and aural skills. The ability to read music is required. 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 Choral and Vocal Jazz Program provides students with an opportunity to develop vocal fundamentals and musicianship through the rehearsal and performance of high quality choral music from all periods and cultures. Vocal Jazz Ensembles provide a more advanced ground for ear-training and performance through the study of complex harmony in many jazz and popular styles. All ensembles are open to all university students by audition during the first week of fall classes. Two sections will be offered: section 11 is for voice majors and students participating in more than one ensemble and section 12 is for non-majors participating in one ensemble. Three credits over the full academic year.

107 Instrumental Ensembles I: Includes Jazz Ensemble, Combos, and Percussion Ensembles

These courses integrate materials from Jazz Theory, Jazz Styles, Jazz History, and Applied Music courses with ensemble playing within a classroom or laboratory format. Ensembles meet weekly; supervision and coaching come from professors and advanced students. Repertoire will reflect aspects of the jazz canon. Students will be expected to rehearse outside of the classroom/laboratory setting. Assessment includes performance outside of the classroom. A concert is presented at the end of the term. Entry and placement are by audition. Prerequisite: Successful audition. Three credits over the full academic year.

112 The Art of Listening

A survey course designed to acquaint students with the core elements of music, and musical periods, genres, and styles while developing critical listening skills. Three credits.

117 History of Popular Music

A survey of rock and pop styles from 1955 to the near-present. Among the many topics covered are Elvis Presley, The Beatles, Bob Dylan, styles of the 1970s, punk rock and the 'New Wave', Synth-pop, Manchester, Rap/Hip-hop and 'Alternative'. 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.

119 Music in Film, Television & Video Games
A survey course designed to acquaint students with the music used in film, televisions and video games. Exploring the diverse relationship image and music share, the course will examine important composers, works and historical reasons why different styles of music are used in support of these various media. Three credits.

165 Jazz Styles and Literature
An introductory course in improvisational style specifically pertaining to the Jazz Idiom from 1900 to present. Extensive viewing and listening will be required. 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. Restricted to music major students or may be taken with permission of the instructor. Applied music fees are attached to this course. Six credits.

191 Secondary Instrument I
This course provides students with instruction on an instrument other than their major instrument. Prerequisite: permission of the chair or studio teacher. Three credits over the full academic year.

195 Applied Performance I A
This course provides students with instruction on a major applied instrument or voice. Functional piano skills are also covered. Restricted to students in the BA with Major in Music. Applied music fees are attached to this course. Three credits.

203 Jazz Theory and Arranging
A continuation of Jazz Theory I, this course introduces many devices used in small group arranging: writing intros, endings, background figures, voicing, and rhythm section parts. Prerequisite: MUSI 103 with a minimum grade of 60. Three credits.

206 Vocal Ensemble II
A continuation of MUSI 106. Prerequisite: Successful audition. Three credits over the full academic year.

207 Instrumental Ensembles II
These courses integrate materials from Jazz Theory, Jazz Styles, Jazz History, and Applied Music courses with ensemble playing within a classroom or laboratory format. Ensembles meet weekly; supervision and coaching come from professors and advanced students. Repertoire will reflect aspects of the jazz canon. Students will be expected to rehearse outside of the classroom/laboratory setting. Assessment includes performance outside of the classroom. A concert is presented at the end of the term. Entry and placement are by audition. Concert attendance in the visiting artist series is required. Prerequisite: Successful audition. Three credits over the full academic year.

214 History and Instrumental Techniques for Guitar
An overview of the guitar and its influence as a musical instrument in western music. Key figures, innovators, builders and performers will be studied in depth. Students will learn the basics of the instrument from its history to actual techniques on how to play. A guitar is required. Three credits.

217 The Beatles
The Beatles' influence on popular music and pop culture is indelible and continuing. This course examines their lives, their music and lyrics, and their context, musically and socially, in the 1960s and beyond. Three credits. Not offered every year.

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.

275 Songwriters and Their Songs
The course is an in-depth study of songwriters and popular songs primarily from the second half of the 20th century to present day. Songs and songwriters of different styles and periods will be explored, as well as songwriters' approaches to lyric writing. Lyric devices, song forms, and storytelling will be explored and analyzed. Three credits.

276 Songwriting Workshop and Production
This course puts into practice the lyrical and musical devices from many great popular songwriters of different styles. Students will create a portfolio of songs and will make demo recordings of their material using music department technology. Students not enroled in a music degree must demonstrate proficiency on an instrument or voice and submit a portfolio of their creative work in order to be admitted to the course. Prerequisite: MUSI 275. Three credits.

290 Applied Performance II
This course provides students with instruction on a major applied instrument or voice. Functional piano skills are covered. Restricted to music major students or may be taken with permission of the instructor. Applied music fees are attached to this course. Six credits.

291 Secondary Instrument II
This course provides students with instruction on an instrument other than their major instrument. Prerequisite: permission of the chair or studio teacher. Three credits over the full academic year.

295 Applied Performance II A
This course provides students with instruction on a major applied instrument or voice. Functional piano skills are also covered. Restricted to students in the BA with Major in Music. Applied music fees are attached to this course. Three credits.

306 Vocal Ensemble III
A continuation of MUSI 206. Prerequisite: Successful audition. Three credits over the full academic year.

307 Instrumental Ensembles III
These courses integrate materials from Jazz Theory, Jazz Styles, Jazz History, and Applied Music courses with ensemble playing within a classroom or laboratory format. Ensembles meet weekly; supervision and coaching come from professors and advanced students. Repertoire will reflect aspects of the jazz canon. Students will be expected to rehearse outside of the classroom/laboratory setting. Assessment includes performance outside of the classroom. A concert is presented at the end of the term. Entry and placement are by audition. Concert attendance in the visiting artist series is required. Prerequisite: Successful audition. Three credits over the full academic year.

315 History of Music I
An overview of musical styles and forms from the Middle Ages to the 19th century. This course addresses the broad spectrum of musical contributions that allowed for the development of Western music. Three credits.

316 History of Music II
A survey of the techniques employed in 19th- and early 20th-century music. This includes analysis of the form and harmonic content of selected works. Special consideration will be given to works and events that lead to the transformation of musical language into 20th-century models. Prerequisite: MUSI 315 with a minimum grade of 60. Three credits.

325 Jazz Composition
Designed to provide a foundation in the techniques of jazz composition with an in-depth study of modal harmony and its applications. Prerequisite: MUSI 203. Restricted to bachelor of music honours students or may be taken with permission of the instructor. Three credits.

385 Selected Topics I
Three credits.

386 Selected Topics II
Three credits.

390 Applied Performance III
This course provides students with instruction on a major applied instrument or voice. Students in the B.Mus. degree program will write a thesis as a component of this course. Restricted to bachelor of music honours students. Applied music fees are attached to this course. Six credits.

391 Secondary Instrument III
This course provides students with instruction on an instrument other than their major instrument. Prerequisite: permission of the chair or studio teacher. Three credits over the full academic year.

395 Applied Performance III A
This course provides students with instruction on a major applied instrument or voice. Functional piano skills are also covered. Restricted to bachelor of arts in music students. Applied music fees are attached to this course. Three credits over the full academic year.

406 Vocal Ensemble IV
A continuation of MUSI 306. Prerequisite: Successful audition. Three credits over the full academic year.

407 Instrumental Ensembles IV
These courses integrate materials from Jazz Theory, Jazz Styles, Jazz History, and Applied Music courses with ensemble playing within a classroom or laboratory format. Ensembles meet weekly; supervision and coaching come from professors and advanced students. Repertoire will reflect aspects of the jazz canon. Students

will be expected to rehearse outside of the classroom/laboratory setting. Assessment includes performance outside of the classroom. A concert is presented at the end of the term. Entry and placement are by audition. Concert attendance in the visiting artist series is required. Prerequisite: Successful audition. Three credits over the full academic year.

416 History of Music III

A study of modern composition techniques, including analysis of selected contemporary music. Prerequisite: MUSI 316 with a minimum grade of 60. Three credits.

426 Advanced Arranging/Orchestration

This course will focus on advanced composition and arranging concepts using and expanding on the techniques gained in previous theory and arranging classes. Topics include orchestration, formal analysis, examining contemporary writers, and writing for various ensembles. Credit will be granted for only one of MUSI 426 and MUSI 420. Restricted to bachelor of music honours students or may be taken with permission of the instructor. Prerequisite: MUSI 304 with a minimum grade of 60. Three credits.

465 Jazz Styles and Literature

A seminar class that examines the historic so-called "ECM Explosion" of the late 60's, 70's, 80's and the modern European influence. Important musicians and their contributions to improvised music will be examined. Current Canadian jazz and improvising musicians will also be covered. Three credits.

490 Applied Performance IV

Provides students with instruction on a major applied instrument or voice. A final recital is required. Restricted to bachelor of music honours students. Applied music fees are attached to this course. Six credits.

491 Secondary Instrument IV

This course provides students with instruction on an instrument other than their major instrument. Prerequisite: permission of the chair or studio teacher. Three credits over the full academic year.

495 Applied Performance IV A

This course provides students with instruction on a major applied instrument or voice. A final recital is required. Restricted to bachelor of arts in music students. Applied music fees are attached to this course. Three credits over the full academic year.

497 Honours Recital - Thesis

Students work under the supervision of their private studio instructor to produce a one-hour concert performance on their major instrument/voice. The thesis option is available to all honours students, in which case their supervisor would be chosen in accordance with the given topic. Prerequisite: fourth year honours BA Music or Bachelor of Music. Three credits.

499 Directed Study

In consultation with the department, students may undertake a directed study in an approved area of interest. See section 3.5. Six credits.

9.28 NURSING

M. Alex, MN, CNM, RN
M. Arnott, MN, RN
D. Duff, Ph.D. RN
P. Hansen-Ketchum, Ph.D, RN
P. Hawley, Ph.D., RN
S. Lukeman, MN, RN
C. MacDonald, Ph.D., RN
J. MacDonald, Ph.D., RN
P. MacDonald, M.Ad.Ed., RN
D. MacDougall, Ph.D., RN
C. McPherson, Ph.D., RN
E. McGibbon, Ph.D., RN
J. Purvis, MN, RN
D. Sheppard-LeMoine, Ph.D., RN
J. van Wijlen, MN, RN
J. Whitty-Rogers, Ph.D., RN

Nurse Educations
D. Cabrera, MN, RN
M. Chisholm, B.Sc.N, RN
D. Connolly, MN, RN
D. Delorey, B.Sc.N, RN
A.M. Dobbin, B.Sc.N, RN
L. Farrell, B.Sc.N., RN
Y. Fraser, B.Sc.N., RN
K. Kenny, B.Sc.N., RN
F. LeBlanc, MN, RN
S. Livingston, B.Sc.N., RN
L. MacDonald, M.Ad.Ed., MN, RN
P. MacKenzie, M.Ad.Ed., RN
M. MacNeil, B.Sc.N., RN
W. Panagopoulos, B.Sc.N., RN
S. Wood, B.Sc.N., RN

Professor Emerita
A. Gillis, Ph.D.

The Rankin School of Nursing offers to qualified high school graduates, transfer students, post-degree students, and registered nurses, a program of study leading to the Bachelor of Science in Nursing.

New Curriculum

The Rankin School of Nursing offers a modern curriculum in the Bachelor of Science in Nursing program that supports best practice pedagogies and practice experience. This curriculum has an emphasis on concepts across the health-illness continuum, the life span, and health practice settings. Concepts are integrated horizontally and vertically across the curriculum and are the foci of courses. Competencies provide a guiding framework to describe a progression of learning about concepts and nursing practice from a basic, to an intermediary, to a final advanced level that culminates in knowledge, skills and attributes expected of an entry-level nursing graduate.

There are three options for completion of the B.Sc. in Nursing in the new curriculum:

a) The four-year option is completed over four academic years (Sep-Apr) and includes 8 semesters of study. This option primarily targets students entering from high school. During semesters 1 (Sep-Dec) and 2 (Jan-Apr), students in the four-year option will complete a required 30 credits of arts and science. During semesters 3 through 8, the student will be primarily immersed in nursing courses, with the exception of semesters 6 and 7, when students have the option to take six credits of either nursing or non-nursing electives. The four-year option gives students the choice to seek employment during summer breaks and provides flexibility to participate in extracurricular university activities scheduled throughout the academic calendar year (i.e., service learning opportunities, athletics, student union, etc.).
b) The accelerated two-year option primarily targets students who have completed the university-level entrance requirements for nursing. Students in this option begin in January and complete six continuous semesters over 24 months. Students are immersed in nursing courses during semesters 3 through 8, with the option to take six credits of either nursing or non-nursing electives during semesters 6 and 7. Graduation is at the December ceremony.

c) The LPN to B.Sc. in Nursing Pathway is a bridging program designed for licensed practical nurses to earn credit for their education and experience. Students who are successful in this program will join the accelerated option in semester 4 in May.

School Requirements

a) Students must successfully complete all courses in semesters 1 and 2 before progression to semester 3.
b) Students must complete all mandatory courses in a semester in order to progress to the next semester of the program. Progression in the program requires a minimum grade of 50 in each non-nursing course, an overall average of 65 in the mandatory non-nursing courses, and a minimum grade of 65 in each nursing course.
c) Students must be prepared to participate in nursing practice rotations in sites other than their location of residence.
d) Students will be expected to participate in nursing practice rotations scheduled at various times including evenings, nights, and weekends.
e) Students who fail two courses (the same non-nursing or nursing course twice, or two a combination of a different non-nursing or nursing courses including a nursing practice failure) will result in suspension from the program for a minimum of 2 semesters. Students are permitted to reapply to the program. Re-admission to the program is not guaranteed. Re-admission for the next academic year will be at the discretion of the School of Nursing Committee on Reintegration and course availability. If the student is re-admitted, subsequent failure in any course (including non-nursing and nursing courses) will result in dismissal from the program. B.Sc.Nursing students who have been dismissed twice will not be allowed to reapply for admission.
f) Performance in nursing clinical courses will be evaluated based on a combination of assignments, the development of plans of care and an evaluation of clinical practice performance. A grade of pass/fail will be awarded for the clinical practice portion of the course. Students must successfully complete the clinical practice in order to receive credit for the course.
g) Students are required to make up missed nursing practice time. Extended absences for nursing practice are evaluated by the Assistant Director, School of Nursing
h) Current certification in standard first aid and HCP (CPR) is required for entrance; see 1.3 g. Students in the nursing program are responsible for re-certification as necessary.
i) All students must be screened through the child abuse registry of Nova Scotia during the fall semester of first year. Documentation is required; see 1.3 g. Students are required to disclose to the Assistant Director, School of Nursing, any criminal record, including child abuse, that has occurred subsequent to admission.

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 for Registered Nurses (2008), the Entry-Level Competencies for Registered Nurses (CRNNS, 2013), the Standards of Practice for Registered Nurses (CRNNS, 2017), becoming a Registered Nurse in Nova Scotia: Requisite Skills & Abilities (2009) and the StFX nursing graduate learning outcomes. Student nurses are expected to act in a manner comparable to the average prudent student nurse. Behaviour that endangers public health or safety may warrant nursing practice alert or failure, which may result in dismissal from the program. Prospective students are advised that the CRNNS, the licensure body for nurses, requires disclosure of criminal records prior to consideration for registration. Those considered a risk to others may not be considered for registration by the CRNNS. The StFX School of Nursing requires disclosure of criminal records and reserves the right to deny entry to the program based on criminal record. Failure to provide requested documentation will prevent entry to, or dismissal from, the program. The results of students' criminal records checks and child abuse registry screens are assessed on an individual basis. In the event of a problematic result, a student may not be permitted to enter or continue in the nursing program. 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 consolidated experiences: fees for field trips, practice experiences, uniforms, nursing books, stethoscopes, first aid and HCP (CPR) certification and re-certification; the RN examination fees; other external exam fees including preparatory resources for NCLEX and licencing; and travel costs to and from practice areas while in the program.

B.Sc. in Nursing

Four-year program

Semester 1: BIOL 251; CHEM 151; ENGL 111; PSYC 155; STAT 101;
Semester 2: BIOL 115, 252; HNU 135; RELS 217/NURS 117 or PHIL 135; 3 credits humanities or social science
Semester 3: NURS 206, 207, 208, 209
Semester 4: NURS 231, 232, 233, 234
Semester 5: NURS 306, 307, 308, 309
Semester 6: NURS 332, 333, 334, 3 credits NURS or open elective
Semester 7: NURS 406, 408, 409, 3 credits NURS or open elective
Semester 8: NURS 440

Two-year program

Semester 3: NURS 206, 207, 208, 209
Semester 4: NURS 231, 232, 233, 234
Semester 5: NURS 305, 306, 307, 308
Semester 6: NURS 332, 333, 334, 3 credits NURS or open elective
Semester 7: NURS 406, 408, 409, 3 credits NURS or open elective
Semester 8: NURS 440

B.Sc. in Nursing with Advanced Major

The electives offered during semesters 6 and 7 provide an opportunity for students to complete the advanced major program. Students may choose to do an advanced major study and practice in a focused area of health starting in semester 6 (specialty nursing elective) and completed by the end of semester 7 (second specialty nursing elective and exploratory practice course).

B.Sc. in Nursing with Honours

The electives offered during semesters 6 and 7 provide an opportunity for students to complete a honours degree. Students may choose to do a honours thesis in a focused area of health that is related to either their supervisor's research or a research project of their own interest. The research would commence in semester 6 (research-related elective or independent study) and be completed by the end of semester 7 (exploratory practice course used to complete research).

206 Foundations of the Discipline & Profession of Nursing

Students learn about nursing as a profession, the role of the professional nurse and the evolution of nursing. Exploration of professional identity, comportment, and moral, altruistic, legal, ethical, and regulatory standards and principles are addressed. Concepts of collective collaboration, leadership and evidenced-informed practice and their core competences are introduced. Introduction to learning plans and portfolio development are also included. Prerequisite: Successful completion of all first-year courses. Three credits.

207 Introduction to Human Functioning, Homeostasis and Nursing Therapeutics

Students learn about select human health body structures and functions and adaptive responses that support health. Students gain foundational requisite skills that promote health, prevent illness, manage disease processes, restore optimal function, and alleviate suffering for persons across the lifespan. The course is divided into three modules: homeostasis; pharmacology; and communication and nursing informatics. Three-hour supervised lab practice is a required component for all course modules. Prerequisite: Successful completion of all first-year courses. Six credits.

208 Foundations of Health and Health Systems

Students gain a broad understanding of health and wellness and how they are created in society, with emphasis on the determinants of health and social justice. A focus is on the Canadian health care system and concepts of person-centered care, primary health care, cultural competence, critical thinking, and population health promotion including person-centered teaching and learning. The role of theory and evidence, including best practice guidelines to support the care of healthy individuals, populations, and communities is introduced. Prerequisite: Successful completion of all first-year courses. Three credits.

209 Introduction to Health Assessment and Clinical Nursing Practice

Caring and the nursing process are introduced, with a focus on health history and development of plans of care. Students gain basic psychomotor skills to assess normal body structures and functions and to conduct a comprehensive physical exam. Students apply professional and ethical practice, communication and relationship building skills, and evidence and best practice guidelines and critical thinking in the care of select healthy persons across the life course through a required three-hour supervised lab practice and a 60-hour clinical practice experience. Prerequisite: Successful completion of all first-year courses. Three credits.

231 Fundamentals of Research and Collective Collaborative Practice

Students learn the fundamentals of research and the application of evidence in nursing and health care. The research process and research methodologies are examined, with an emphasis on critically reading and interpreting research evidence, selecting best practice guidelines, and making evidence-informed decisions. Collaborative approaches to research and knowledge translation strategies are introduced. Students also learn the role of the nurse within collaborative teams and are introduced to the concepts of leadership, management, models of care, health team member roles, and care coordination. Prerequisites: NURS 206, 207, 208, 209. Three credits.

232 Alterations in Health and Nursing Therapeutics I

Students are introduced to pathophysiology and disease processes. The focus is on select human structures and functions that support health and well-being including fluid and electrolyte balance, acid-base balance, thermoregulation, oxygenation, perfusion, and comfort/pain. Reproductive health and sexuality are introduced. This course builds on pharmacological applications of select medication routes, calculations, and medication safety. Complementary therapeutics to manage pain is emphasized. More advanced communication skills are a focus with emphasis on communication challenges. Three-hour supervised lab practice is a required component for the course. Prerequisites: NURS 206, 207, 208, 209. Three credits.

233 Care of Families in Transition: Childbearing and Childrearing Years

Students are introduced to the care of families in transition during the childbearing and childrearing years. Emphasis is on theories, concepts and relational practice related to family, maternity, and pediatric nursing practice. Understanding ethical dilemmas and legal issues and the application of cultural competence and safety and evidence based practice for care of families at various transition points is a focus. The course is divided into three modules: family nursing and family-centered care; maternal-newborn nursing; and nursing of children and adolescents. Prerequisites: NURS 206, 207, 208, 209. Six credits.

234 Integrating Nursing Roles & Practices II: Care of Childbearing & Childrearing Families

This integrated practice experience focuses on the care of families during the childbearing and childrearing years. Principles of primary health care and the nursing process are applied. Students integrate psychomotor skills and techniques and mental health assessments. Students also apply professional and ethical practice, communication, relationship building skills, evidence-based practice and best practice guidelines, and critical thinking and judgment to work effectively with families, groups, and various health care teams/members. Prerequisites: NURS 206, 207, 208, 209. Three credits.

306 Advanced Nursing Leadership, Management and Evidence-Informed Practice

Students learn the leadership and management roles of the nurse within collaborative teams. Concepts of power dynamics, management, human resource management, principles of assignment and delegation, conflict resolution, and program planning and evaluation are emphasized. Leadership is explored within the complexities of today's public policy systems and profession based systems and organizations. Strategies to critique and facilitate the use of evidence including research and practice guidelines for evidence-informed nursing and collaborative practice are examined. Prerequisites: NURS 231, 232, 233, 234. Three credits.

307 Alterations in Health & Nursing Therapeutics II

Students build on concepts of pathophysiology and disease and injury processes gained from NURS 232. The focus is on select human structures and functions that support physical and mental health and well-being including intracranial regulation, neurological, and sensory perception. Attention is given to pathophysiology and biological processes of cancer. Pharmacological applications and nursing therapeutics, including complementary therapies, related to major acute physical and mental health conditions for persons and families across the lifespan are a focus. Three-hour weekly supervised lab practice is a required component for the course. Prerequisites: NURS 231, 232, 233, 234. Three credits.

308 Care of Persons Experiencing Acute, Episodic & Life Threatening Mental and Physical Illness across the Life Span

Students learn about acute, episodic, and life threatening mental and physical illness for stable and unstable persons across the lifespan. Attention is specifically given to select cognitive, mood and affect, social functioning disorders, and psychiatric emergencies as well as select cardio-vascular, circulatory and hemolytic function, digestive and gastrointestinal, endocrine and metabolic, respiratory and gas exchange, and reproductive disorders. Understanding ethical dilemmas and legal issues and the application of cultural competence and safety and evidence informed practice is a focus. The course is divided into three modules: mental health illness; physical health illness; and illness during pregnancy and childhood. Prerequisites: NURS 231, 232, 233, 234. Six credits.

309 Integrating Nursing Roles & Practices III: Care of Persons Experiencing Acute, Episodic, and Life Threatening Physical and Mental Health Challenges

This integrated practice experience focuses on the care of stable and unstable persons experiencing acute, episodic, and life-threatening physical health challenges or injuries and mental health issues. Principles of primary health care and the nursing process are applied. Students have opportunities to strengthen previous skills as well as integrate new psychomotor skills and techniques including professional and ethical practice, communication, evidence-based practice and best practice guidelines, and critical thinking and judgment. Prerequisites: NURS 231, 232, 233, 234. Three credits.

332 Advanced Nursing Therapeutics for Care of Persons Experiencing Complex Multi-System Health Challenges

Students apply advanced critical thinking and judgment and apply the nursing process in care of persons experiencing complex multi-system physical and mental health problems across the life span. Emphasis is on the interaction among multiple developmental, biophysical, psychosocial, spiritual, and sexual functions and structures for persons experiencing complex co-morbidities and chronic illness. Students build their understanding of health assessment, health education, self-management, support, and restoration and apply advanced nursing therapeutics including pharmacological and complementary therapies. Three-hour weekly supervised lab practice is a required component for the course. Prerequisites: NURS 306, 307, 308, 309. Three credits.

333 Care of Persons Experiencing Acute, Episodic & Life Threatening Illness across the Life Span: Physical Health II

Students build their competence in the care of persons experiencing acute, episodic and life threatening illness with emphasis on the aging population. Students apply theories related to select common current and emerging acute, episodic and life threatening illness. Concentration is given to biophysical concepts for select genital-urinary, immune and lymphatic, integumentary, muscular-skeletal, and neurological and sensory disorders. Students advance their application of evidence and best practice guidelines. Prerequisites: NURS 306, 307, 308, 309. Three credits.

334 Integrating Nursing Roles & Practices IV: Care of Persons Experiencing Complex Co-Morbidities and Chronic Health Challenges

During this integrated practice experience, students focus on the care of persons experiencing complex multi-system physical and mental health challenges (co-morbidities and chronic illness) and caring for multiple persons. Principles of primary health care and the nursing process are applied. Opportunities to strengthen previous theoretical application, critical thinking and judgment, evidence-informed practice, communication skills, and therapeutic skills through the care of persons and families experiencing complex co-morbidities and chronic physical and mental illness and in the care of multiple persons. Prerequisites: NURS 306, 307, 308, 309. Six credits.

406 Preparing for Professional Role Transition

Students critically examine local and global contemporary issues in nursing, nursing education and delivery of health care. Students also critique theories that guide nursing practice, knowledge development approaches in nursing, and health information and communication technologies. Special emphasis is on transitioning from student to beginning practitioner role and on professional career development that includes values clarification, professional image, professional socialization, nursing licensure and regulation, and inter-professional practice. Prerequisites: NURS 332, 333, 334. Three credits.

408 Advanced Population & Public Health

Students critically examine population and public health issues, with a particular focus on select local and global communicable diseases, chronic diseases, injuries, population emergencies and disasters, and millennium development goals. Understanding how nurses work inter-disciplinarily and inter-sectorally to prevent and address complex and current local and global population health issues is a focus. Emphasis is also on various roles of the inter-disciplinary team to influence determinants of health and systems change. Course open to non-nursing students with permission of the Director of the Rankin School of Nursing. Three credits.

409 Exploratory Nursing Practice

Students select a focused area of nursing from a variety of practice, policy, or research settings in order to integrate and refine competencies in professional and

ethical practice, theoretical and critical thinking, leadership and inter-professional collaboration, application of evidence-informed practice, and psychomotor skills. Students pursuing a concentration in nursing practice are placed in practice settings related to their concentrated area of study. Prerequisites: NURS 332, 333, 334. Six credits.

440 Transition to Nursing Practice: Consolidation

During this final practice experience students consolidate nursing knowledge and entry-to-practice competencies. The focus is the transition from the student to baccalaureate graduate registered nurse role through a mentored experience. Students assume responsibility for learning and increasingly complex assignments as they near the end of their baccalaureate education. Application of relevant evidence and best practice guidelines is required. Prerequisites: NURS 406, 408, 409. Fifteen credits.

Curriculum prior to 2016

The program, prior to 2016, is four academic years in length with two additional sessions for a total of 126 credits and the part time post RN option. The program also offers a Co-op non-credit opportunity for third year students. Currently licensed LPN students (diploma received post 2008) may receive credit for NURS 126/127 and three credits elective. Applicants will be assessed on an individual basis.

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 health care to individuals, families, groups and communities.

The nursing curriculum prior to 2016 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.

School Requirements

a) All first-year nursing courses must be successfully completed prior to registration in second year nursing courses. Subsequently, all second year courses must be successfully completed prior to registration in third-year nursing courses.
b) NURS 310, 305, 315, 345, 355, 330 or 336 and 493 must be successfully completed prior to progression to fourth year nursing courses.
c) Students must be prepared to participate in nursing practice rotations in sites other than their location of residence.
d) Students will be expected to participate in nursing practice rotations scheduled at various times including evenings, nights, and weekends.
e) Students who fail a nursing course with a lab or clinical component are not permitted to progress in the program and are not permitted to take any other nursing course with a lab or clinical component. Students wishing to resume taking nursing courses must contact the Assistant Director, School of Nursing prior by May 30.
f) Students are required to make up missed nursing practice time. Extended absences for nursing practice are evaluated by the Assistant Director, School of Nursing.
g) When a student failure is due to a nursing practice failure (clinical failure) in one course only, the student will be removed from the B.Sc. Nursing program following the failure. Re-admission for the next academic year will be at the discretion of the School of Nursing Committee on Clinical Reintegration. Students re-admitted following a nursing practice failure will return with a nursing practice alert status. Re-admitted students who receive a subsequent nursing practice alert or nursing practice failure will be removed from the B.Sc. Nursing program and are ineligible for re-admission.
h) Students who fail two core nursing courses (the same course twice, or two different courses including when the course failure is due to a nursing practice failure), are removed from the program and are ineligible for re-admission to the program. Core nursing courses are: NURS 105, 115, 126, 127, 205, 235, 245, 248, 275, 251, 252, 305, 310, 315, 345, 355, 405, 416, 455, 493 and 491.
i) Current certification in standard first aid and HCP (CPR) is required for entrance into the program; see 1.3 g. Students in the nursing program are responsible for re-certification as necessary.
j) Students must be screened through the child abuse registry of Nova Scotia during the fall semester of first year. Documentation is required; see 1.3
k) No nursing student will be permitted to transfer to the original accelerated option if they have received a course failure or a nursing practice alert.

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 for Registered Nurses (2008), the Entry-Level Competencies for Registered Nurses (CRNNS, 2013), the Standards of Practice for Registered Nurses (CRNNS, 2017), becoming a Registered Nurse in Nova Scotia: Requisite Skills & Abilities (2009) and the StFX nursing graduate learning outcomes. Student nurses are expected to act in a manner comparable to the average prudent student nurse. Behaviour that endangers public health or safety may warrant nursing practice alert or failure, which may result in dismissal from the program. Prospective students are advised that the College of Registered Nurses of Nova Scotia (CRNNS), the licensure body for nurses, requires disclosure of criminal records prior to consideration for registration. Those considered a risk to others may not be considered for registration by the CRNNS. The StFX School of Nursing requires disclosure of criminal records and reserves the right to deny entry to the program based on criminal record. Failure to provide requested documentation will prevent entry to, or dismissal from, the program. The results of students' criminal records checks and child abuse registry screens are assessed on an individual basis. In the event of a problematic result, a student may not be permitted to enter or continue in the nursing program. 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 the additional session and other consolidated experiences: fees for field trips, practice experiences, uniforms, nursing books, stethoscopes, first aid and HCP (CPR) certification and re-certification; the RN examination fees; other external exam fees including preparatory resources for NCLEX and licencing; and travel costs to and from practice areas while in the program.

B.Sc. Nursing

The normal sequence of courses for the remaining two years of the four-year option is listed below. See chapter 7 for program requirements.

Year 3	NURS 305, 310, 315, 345, 355, 330 or 336, 493; 3 credits arts/science elective
Year 4	NURS 405, 416, 455, 491; 6 credits open electives; 6 credits arts/science electives (on campus electives must be completed first semester due to scheduling of consolidated nursing practice).

B.Sc. Nursing with Advanced Major

The normal sequence of courses is the same as above, except:

Year 4	NURS 405, 416, 455, 491, 499; 6 credits open electives; 3 credits arts/science elective

B.Sc. Nursing with Honours

The normal sequence of courses is the same as above, except:

Year 3	STAT 101 replaces arts/science electives
Year 4	NURS 405, 416, 455, 491, 496, 498; 3 credits NURS elective; 3 credits open elective; 3 credits arts/science elective

B.Sc. in Nursing for Post-Degree Students

Final intake was in January 2016.

Students who hold an undergraduate degree earned in the last 10 years and have a minimum 70% grade average in their final year of study, and who have successfully completed the courses outlined in section 1.7 may be eligible to enter the 24-month post degree option. Students missing one or more of these prerequisite courses are required to complete them prior to entering the nursing program.

The nursing courses offered in the post-degree program are equivalent to the courses in the regular stream but some are scheduled to run in an accelerated fashion and during the summer following completion of NURS 252 and completion of third year courses. Nursing courses include: 105, 115, 126, 127, 205, 235, 245, 248, 251, 252, 275, 305, 310, 315, 330 or 336, 345, 355, 405, 416, 455, 491, 493.

Students in the regular nursing program, who were admitted following the completion of all or most of another degree, and who have grades of 75% or higher, no history of nursing practice alert or failure, and have completed all electives, may apply to be considered to accelerate in their senior year and graduate in the December convocation. Admission to this option is competitive and subject to the availability of seats. Application to this option follows completion of all second-year level nursing courses and the decision reserved until successful completion of the third-year nursing program.

Courses for program prior to 2016

305 Nursing of Adults II
In this course, students focus on the self-care and major health-deviation self-care requisites of adults arising from pathology in the cardiovascular, respiratory, and peripheral vascular systems. A strong emphasis is placed on the biological basis for these diseases and their impact on the human experience of illness. The nursing care requirements of clients arising from these disease states also constitute a major content area. Clinical component. Three credits.

310 Nursing Research Methods
This course provides an introduction to the research process and to quantitative and qualitative research methods used in appraising nursing and health-related literature. Topics include: the language and culture of research; the context within which nursing research is conducted; research design, implementation, analysis, and interpretation; and evidence based practice. Credit will be granted for only one of NURS 310 or NURS 300. 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. Clinical component. Three credits.

330 Legal and Ethical Issues in Nursing Care
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. Open to third- and fourth-year students in any programs. Cross-listed as RELS 300. Six credits.

336 Ethics in Health and Medicine
This course introduces students to ethical theories and values, and to the critical examination of contemporary issues arising in health care and medicine. Issues to be discussed may include: the concept of health; the ethical responsibilities of professionals and professional integrity; freedom, autonomy, and consent; death, dying, and euthanasia; abortion; infanticide; research involving human subjects; the allocation of scarce medical resources; confidentiality and privacy; reproductive technologies and rights; medical and non-medical drug use. Cross-listed as PHIL 336. Prerequisite: junior standing or PHIL 100. Six credits.

345 Mental Health Nursing
In this course, students engage in a comprehensive study of the mental health aspects of nursing. Included among them: anxiety, depression, dementia, and psychosis; eating disorders, trauma, and substance and gambling dependency. Students explore the principles of social justice and ethical and legal aspects of mental health care from socio-cultural, political, economic, historical, and bio-physical perspectives. Clinical component. 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. Clinical component. Three credits.

364 Social Justice and Health
Examines the relationship between injustice and health outcomes nationally and globally. Core social justice ideas are analyzed, including the cycle of oppression, distinctions between equality and equity, and achievement of human rights as an ethical imperative. Modern and historical contexts are explored in key justice related areas: corporatization of health care; policy-created poverty; worldwide water crisis; links between planetary health and human health; and global conflict as a key driver of injustice. Learning includes analysis of selected award winning films. Cross listed with WMGS 364. 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 WMGS 365. Three credits.

399 Co-operative Learning Experience
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. No credit.

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 III
A theory and practice course designed to provide the senior nursing student with opportunities to render comprehensive care for adults who are experiencing, or who are at risk for, selected complex health problems. Students participate in the selection of nursing practice experiences that enable them to apply knowledge and critical thinking in the application of the nursing process in acute care, community, and home settings. Clinical component. Three credits.

416 Nursing of Adults IV
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. Clinical component. Six credits in second semester.

433 Introduction to Policy for Health-Interdisciplinary Strategies
Designed to create an interdisciplinary learning experience for nursing, human nutrition and human kinetics students, this seminar course is an introduction to public policy change for health. The objective is to develop a basic understanding of healthy public policy development, analysis, and change from interdisciplinary and social justice perspectives. Issues such as healthy public policy, social determinants of health, social justice, health equity, and interdisciplinary/cross-sectoral and citizen lead policy action are explored. This course would be beneficial for students pursuing professions in the health care field. Credit will be granted for only one of NURS 433, NURS 495, HKIN 495, HNU 495. Restricted to third and fourth-year students in human kinetics, human nutrition and nursing. Cross-listed as HNU 433 and HKIN 433. Three credits.

455 Community Health Nursing II
This course builds on the theory and practice content in NURS 205 and critically examines community health nursing practice in Canada. This clinical practice component provides opportunity for students to work with an agency/organization using a variety of health care provision models in partnership with individuals, families, communities, populations and health care providers in areas of health promotion and illness prevention. Clinical component. Three credits.

486 International Health and Development
This course is designed to introduce students to a holistic understanding of health within the context of international development. The relationship between health and development and the impact of development programs on health will be examined. Health concepts and issues will be examined within a social, political, economic and cultural framework. Models and case studies will focus mainly on countries of the south but examples will also be drawn from the Canadian context. May be used as an open elective. 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.

492 Directed Study
In consultation with the department, students may undertake a directed study in an approved area of interest. See section 3.5. Three or six 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.

495 Selected Topics
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.

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.Nursing 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 Advanced Major Study & Practice

This course for advanced major students requires application and testing of nursing knowledge as well as knowledge from related disciplines in a clinical setting of the student's choice (within the limits of available resources). The student selects a faculty advisor, as well as agency staff for consultation and supervision as appropriate. Prerequisite: permission of the department chair. See section 3.5. Three credits.

DISTANCE NURSING PROGRAM OPTION

Patsy MacDonald, M.Ad.Ed., RN, Program Director

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. See chapter 7 for program requirements. All courses are offered through the distance-delivery format. Most distance nursing and science courses are restricted to post-RN students. Distance science courses may be taken by students outside the post-RN program with permission of the Dean of Science. Science labs and tutorials are incorporated into the course content. The required courses are:

NURS	115, 135, 201, 205, 245, 300, 330, 415, 425, 494
BIOL	105, 115, 251, 252
CHEM	100 or 150
Nursing electives	9 credits

Please note: NURS 115 and 135 are prerequisites for all other NURS courses.

For information on this limited-enrolment 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

Certificate in Gerontological Nursing

A 12-credit certificate program in nursing gerontology is offered by distance education to graduates of nursing diploma programs. Applicants must have a minimum two years RN experience. The required courses are NURS 115, 245, 425, 488.

For information on this limited enrolment 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-enrolment program, write Distance Nursing, Continuing Education, StFX University, Antigonish, NS, B2G 2W5 or phone 902-867-5190 or 1-800-565-4371.

Note: Students must complete NURS 115 and NURS 135 before enroling in any other distance nursing course.

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 behaviour. Three credits.

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.

201 Community Mental Health Nursing I

This required theoretical course provides a comprehensive introduction to community mental health nursing. The course focuses on changes in mental health nursing and the shift away from the acute care setting to the community. Emphasis is placed on prevention and health promotion in improving mental health outcomes. This course explores the foundations of mental health nursing practice and prepares the student for further study in mental health. Three credits. Practice component. Three credits.

202 Community Mental Health Nursing 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 NURS 201. Prerequisite: NURS 201. Three credits.

205 Community Health Nursing

Explores community health nursing practice from a Canadian perspective and the role of the community health nurse in the context of a changing health care system. Topics include population health; community assessment; epidemiology; and communicable disease control. Three credits. Offered in on-line delivery format.

230 Nursing of Women, Children, and Families

Using a population-health approach, this course examines the social, economic, cultural, and political perspectives that affect the health and health care of women, children, and families, both locally and globally. Students will explore selected issues in illness prevention, wellness promotion, and care during illness. Community-based practice component. Six credits.

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.

248 Basic Concepts of Pathophysiology

This course provides the student with an understanding of the basic concepts of pathophysiology, and builds upon a foundational knowledge of anatomy and physiology to meet the challenges presented in the study of disease process mechanisms. Credit will be granted for only one of NURS 248 or NURS 473. Prerequisites: BIOL 105, 115, 251, 252; CHEM 151/150 recommended. Three credits. Offered in on-line delivery format.

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.

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. Six credits.

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. Offered in on-line delivery format.

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.

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.

483 Hospice Palliative Care Nursing

Provides an overview of theories, current practices, and relevant issues in the field of palliative care, with a focus on the nurse's role. In line with the philosophy of nursing at StFX, students will explore concepts of self-care and health promotion as they relate to quality of life issues. Restricted to third- and fourth-year B.Sc.Nursing students and post-RN students. Three credits. Offered in on-line delivery format.

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. This course may be used as an open or NURS elective by third- or fourth-year B.Sc.Nursing students. Three credits. Offered in on-line delivery format.

490 Forensic Nursing

Forensic nursing refers to the application of nursing science and knowledge to legal proceedings. This course will examine the application of nursing science to the investigation and treatment of trauma, death, violent or criminal activity, and traumatic accidents within the clinical or community institution. Patient populations to be considered include: victims of sexual assault; elder, child and spousal abuse;

unexplained or accidental death; trauma and assault; as well as the perpetrators of these and other criminal activity. This course may be used as an open or NURS elective by third- or fourth-year B.Sc.Nursing students. Six credits. Offered in on-line delivery format.

494 Leadership and Management in Nursing

Examines nursing leadership theories and management models, and their relationship to client care. The course explores the changing roles and expectations for registered nurses as leaders in the health care system. Three credits.

497 Nursing Informatics

Teaches the knowledge and skills necessary to ensure that computers have a positive impact on the nursing environment and delivery of patient care. Students learn computer concepts and terms, and examine ways computers can enhance nursing practice, education, administration, and research. Trends and issues related to the use of computers in nursing are explored. Three credits. Offered in on-line delivery format.

499 Independent Study and Practice

This nursing elective is designed to give registered nurses credit for a hospital-based course or program. Courses are evaluated for credit on an individual basis by the distance nursing education committee. Three credits.

9.29 PHILOSOPHY

D. Al-Maini, Ph.D.
S. Baldner, Ph.D.
C. Byrne, Ph.D.
L. Groarke, Ph.D.
W. Sweet, D.Ph.

What is the purpose of our existence? How do we discover the principles 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. The study of philosophy also introduces students to the main currents of intellectual history, provides a basis for critically understanding their own ideas, and develops analytical reasoning skills.

Students planning the major, advanced major, honours or honours with subsidiary degree in this field are required to consult the department chair about their program of study. Degree requirements are outlined below and at the department's webpage at www.mystfx.ca/academic/philosophy.

Major Program

Of the 36 credits of philosophy required for the major, a minimum of 12 credits must be in the history of philosophy, with at least 6 credits from the ancient or medieval periods and at least 6 credits from the modern or contemporary periods. A minimum of 12 credits in the major must be at the 300/400 level.

Advanced Major Program

Of the 36 credits of philosophy required for the advanced major, a minimum of 12 credits must be in the history of philosophy, with at least 6 credits from the ancient or medieval periods and at least 6 credits from the modern or contemporary periods. A minimum of 18 credits in the major must be at the 300/400 level, including 6 credits of 400-level senior seminar coursework. Advanced major students are also required to complete a senior research paper. In the case of a joint advanced major in which philosophy is subject B, the senior research paper is completed only in subject A.

Honours Program

Of the 60 credits of philosophy required for the honours program, a minimum of 18 credits must be in the history of philosophy, with at least 6 credits from the ancient or medieval periods and at least 6 credits from the modern or contemporary periods. A minimum of 33 credits in the honours courses must be at the 300/400 level, including 6 credits of 400-level senior seminar coursework and the honours thesis.

Honours with Subsidiary Program

When philosophy is the honours subject: Of the 48 credits of philosophy required for the honours program, a minimum of 18 credits must be in the history of philosophy, with at least 6 credits from the ancient or medieval periods and at least 6 credits from the modern or contemporary periods. A minimum of 27 credits in the honours courses must be at the 300/400 level, including 6 credits of 400-level senior seminar coursework and the honours thesis.

When philosophy is the subsidiary subject: Of the 24 credits of philosophy required for the subsidiary, a minimum of 12 credits must be in the history of philosophy, with at least 6 credits from the ancient or medieval periods and at least 6 credits from the modern or contemporary periods. A minimum of 12 credits in the subsidiary must be at the 300/400 level, including 6 credits of 400-level senior seminar coursework.

When religious studies is the honours or the subsidiary subject with philosophy, PHIL 245 will normally be included in the course pattern.

Humanities Colloquium

The humanities colloquium is an optional and interdisciplinary way of studying three first-year courses, usually ENGL 100, HIST 100, and PHIL 100. See section 4.4 for further information.

Ethics, Politics, and Law

The departments of philosophy and political science offer a concentration in ethics, politics, and law to students doing a joint degree in these two departments. Students following this concentration will take courses in ethics, critical thinking, the philosophy of law, and two of the four sub-fields of political science, namely Canadian politics, political philosophy, comparative politics, and international relations. Joint degrees in philosophy and political science can be done as an honours degree in one with a subsidiary in the other, a joint advanced major, or a joint major. This concentration will be of particular interest to students interested in a pre-law program. Interested students should consult the chairs of the two departments for advice on course selection.

Note: PHIL 100 is normally a prerequisite for advanced courses; exceptions are PHIL 213, 251, 331 and 336.

100 Introductory Philosophy

An introduction to the study of philosophy that 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.

135 Healthcare Ethics: Theories, Values, & Practice

This course introduces students to ethical reasoning about problems in healthcare. It does so by exploring four fundamental philosophical theories (Virtue Ethics; Contractarianism & Rights; Duty-Based Ethics; and Consequentialism), presenting the corresponding values in healthcare workers, and showing how these principles and values can be applied to specific cases. Restricted to students in the B.Sc. Nursing program.

201 Ancient & Medieval Political Philosophy

This course will examine the political philosophies of Plato, Aristotle, Augustine, and Aquinas through a careful reading of primary texts. The relevance of these philosophies will be evaluated critically with a view to their contemporary relevance. Credit will be granted for only one of PHIL 201 or PSCI 200. Cross-listed as PSCI 201. Prerequisite: PHIL 100 or permission of the instructor. Three credits.

202 Modern Political Philosophy

A critical text analysis of modern philosophers such as Machiavelli, Hobbes, Locke, Rousseau, Kant, Mill, and Marx, with emphasis of their political philosophy. This course will stress the continuing relevance of these thinkers to current policies and the search for a just society. Credit will be granted for only one of PHIL 202 and PSCI 200. Cross-listed as PSCI 202. Prerequisite: PHIL 100 or permission of instructor. Three credits.

213 Philosophy of Science

Examines the methodology of the natural and social sciences, including the logic of scientific discovery and experimental testing, the confirmation of hypotheses, and the nature of scientific explanation. Credit will be granted for only one of PHIL 213 or PHIL 210. Three credits.

231 Human Nature I: Consciousness & Epistemology

A philosophical investigation of what it means to be human. Topics include: relation of mind and body; the problem of soul and body; immortality; free will; consciousness; and human knowledge. Credit will be granted for only one of PHIL 231 and PHIL 230. Prerequisite: PHIL 100 or permission of instructor. Three credits. Next offered 2018-2019.

232 Human Nature II: The Emotions

A philosophical investigation of what it means to be human. Topics include: consciousness; human emotions and their relation to moral virtues; freedom and emotions; the basis for morality in human nature. Credit will be granted for only one of PHIL 232 and PHIL 230. Prerequisite: PHIL 100 or permission of instructor. Three credits.

245 Philosophy of Religion

Explores the philosophy of religion, including different concepts of God with emphasis on the Judeo-Christian tradition; arguments for the existence of God; classical and modern challenges to belief in God. Issues such as 'life after death', miracles, religious

experience, and the concept of prayer may also be discussed. Cross-listed as RELS 246. Credit will be granted for only one of PHIL 245 or PHIL 240. Prerequisite: PHIL 100 or RELS 100 or 110 or permission of the instructor. Three credits.

251 Critical Thinking
What is an argument? How do arguments work? What makes some arguments better than others? This course will equip students to recognize and analyze arguments as they occur in a variety of contexts such as media editorials, speeches, textbooks, argumentative essays, and philosophical texts. To accomplish this, we will study the components of good arguments and techniques for criticizing and constructing arguments. Students will also be introduced to propositional logic. Prerequisite: normally at least one semester of successful university study. Three credits.

281 Aesthetics
Is beauty in the eye of the beholder? Is it necessary or possible to define art? What is the nature of aesthetic experience? This course will examine several classical and modern theories of art and beauty selected from such writers as Plato, Aristotle, Hume, Kant, Hegel, Maritain, Dewey, Goodman, Danto, Foucault. It will also draw on a variety of examples of art, including literature, visual arts, music, poetry, theatre, architecture, and artistic handiwork. Prerequisite: PHIL 100. Three credits.

331 Introduction to Ethics
This course introduces students to several major ethical theories, including utilitarianism, virtue-based ethics, natural law theory and deontology. It addresses such questions as: Is there an objective moral standard? Is there a common good? Do we have duties to others? What does morality have to do with personal happiness? Prerequisite: PHIL 100 or third-year standing or permission of the department chair. 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. Three credits.

333 Environmental Ethics
This course examines the ethical relationship between humans and the natural environment. It begins with the theoretical principles that help determine human conduct within the natural world. Once these beliefs about nature have been examined, it assesses different normative models that might govern our behaviour regarding the environment. Prerequisite: PHIL 331. Three credits. Not offered 2017-2018.

336 Ethics in Health and Medicine
This course introduces students to ethical theories and values, and to the critical examination of contemporary issues arising in health care and medicine. Issues to be discussed may include: the concept of health; the ethical responsibilities of professionals and professional integrity; freedom, autonomy, and consent; death, dying, and euthanasia; abortion; infanticide; research involving human subjects; the allocation of scarce medical resources; confidentiality and privacy; reproductive technologies and rights; medical and non-medical drug use. Cross-listed as NURS 336. Prerequisite: junior standing or PHIL 100 or permission of the instructor. Six credits.

342 Logic
A course in formal logic. Presupposing a familiarity with propositional logic, it focuses on first order predicate logic (with identity) and metalogic. Topics to be covered include translating sentences from English into symbolic notation, the semantics of predicate logic, deductions, soundness and completeness. Prerequisite: PHIL 251. Three credits.

351 Socrates and Plato
Topics include the nature of Socratic dialectic, Socrates' response to the pre-Socratic philosophers, and Plato's contributions to ethics, political philosophy, metaphysics, and epistemology. Prerequisite: PHIL 100. Three credits. Next offered 2018-2019.

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. Prerequisite: PHIL 100. Three credits. Next offered 2018-2019.

361 Early Medieval Philosophy
A study of the Christian and Neo-Platonic influence on philosophy from the 4th- to the 12th-centuries. Principal thinkers: Augustine, Boethius, Anselm, and Abelard. Principal problems: faith and reason; knowledge; evil; providence; free will; immortality of the soul; universals; ethical principles. The course ends with an introduction to important medieval Islamic and Jewish thinkers: Avicenna, Averröes, Maimonides. Prerequisite: PHIL 100. Three credits.

362 Philosophy in the High Middle Ages
A study of the influence of Christian theology and Aristotelian philosophy on thinkers of the 13th- and 14th-centuries. Principal figures: Bonaventure, Thomas Aquinas, John Duns Scotus, William of Ockham. Principal problems: faith and reason: knowledge; evil; providence; free will; immortality of the soul; universals; and ethical principles. Prerequisite: PHIL 100. Three credits.

365 The Rationalists
A review of the intellectual developments of the Renaissance relevant to philosophy is followed by a study of Descartes and his rationalist successors, such as Spinoza and Leibniz. Prerequisite: PHIL 100 or permission of the instructor. Three credits. Next offered 2018-2019.

366 The Empiricists
British philosophy of the late 17th and 18th century is traced through a study of the writings of Locke, Berkeley, and Hume. Works by Kant may also be studied. Prerequisite: PHIL 100. Three credits. Next offered 2018-2019.

367 Philosophy from Kant to Hegel
In the 19th century, German philosophy found expression in the idealist movement. Major figures such as Kant, Fichte, Schelling, and Hegel were united in the belief that reality, and the categories we use to understand it, had a common origin and development. Out of this belief came new conceptions of science, history, theology, and politics. Prerequisite: PHIL 100 or permission of the instructor. Three credits. Not offered 2017-2018.

371 Social and Political Philosophy
Examines fundamental issues in social and political philosophy through a discussion of such questions as: What would an ideal society be like? Should there be limits on human freedom? Do human beings have rights that everyone should respect? Is it ever morally acceptable to disobey or rebel against the state? Texts will be selected from the classical, medieval, modern, and contemporary periods, but topics will focus on issues of current interest. Prerequisite: PHIL 100. Three credits. Next offered 2018-2019.

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. Prerequisite: PHIL 100. Three credits.

381 Existentialism and Phenomenology
Examines 19th- and early 20th-century philosophical ideas in continental Europe. A look at the philosophical antecedents of existentialism and phenomenology will be followed by a discussion of the writings of some of the major figures in these movements: Kierkegaard, Sartre, Beauvoir, Marcel, Merleau-Ponty, Husserl, Arendt, and Heidegger. Prerequisite: PHIL 100 or permission of the instructor. Three credits.

391 Mind, Language and Logic
Presents some of the major currents of philosophy in the English-speaking world in the 20th century, up to 1950. The course includes a brief account of 19th-century empiricism, pragmatism, and idealism, before turning to 'common sense analysis' (e.g., G.E. Moore), early discussions of logical positivism and the place of metaphysics, ethics, and aesthetics (e.g., Bertrand Russell, A.N. Whitehead, Ludwig Wittgenstein, A.J. Ayer, and Karl Popper), and the beginnings of 'ordinary language' philosophy. Cross-listed as PHIL 461 in 2017-2018. Prerequisite: PHIL 100 or permission of the instructor; junior standing strongly recommended. Three credits.

451 Seminar in Ethics, Political Philosophy, and the Philosophy of Law I
A seminar course that focuses on questions of ethics, political philosophy, and the philosophy of law. Topics to be addressed may include: the state and society, rights and duties, justice and equality, freedom and punishment, the moral basis of political obligation, and the concept of law. Prerequisite: junior standing in philosophy or permission of the instructor. Three credits. Next offered 2018-2019.

452 Seminar in Ethics, Political Philosophy, and the Philosophy of Law II
A seminar course that focuses on questions of ethics, political philosophy, and the philosophy of law, not discussed in PHIL 451. Content varies from year to year. The course will include both classical and contemporary authors. Prerequisite: junior standing in philosophy or permission of the instructor. Three credits. Next offered 2018-2019.

461 Seminar in Metaphysics and Epistemology I
A seminar course that focuses on issues in classical and contemporary epistemology and metaphysics. Topics to be considered may include: an investigation of the ultimate structure of reality as a whole: the nature of material things; the existence of the immaterial; the meaning of being; what can and cannot be known of reality; whether there is a First Cause. Cross-listed as PHIL 391 in 2017-2018. Prerequisite: junior standing in philosophy or permission of the instructor. Three credits.

462 Seminar in Metaphysics and Epistemology II
A seminar course that focuses on issues in metaphysics and epistemology not discussed in PHIL 461. Content varies from year to year. The course will include both classical and contemporary authors. Prerequisite: junior standing in philosophy or permission of the instructor. Three credits.

489 Honours Thesis
Each student works under the supervision of a professor who guides the selection of a thesis topic, the use of resources, the methodological component, and the quality of analysis. Restricted to honours students. Three credits over full year.

9.30 PHYSICS
C. Adams, Ph.D.
K. LeBris, Ph.D.
K.-P. Marzlin, Ph.D.
P. Poole, Ph.D.
B. van Zyl, Ph.D.

Professor Emeritus
D. Hunter, Ph.D.
N. Jan, Ph.D.
M. Steinitz, Ph.D.

Senior Research Professor
D. Pink, Ph.D.

Physics deals with the fundamental properties of matter and energy. Physicists explore phenomena both in analytical 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, biology, or economics; an advanced major in physics with business administration; and an advanced major in physics with a diploma in engineering. Students interested in these programs should contact the department chair. Since physics depends on mathematics, most of the programs described below require at least four mathematics courses.

See chapter 7 for information on the degree patterns, declarations of major, advanced major and honours, advancement and graduation requirements. First-year students considering a physics program should consult the department chair before registration. See the department website at www.stfx.ca/academics/science/physics

Major Program
The typical program outlined below may be varied with approval of the department chair.

Year 1	PHYS 121, 122; MATH 106/126, 107/127 or 121, 122; 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 325, 6 credits PHYS elective; MATH 253, 254; CSCI 125 or 161; 6 credits arts electives; 6 credits open electives
Year 4	PHYS 302, 491 (no credit), 6 credits PHYS elective; 12 credits open electives; 9 credits approved 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 or 161; 3 credits approved elective
Year 3	PHYS 302, 322, 323, 325; MATH 361; 6 credits arts electives; 6 credits open electives; 3 credits approved elective
Year 4	PHYS 343, 344, 491 (no credit); 6 credits PHYS electives; 6 credits arts electives; 12 credits open electives; advanced major paper (consult the department chair).

Honours Program
The typical program outlined below may be varied with approval of the chair.

Year 1	Same as major program
Year 2	PHYS 201, 221, 241, 242; MATH 221, 253, 254, 267; CSCI 125 or 161; 3 credits approved electives.
Year 3	PHYS 302, 322, 323, 325, 343, 344; MATH 361; MATH 462 or 481; 6 credits arts electives
Year 4	PHYS 422, 443, 491 (no credit), 493; four of 223, 303, 342, 425*, 444*, 473, 475*, 476* (*choice must include at least 2 marked); MATH 481 or 462; 6 credits arts electives.

Pre-Education Stream in Physics
If you are considering a career in secondary school teaching, you should consult with the department chair early in your physics program. It is straightforward to create a physics program that will qualify you to have both physics and mathematics as "first-teachable" subjects (30 credits each). Combined expertise in physics and mathematics is highly sought-after by school boards worldwide. With a suitable choice of electives in our major and advanced major programs, you may also be able to add one or more "second-teachable" subjects (18 credits each), such as chemistry or computer science; and perhaps also a second-teachable subject in the humanities, social sciences, or a language such as French. Note also that in 2017-2018 we plan to offer PHYS 299 Selected Topics: Introduction to Teaching and Educational Research in the Physical Sciences, a new course specifically designed for B.Sc. students considering a career in education. Please consult with the department chair for more details.

101 Physics for the Life and Health Sciences I
An algebra-based introduction to physics focusing on mechanics. Topics include vectors; Newton's Laws; static equilibrium of point and extended bodies; kinematics and dynamics in 1 and 2 dimensions; gravity; momentum and energy conservation; work; rotational dynamics; and fluids. Applications to biology, human physiology, and medical technology will be emphasized. Recommended for students in the life or health sciences. Students expecting to take additional physics courses above the 100-level should take PHYS 121. Credit will be granted for only one of PHYS 101, 121, 100, or 120. Three credits and lab.

102 Physics for the Life and Health Sciences II
An algebra-based introduction to physics focusing on periodic motion, waves, and electricity. Topics include a review of mechanics based on periodic motion; wave motion and standing waves; electric charge, field, potential, and circuits; the electromagnetic spectrum; optics; and thermodynamics. Applications to biology, human physiology, and medical technology will be emphasized. Recommended for students in the life or health sciences. Previous physics experience would be an asset but is not required. May only count as a science A course for advanced major and honours students in physics with permission of the Chair. Credit will be granted for only one of PHYS 102, 100, or 120. Three credits and lab.

121 Physics for the Physical Sciences and Engineering I
A calculus-based introduction to physics focusing on mechanics. Topics include Newton's Laws; static equilibrium; kinematics and dynamics in 1 and 2 dimensions; momentum and energy conservation; work; and rotational dynamics. Recommended for those considering further study in any of the physical sciences, engineering, mathematics, and computer science. MATH 106 or 121 should be taken concurrently. Credit will be granted for only one of PHYS 121, 101, 100, or 120. Three credits and lab.

122 Physics for the Physical Sciences and Engineering II
A calculus-based introduction to physics focusing on electricity and magnetism. Topics include simple harmonic motion; electric charge, force, field, and potential; Gauss's Law; simple electric circuits; magnetism, magnetic forces and fields; electromagnetic induction and Faraday's Law. Recommended for those considering further study in any of the physical sciences, engineering, mathematics, and computer science. MATH 107 or 122 should be taken concurrently. Credit will be granted for only one of PHYS 122, 100, or 120. Prerequisite: PHYS 121; or PHYS 101 with permission of instructor. Three credits and lab.

171 Introduction to Astronomy I
This course provides an introduction to astronomy for students who have no background in mathematics or science. Topics include observing the night sky with and without optical aid, the development of astronomy and related sciences, time and calendars, the evolution of the solar system, sun, planets, comets, and

meteors. Observing sessions will be arranged. This course is intended for non-science students, but may be taken by science students as an elective. PHYS 271 is recommended for science students. Credit will be granted for only one of PHYS 171 or PHYS 271. Three credits.

172 Introduction to Astronomy II

This course provides an introduction to astronomy for students who have no background in mathematics or science. Topics include stellar systems, galaxies, quasars, black holes, dark matter, dark energy, cosmology, cosmogony and life in the universe. Observing sessions will be arranged. This course is intended for non-science students, but may be taken by science students as an elective. PHYS 272 is recommended for science students. Credit will be granted for only one of PHYS 172 or PHYS 272. Three credits.

201 Modern Physics: Introduction to Relativity and Quantum Physics

Topics include Einstein's special relativity; wave description of matter; early atomic quantum theory; introduction to nuclear and particle physics; Schrödinger's quantum mechanics. Prerequisite: PHYS 122 or PHYS 120; MATH 107(112) or ENGR 122/MATH 122. Three credits and lab.

221 Basic Electric Circuits Theory

Topics include introductory concepts; resistive networks; response to linear circuits with energy storage; exponential excitation functions; steady-state AC circuits; analysis; network analysis; systems. Cross-listed as ENGR 237. Prerequisites: PHYS 122(120); MATH 107(112) or ENGR 122/MATH 122. Three credits and lab.

223 Digital Electronics

This hands-on, practical course introduces digital electronics with applications to computer hardware and micro-computer peripherals. Topics include the families of digital electronic technology; combinational and sequential logic; digital device characteristics; micro-computer interfacing; data acquisition; instrument control; data transmission. Labs provide an opportunity to design and test practical digital devices. Cross-listed as ENGR 238. Prerequisite: PHYS 122(120). Three credits and lab.

241 Mathematical Physics: Oscillations and Waves

An introduction to complex numbers, treatment of experimental uncertainties, ordinary differential equations, partial differential operators, partial differential equations and Fourier series for dealing with the physics of oscillating systems and waves. Simple, damped, forced, and coupled oscillators are treated in detail. The one-dimensional wave equation is derived and solved. Fourier series are introduced in order to satisfy the initial conditions. Prerequisites: PHYS 122(120); MATH 107(112) or ENGR 122/MATH 122. Three credits.

242 Classical Dynamics I

The course covers conservative systems and potential energy; non-inertial frames; multi-particle systems; calculus of variations; Lagrangian mechanics; the connection between symmetries and conservation laws; central force problems; orbital mechanics; coupled oscillators and normal modes; Hamilton's equations of motion. Prerequisites: PHYS 122(120); MATH 107(112) or ENGR 122/MATH 122. Three credits.

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 behaviour and performance. Cross-listed as ENGR 246. Prerequisites: ENGR 144 or CSCI 125; ENGR 237 or PHYS 221. Three credits and three-hour lab.

271 Astronomy: The Solar System

This course provides a quantitative and more detailed treatment of the topics covered in PHYS 171. These topics include the evolution of the solar system, sun, planets, comets, meteors, and solar wind. Observing sessions will be arranged. Credit will be granted for only one of PHYS 271 or PHYS 171. Prerequisites: PHYS 101(100) or 121(120); MATH 107(112) or 127; PHYS 122 recommended. Three credits. Not offered 2017-2018.

272 Astronomy: The Stellar System

This course provides a quantitative and more detailed treatment of the topics covered in PHYS 172. These topics include stellar evolution, supernovae, quasars, pulsars, neutron stars, black holes, the universe, our galaxy, and cosmology. Observing sessions will be arranged. Credit will be granted for only one of PHYS 272 or PHYS 172. Prerequisites: PHYS 101(100) or 121(120); MATH 107(112) or 127. ; PHYS 122 recommended. Three credits. Offered 2017-2018 and in alternate years.

278 Introduction to Atmospheric Physics

This course aims at developing an understanding of the physical processes that influence our climate. It is suitable for science students interested by atmospheric sciences, climate and air quality issues. Topics include introduction to radiation, atmospheric composition, planetary atmospheres, introduction to molecular spectroscopy and photochemistry, radiation balance - natural variability and anthropogenic effects, greenhouse effect, ozone depletion, clouds, methods of sounding atmospheric constituents, instrumentation, introduction to climate modeling. Cross-listed as ESCI 278. Prerequisites: MATH 107(112) or 127 or 122, CHEM 100 or 120, and one of PHYS 100, 101/102, 120, 121/122. Three credits. Offered 2017-2018 and in alternate years.

298 Selected Topics

The topic in 2017-2018 is Concepts and Applications of Modern Physics. Modern physics sometimes seems to contradict common sense but is essential in many technological applications. This course will provide an introduction to concepts and applications of relativity and quantum physics for students of all faculties, with minimal mathematical requirements. Topics include "good" scientific theories, elementary probability theory, quantum teleportation, quantum Zeno paradox, interpretations of quantum physics, twin paradox, Bell's spaceship paradox, PET scan, GPS signals and curved space. Three credits.

299 Selected Topics

The topic in 2017-2018 is Introduction to Teaching and Educational Research in the Physical Sciences. This course will focus on concepts and content from the physical sciences and is suitable for science and mathematics students seeking opportunities to explore the art of teaching based on physical sciences educational research findings. Topics include principles and concepts of teaching and tutoring, moving content into context, STEM (Science, Technology, Engineering and Mathematics) education, and opportunities to connect with learners and educators in both the public school system and at the undergraduate level. Prerequisite: PHYS 102(100), PHYS 122(120) or CHEM 100 or 120 and MATH 106 or 126. Three credits.

302 Modern Physics: Properties of Matter

This course considers the properties of matter in its various states of greater and lesser order. Topics include classical thermodynamic treatment of phase transitions; an introduction to fluid mechanics; crystallographic order in crystals; elasticity; magnetic order; electrons in metals; and electrical resistance. Prerequisites: PHYS 201, 241. Three credits and lab.

303 Modern Physics: Subatomic Physics and Cosmology

Topics include nuclei; elementary particles; concepts of general relativity; cosmology. Prerequisite: PHYS 201. Three credits. Not offered 2017-2018.

322 Electromagnetic Theory I

This course presents a comprehensive study of electrostatics in the presence of conductors and dielectrics. Particular attention is paid to developing and solving the differential equations that describe the electric field and scalar potential. Topics include vector fields; Coulomb's Law; Gauss's Law; Poisson's/Laplace's equation; Green's function; multipole expansion; method of images; polarization of materials; the displacement field; introduction to magnetostatics. Prerequisites: PHYS 122(120); MATH 267 or ENGR 222/MATH 222; PHYS 241 or MATH 361. Three credits. Offered 2017-2018 and in alternate years.

323 Electronics

An introduction to electronic devices and circuits. Devices and topics discussed include equivalent circuits, diodes, bipolar junction transistors, field effect transistors, linear models, single-stage amplifiers, operational amplifiers, and digital circuits. Prerequisites: PHYS 221/ENGR 237; ENGR 221/MATH 221 or MATH 367. Three credits and lab.

325 Optics

Topics include the nature of light; geometric optics, aberrations, optical instruments; Maxwell's equations, vector nature of light, polarization; coherence and interference; Fourier transform spectroscopy and interferometry; Fraunhofer diffraction, Fresnel diffraction; optics of solids. Prerequisites: PHYS 201, 241; ENGR 221/MATH 221 or MATH 367. Three credits and lab.

343 Quantum Mechanics I

Covers states as vectors, measurable quantities as operators in a linear vector space, eigenstates and eigenvalues; the process of measurement, superposition of eigenstates; Schrödinger's equation, applications; orbital and spin angular momentum, application; time-independent perturbation theory, applications. Prerequisites: PHYS 201, 242; MATH 254, 267 or ENGR/MATH 223; PHYS 325 is strongly recommended. Three credits.

344 Thermal Physics
This course introduces the statistical nature of physical systems from an energetic perspective. Topics covered: laws of thermodynamics; ideal gases and Einstein solids; entropy and its relation with temperature, pressure, and chemical potential; engines and refrigerators; Helmholtz and Gibbs free energy; chemical thermodynamics; Boltzmann statistics; partition functions; Maxwell distribution; Gibbs factors and quantum statistics; Fermi-Dirac and Bose-Einstein distributions; degenerate electron gases; blackbody radiation and Planck's distribution; Debye theory of solids. Prerequisites: PHYS 242; CSCI 161 or ENGR 144. Three credits and lab.

415 Special Topics in Physics
This course will introduce one or more current topics in physics research. The topics will vary from year to year depending upon the availability of faculty and their interests. Three credits.

422 Electromagnetic Theory II
This course, a continuation of PHYS 322, covers magnetic fields in magnetic and non-magnetic materials, electromagnetic induction, the electric and magnetic fields of moving electric charges; Maxwell's equations; and the propagation and radiation of electromagnetic waves in various media. Prerequisites: PHYS 322; ENGR 221/MATH 221 or MATH 367; MATH 361. Three credits. Offered 2017-2018 and in alternate years.

425 Lasers and Modern Optics
An introduction to the theory, operation, and applications of lasers. Topics include the principles of optical coherence; optical resonators; operating principles and the most important laser types; holography; wave mixing; harmonic generation; the optical Kerr effect; stimulated Raman scattering and fiber optics. Prerequisites: PHYS 201, 325, 343. Three credits and lab. Not offered 2017-2018.

443 Quantum Mechanics II
Topics include function space analysis; state vectors, pure and non-pure states described by density operators; unitary and antiunitary transformations, symmetries and group theory in quantum mechanics; Schrödinger, Heisenberg, and interaction pictures; angular momentum coupling, tensor operators, the Wigner-Eckart theorem; time-dependent perturbation theory, variational approach; scattering theory with applications to modern physics. Prerequisite: PHYS 343. Three credits. Not offered 2017-2018.

444 Statistical Mechanics
This advanced course explores thermodynamics and its relationship to statistical mechanics. Topics include review of the thermodynamic postulates and conditions for equilibrium; extensive and intensive quantities; entropic and energetic formulations; Euler equation and Gibbs-Duhem relation; Legendre-transformed representations; response functions and Maxwell relations; stability; first-order phase transitions; van der Waals fluid; critical point and second-order phase transitions; Ising model of magnetic systems; connection to statistical mechanics through numerical models. Prerequisite: PHYS 344. Three credits and lab.

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. Prerequisites: PHYS 241; ENGR 221/MATH 221 or MATH 367, CSCI 161 or ENGR 144.Three credits and lab.

475 Atomic and Molecular Physics
Covers the development of atomic physics; one-electron and multi-electron atoms; fine and hyperfine structure; radiation and radiative transitions; the Pauli principle and atomic shell structure; atomic spectroscopy. Also covers a selection of current areas of research in the field such as lasers, laser cooling, and quantum computing. Prerequisite: PHYS 343. Three credits and lab.

476 Solid-State Physics
An introduction to the theory of solids and important experimental results. Topics include crystal structure; diffraction methods; lattice vibrations; specific heat of solids; thermal conductivity; the behaviour of electrons in metals and semiconductors; magnetism; superconductivity. Prerequisites: PHYS 201, 302, 344, concurrently with PHYS 343. Three credits and lab.

491 Physics Seminar
All students in the fourth year of a physics program are required to attend department seminars as scheduled. No credit.

493 Honours Thesis
Students will prepare and present a thesis based on original research they have performed under the supervision of a faculty member. Required for honours students. Open to advance major students who have demonstrated aptitude in physics research with permission of the department chair. Three credits.

9.31 POLITICAL SCIENCE
J. Bickerton, Ph.D.
D. Brown, Ph.D.
Y. Cho, Ph.D.
Y. Grenier, Ph.D.
J. Spring. Ph.D.
L. Stan, Ph.D.
M. Thakur, Ph.D.

Senior Research Professors
P. Clancy, Ph.D.
S. Dossa, Ph.D.
S.K. Holloway, Ph.D.

Department Regulations
Normally, all courses above the 100 level, except PSCI 241/242, require PSCI 101/102 (100) as a prerequisite. Students who wish to register in courses at the 300 level or above should have 12 credits in PSCI or permission of the instructor.

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

There are four areas within the discipline: Canadian Politics; Political Theory/ Philosophy; Comparative Politics; and World Politics/International Relations. Students will normally concentrate in two of those areas.

Major and Joint Major Programs
Candidates for the major degree should choose their courses in consultation with a member of the political science department, and they must have their major form approved by the department chair. Students will normally concentrate in two areas within the discipline, and have a minimum of 15 credits at the 300 level or above. Majors are encouraged to include PSCI 399 and/or a fourth year seminar in their course pattern.

Advanced Major and Joint Advanced Major Programs
Candidates for a degree with advanced major in political science must choose their courses in consultation with the chair. All students will take PSCI 101/102 (100), 399, at least two three-credit seminar courses and complete a senior research paper as part of their program. Students will normally concentrate in two areas within the discipline, and have at least 15 credits at the 300 level or above, including PSCI 399 and two three-credit seminars. Joint advanced major candidates must complete all of the above requirements, including the senior paper if political science is the primary subject (major 1).

Honours Program
Candidates for the degree with honours in political science require credit for PSCI 101/102 (100); 399, 490; a minimum of 6 credits from the following: 201, 202, 211, 212, 221, 222, 241, 242, 250; two three-credit seminars; a thesis; and 27 other PSCI credits. Non-Canadian students may, with permission of the department, substitute another 6 credits for PSCI 221/222 or 241/242. Students will normally have at least 24 credits at the 300 level or above, including PSCI 399, 490 and two seminars.

Honours with a Subsidiary Subject
See section 4.1 for program requirements.

Ethics, Politics, and Law
The Departments of Philosophy and Political Science offer a concentration in ethics, politics, and law to students doing a joint degree in these two departments. Students following this concentration will take courses in ethics, critical thinking, the philosophy of law, and two of the four sub-fields of political science, namely Canadian politics, political philosophy, comparative politics, and international relations. Joint degrees in philosophy and political science can be done as an honours degree in one with a subsidiary in the other, a joint advanced major, or a joint major. This concentration will be of particular interest to students interested in a pre-law program. Interested students should consult the chairs of the two departments for advice on course selection.

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 StFX timetable prior to registration.

101 Introduction to Power and Politics
This course provides a basic introduction to the study of politics by exploring key concepts, ideas and debates that are important for understanding political life. Topics covered include the nature of politics, varieties and dimensions of political power, political authority and the state. Students will be introduced to both traditional and contemporary political ideologies. Credit will be granted for only one of PSCI 101 or PSCI 100. Three credits.

102 Introduction to Comparative and Global Politics
International relations and national politics shape political life today. This course examines various forms of government and compares political systems and processes, electoral systems, and public policies. It introduces students to the international state system and relations among states, covering topics such as co-operation and conflict, alliances and international organizations, war and peace, the global economy and contemporary global issues. Credit will be granted for only one of PSCI 102 or PSCI 100. Three credits.

201 Ancient & Medieval Political Thoughts
A critical textual analysis of ancient and medieval thinkers such as Socrates, Plato, Aristotle, Aquinas and Augustine, with emphasis on their political thought. This course will stress the continuing relevance of these thinkers to current politics and the search for the just society. Credit will be granted for only one of PSCI 201 or PSCI 200. Cross-listed as PHIL 201. Three credits.

202 Modern Political Thought
A critical textual analysis of modern thinkers such as Machiavelli, Hobbes, Locke, Rousseau, Kant, Mill, and Marx, with emphasis on their political thought. This course will stress the continuing relevance of these thinkers to current politics and the search for the just society. Credit will be granted for only one of PSCI 200 or PSCI 202. Cross-listed as PHIL 202. Three credits.

211 Comparative Politics I
This course provides an introduction to comparative politics and/or regional politics as a field of study, and prepares students for upper level courses in the field. It will present the basic methodological and theoretical tools in the field and take a close look at countries whose history, political institutions, political culture, political processes and political outcomes are similar or closely related to Canada's: Great Britain, France and the United States among others. Credit will be granted for only one of PSCI 211 or PSCI 210. Three credits.

212 Comparative Politics II
This course provides an introduction to comparative politics and/or regional politics as a field of study, and prepares students for upper level courses in the field. It examines the evolution and diversity of governments in countries whose history, political institutions, political culture, political processes, and political outcomes differ from Canada's. These countries may include Russia, China, Brazil, Japan, Iran, India or Nigeria, among others. Credit will be granted for only one of PSCI 212 or PSCI 210. Prerequisite: PSCI 211 recommended. Three credits.

215 Comparative Politics of Latin America
This course offers a comparative analysis of Latin American governments. It focuses on political institutions and governance in countries such as Argentina, Brazil, Chile, Costa Rica, Cuba, El Salvador, Guatemala, Mexico, Peru and Venezuela. It also examines political forces, interest groups and social movements in the region. Credit will be granted for only one of PSCI 215 or PSCI 390. Three credits.

221 Canadian Politics: Structures & Institutions
This course covers the key political structures and institutions of the Canadian state (the Constitution, the political executive, parliament, federalism, intergovernmental relations, the public service and the courts) which constrain, shape and give impetus to Canadian politics, governance and decision-making. Credit will be granted for only one of PSCI 221 or PSCI 220. Three credits.

222 Canadian Politics: The Political Process
This course will cover the cultural and regional context of how citizens interact with the Canadian state. Topics covered include political parties, elections, advocacy groups, and other forms of political participation, the role of the media, and the implications for the political process of key social divisions such as gender, language and race. Language politics, multicultural groups, the women's movement and aboriginal peoples will receive attention. The course concludes with a discussion of Canada's place in the world. Credit will be granted for only one of PSCI 222 or 220. Three credits.

231 United States Politics
This course introduces U.S. government with a focus on the historical development of American political institutions. It examines the U.S. federal system and constitutional development, as well as executive, legislative, and judicial powers with particular attention to the founding and its enduring legacy in American political culture. Credit will be granted for only one of PSCI 231 or PSCI 230. Three credits.

241 Political Power & Business in Canada
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 will be considered. Topics include the mechanisms of business power, the micro-politics of industries and case studies of corporate-state relations. Credit will be granted for only one of PSCI 240 or PSCI 241. Three credits.

242 The Politics of Economic Policy in Canada
This course explores contemporary state policies relating to markets and business. A particular focus will be decision-making patterns and policy outcomes. Among the policy fields to be considered are fiscal policy, monetary policy, trade policy, industry regulation, state enterprise and privatization, industry regulation and de-regulation, taxation and competition policy. Credit will be granted for only one of PSCI 240 or PSCI 242. Three credits.

247 Environmental Social Sciences I: Problems and Paradigms
This course introduces students to the major environmental challenges of the 21st century from a social science perspective. Modern societies that have sought to conquer natural limits have now conjured up unanticipated "environmental" consequences. Students will explore how human understandings of environmental "problems" as well as action towards environmental solutions are shaped by ways of thinking, social contexts and institutional power relations. Cross-listed as SOCI 247. Three credits.

248 Environmental Social Sciences II: Power & Change
A continuation of SOCI 247, this course addresses the same conceptual problems but focuses more on understanding the societal and political response to environmental issues. Students will critically examine both proposed ecological futures, as well as means of environmental problem solving and societal change: state policy, intergovernmental treaties, environmental movements, and market solutions. Cross-listed as SOCI 248. Prerequisite: SOCI 247 or PSCI 247. Three credits.

251 International Relations I
As an introduction to international relations as a field of study, this course provides a comprehensive survey of a wide range of contending conceptual and theoretical approaches to the study of global politics and the historical development of the international system, so as to equip the students with a set of analytical and interpretive tools to make sense of global politics and prepare them for more advances courses in International Relations. Credit will be granted for only one of PSCI 251 and PSCI 250. Prerequisite: PSCI 101/102 or 100. Three credits.

252 International Relations II
This course introduces students to the two primary subfields of international relations, security studies and international political economy, as well as examining a set of contemporary problems and issues in global politics. Among the topics examined are: international security, war, nuclear deterrence and proliferation, humanitarian intervention, terrorism, economic globalization and its consequences, the problem of poverty and development for the global South, planetary environmental challenges, new transnational actors, regionalism and supranationalism, and global governance. Credit will be granted for only one of PSCI 252 and PSCI 250. Prerequisite: PSCI 251. Three credits.

291 Violence, Conflict, and Politics
An introduction to the comparative study of types of collective political violence: war, terrorism, ethnic or identity-based conflicts, coup d'état, revolution, civil war, and genocide. Specific case studies are examined along with the main theoretical approaches in the field. Three credits.

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 liberal political theory, its basic concepts and its limitations in a multi-cultural age. Theorists considered include: John Stuart Mill, John Rawls, Joseph Raz, Charles Taylor, John Gray and Wendy Brown. Prerequisite: PSCI 200 recommended. 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. Prerequisite: PSCI 200 recommended. Three credits.

303 Contemporary Political Arguments
Critical study of the major ideas and issues in contemporary political theory, focused on assessing and engaging central moral debates in domestic and global politics. Emphasis will be placed on applying political theories and concepts to examine real-world cases. Main themes: political authority and obligation, democracy, multiculturalism, human rights, global justice, war and intervention, environment, gender and power. Prerequisite: PHIL/PSCI 201 or PHIL/PSCI 202 recommended. Three credits.

311 The European Union
This course examines European integration since World War II, with emphasis on the European Community (EC) and European Union (EU), their institutions and policy processes, and the consequences of European unity for the political process in European societies. Prerequisite: PSCI 210 or 211, 212 recommended. Three credits.

312 Art and Politics
This course introduces students to what modern artists have to say about politics and what governments do and say about art. It provides some of the historical and theoretical tools needed to analyze the political role of art in our time. Students will examine literary works, painting, music, and architecture, and discuss specific policies on art. Cross-listed as ART 312. Three credits.

313 West European Politics
This course surveys governmental institutions and political processes in major Western European states like the United Kingdom, France, Germany, Italy, and Sweden. Among these cases we will compare systematically general historical patterns of social, economic, and religious conflict; structures of citizen representation in interest groups and political parties; electoral systems; constitutional relationships between executive, legislature, and judiciary; outlines of economic and foreign policies; and current problems of national identity. Credit will be granted for only one of PSCI 313 or PSCI 310. Three credits.

314 Topics in European Politics
This course examines themes and issues relevant to European politics and societies, ranging from political institutional arrangements, state-society relations, and the role of civil society and social capital to public policy, immigration, church-state relations, security, the EU Eastern enlargement, and the EU Neighborhood Policy. By examining different European countries, Europe as a whole and the European Union, students are encouraged to develop their own project to understand politics in that part of the world. Credit will be granted for only one of PSCI 314 or PSCI 310. Three credits.

315 Democratization around the World
This course investigates the problems facing countries from different parts of the world that have sought to move from non-democratic political systems to democracy. Students will learn the social, cultural and economic conditions necessary for the process of democratization; analyze the institutional structures and constitutional designs most conducive to the transition from authoritarianism to democracy; and consider the consequences of democratization for development. Prerequisite: PSCI 211 or 212 recommended. Three credits.

316 Dictatorships
This course introduces students to the nature and varieties of dictatorships in our time by examining their causes of emergence, what sustains them, and why they (sometimes) fall. This comparative politics course covers cases of dictatorial rule in countries such as China, Cuba, Egypt, North Korea, Russia, and Rwanda. Students will examine the political institutions and the public policies (e.g. economic, cultural, human rights) of dictatorships. Three credits.

321 Federalism
This course examines the theory and practice of federalism, with a focus on Canadian federalism. Topics include theories of federalism, comparative federal systems, inter-governmental relations, fiscal arrangements, federal-provincial diplomacy, and constitutional reform. Prerequisite: PSCI 220 or 221 and 222 or 240 recommended. Three credits.

322 Atlantic Canada
A course on modern government and politics in the four Atlantic provinces. Regional development and dependence are the themes within which students will explore federal-provincial relations, fiscal and administrative changes, development policies, political culture, and party systems. Prerequisite: PSCI 220 or 221 and 222 or 240 recommended. Three credits.

323 Parties and Elections
This course is concerned with parties and elections in Canada. Topics include party and electoral systems; intra-party politics and political personnel; party financing; representation and policy development; the political marketing, campaigns and voting behaviour. Prerequisite: PSCI 210 or 211, 212 recommended. Three credits.

324 Provincial Politics
A comparative study of the differing political cultures, institutions, behaviour, and public policies of the Canadian provinces. Students will seek explanations for the similarities and differences in the social and economic structures and political histories of the provinces. Prerequisite: PSCI 220 or 221 and 222 or 240 recommended. Three credits.

325 Indigenous Politics
An introductory course to Indigenous politics and governance, this course will cover the history of Aboriginal-Crown relations, the political mobilization of Aboriginal Peoples and the constitutional entrenchment of their rights, key court decisions and political struggles, and the governance challenges of the contemporary era. Topics to be covered include the treat process, the Indian Act, Aboriginal and non-Aboriginal perspectives, citizenship and sovereignty, land claims and modern treaties, and forms of self-government. Cross-listed as DEVS 325. Prerequisite: PSCI 101/102(100); 221 and 222 recommended. Three credits.

331 Comparative Nationalism
An analysis of the historical origins of nationalism and of its central concepts and justifications. Both Western and non-Western nationalism (focusing on four or more cases) will be examined in a comparative context. Evidence for the recent decline of the nation state will be explored. Credit will be granted for only one of PSCI 331 or PSCI 330. Prerequisite: PSCI 210 or 211, 212, or 250 recommended. Three credits.

335 Human Rights and International Justice
Human rights and international justice are important components of politics. This course examines the theoretical and practical concerns shaping the study and promotion of human rights today. Using a variety of material and case studies, we examine the debate over whether rights are universal; the institutions and organizations enforcing human rights; and the role states play in protecting human rights. A strong component of this class is state responses to massive human rights violations. Prerequisite: PSCI 211 or 212 or 250 recommended. Three credits.

341 Canadian Public Administration
The focus of this course is Canadian public administration. Topics include organizational theory applied to the public sector; the origins and social function of bureaucratic institutions in Canada; cabinet organization; federal-provincial administrative relations; budgeting; and human resource management. Prerequisite: PSCI 221, 222, or 220 or 240 recommended. Three credits.

342 Canadian Public Policy
An examination of contemporary public policy process and issues in Canada, including economic, social and other policy fields (e.g. environment, security and cultural). Emphasis will be on policy analysis and decision-making process. Prerequisites: PSCI 221, 222, or 220 or 240 recommended. Three credits.

343 Law and Politics
This course explores the role of the courts in politics, particularly in Canada. Possible Topics include recent constitutional developments; the impact of the Charter of Rights; the judicialization of politics; philosophy of law; and strategic litigation. Prerequisite: PSCI 221, 222, or 220 or 240 recommended. Three credits.

344 Citizenship and Identity
This course examines various aspects of Canadian citizenship and identity. Topics include citizenship theory, the evolution of the Canadian citizenship regime, processes of citizenization, majority and minority nationalisms, Aboriginal citizenship and multiculturalism. Prerequisite: PSCI 221, 222, or 220 recommended. Three credits.

345 Women and Politics
An introduction to the study of women and politics, this course has three parts: feminist political thought and the 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. Prerequisite: PSCI 101/102 (100) or WMGS 100. Cross-listed as WMGS 345. Three credits.

346 The Politics of Resource Management
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.

347 Politics of the Environment
Environmental factors have increasingly become important components of political decisions. This class examines how environmental issues arise and the different ways they are framed, argued, and dealt with politically in that context. It will also explore the theoretical assumptions, questions and ethical frameworks that have been developed to guide and analyze environmental policy-making. Prerequisites: PSCI 247, 248. Three credits.

351 Canadian Foreign Policy
This course is designed as a general historical survey of Canadian external interests, external policy-making processes, and contemporary themes and issues. Prerequisite: PSCI 250 recommended. Three credits.

352 American Foreign Policy
This course examines the major foreign policy interests in the United States from the late 19th century to the present. Emphasis is placed on the ideologies and personalities of key decision-makers, the effect of the domestic socio-economic structure on policy decisions, and America's position in the international system. Prerequisite: PSCI 250 recommended. Three credits.

353 International Organizations
A study of the development and role of international organizations in world politics. Topics include the history and evolution of the United Nations, the effects of international law on state behaviour, and the extent to which international co-operation has been effective in resolving global problems. Prerequisite: PSCI 250 recommended. Three credits.

354 International Political Economy
This course examines the politics of international economic relations: international trade, the international monetary system, multinational corporations and international development. Cross-listed as DEVS 354. Prerequisite: PSCI 250 recommended. Three credits.

355 Global Issues
This course examines the state's supremacy and its capacity to manage such global issues as: the continuing problem of poverty in the developing world; the challenges of establishing democracy and global governance; global environmental issues such as climate change and intergenerational justice; international concerns with human and animal rights; sexist oppression; indigenous struggles, and the rise of trans-national social activist groups. Cross-listed as DEVS 355. Prerequisite: PSCI 250 recommended. Three credits.

356 War and Peace in the Middle East
The first part of this course will survey the major explanations of war and conflict among states and within states. The second part will apply these theories to conflict in the past half century in the Middle East, including the Arab-Israeli wars, the Yemen and Lebanon civil wars, the Iran-Iraq and Iraq-Kuwait wars, and the two Palestinian Intifadas. Finally, the prospects for conflict resolution will be discussed. Prerequisite: PSCI 250 recommended. Three credits.

357 Model United Nations
Introduction to the structures, activities, and operations of the UN, the protocols and procedures of UN deliberations, and contemporary international issues and agendas faced by the UN and its member states. The course is built around student preparation for, and participation in, simulated UN deliberations at the four-day annual Harvard National Model UN Conference in Boston scheduled for February. Conference attendance is mandatory; there are additional travel-related costs; and funding raising is required. Credit will be granted for only one of PSCI 357 or PSCI 392 offered in 2014-2015, 2016-2017. Prerequisite: PSCI 101/102(100); 251/252(250) recommended. Three credits.

362 Contemporary China
This course examines the domestic politics and foreign policy of a dynamic, rising power. From its birth in 1949, the People's Republic of China will be examined with emphasis on the changing roles of the Communist Party, the central bureaucracy, local governments, the military, the emerging business class and the overseas Chinese community. Prerequisite: PSCI 250 recommended. Three credits.

363 Politics in East Asia
An examination of politics in and among major regional actors in East Asia. Topics include the historical context of politics in the region since the late 19th century, the political economy of East Asian industrialization, economic regionalism, and regional security. Prerequisite: PSCI 250 recommended. Three credits.

371 Political Economy of Development
Countries in the developing world face a distinct set of political challenges, particularly as they relate to fostering economic growth and providing effective public services. This course will explore the political determinants of development as well as the effect of economic conditions on political outcomes. Key issues include the origins of state weakness, the relationship between political institutions and economic growth, the causes of corruption, and the effect of diversity on governance outcomes. Credit will be granted for only one of PSCI 371 and PSCI 370. Cross-listed as DEVS 371. Prerequisite: PSCI 101/102 or DEVS 201/202; PSCI 211 and 212 recommended. Three credits.

372 Iran and the Muslim World
A critical study of Iranian politics since the 1979 Revolution with particular focus on the role of Shiite Islam and Iranian culture in shaping the Iranian state, its internal dynamics, and its political influence in Lebanon and Iraq. This course will also consider Iranian relations with the West and Israel. Students will be introduced to the basic tenets of Islam. Prerequisite: PSCI 211, 212 recommended. Three credits.

373 Irish Politics and 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. Cross-listed as SOCI 373. Three credits.

379 African Politics
This course provides an introduction to politics in Africa. Topics include: colonial and Cold War legacies; state formation, democratization and identity politics; political economy of African development; environmental issues; poverty reduction and the politics of development assistance; conflict, political violence and fragility; humanitarian intervention and post-conflict peace-building; regional organizations; BRICS and Africa; and African foreign policies. Case studies from various regions in the continent will be discussed. Credit will be granted for only one of PSCI 379 and PSCI 380. Prerequisite: PSCI 101/102; PSCI 211 and 212 recommended. Three credits.

391 Democratization and Development in Latin America
This course examines issues related to the challenges of development and democracy in the region. It provides historical background as well as discussions of theoretical approaches and specific public policies. Credit will be granted for only one of PSCI 391 or PSCI 390. Prerequisites: PSCI 211, 212 or 215 recommended. Three credits.

394 Selected Topics
The topic for 2017-2018 is Global Security and Development. This course is an introduction to International Security Studies, a branch of International Relations. Students will consider conceptual themes and contemporary issues in international security studies. Some of the topics to be covered include: understanding security; causes of war; 'Western' and 'Non-Western' perspectives on warfare; morality of war; nuclear proliferation; terrorism; political violence; conflict management; humanitarian intervention; fragility; peacebuilding; and resource scarcity, climate change and conflict. This is the same course as International Security offered in 2016-2017. Three credits.

395 Mexican Politics
This course looks at Mexico's distinct political tradition. It presents and discusses Mexico's main political actors (political parties, groups, social movements) and institutions (democratic, republican, federal, presidential), and examines the political challenges of democratization and liberalization. Prerequisite: PSCI 215 recommended. Three 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. Mathematical or computer skills not required. Three credits.

401 Political Theory I (Seminar)
This seminar will involve an advanced, in-depth analysis of selected concepts, problems, themes and controversies in Western classical, medieval and early modern political theory, and their current relevance to the discipline of political science and politics. Prerequisite: PSCI 200 recommended. Three credits.

402 Political Theory II (Seminar)
This seminar will critically analyze selected themes, issues and controversies in contemporary political theory, as well consider non-western political thought and

its relevance to Western political science and politics. Prerequisite: PSCI 200 recommended. Three credits.

421 Canadian Politics I (Seminar)
This seminar will consider theoretical perspectives on Canadian politics and the Canadian state, followed by an examination of Canadian political institutions and their setting. Prerequisites: PSCI 220 or 221 and 222 or 240 recommended. Three credits.

422 Canadian Politics II (Seminar)
This seminar deals with the analysis of power in Canada, through the study of selected policy fields and cases. Prerequisite: PSCI 220 or 221 and 222 or 240 recommended. Three credits.

442 Public Policy (Seminar)
This seminar explores the analysis and evaluation of public policy, with applications to policy issues in different political systems. Policy sectors may include the environment, fiscal policy, health, energy and natural resources. Prerequisite: PSCI 342 recommended. Three credits.

451 International Politics (Seminar)
This seminar seeks to introduce the student to the advanced theories and great works of International Relations. Prerequisite: PSCI 250 or permission of instructor. Three credits.

452 Comparative Politics (Seminar)
This seminar discusses major issues in comparative politics and examines the advanced theories, methods, and concepts in the field. Prerequisite: PSCI 211 or 212 recommended. Three credits.

490 Thesis
Restricted to students in the BA Honours program. Six credits.

499 Directed Study
See section 3.5. Six credits.

9.32 PSYCHOLOGY

E. Austen, Ph.D.
L. Berrigan, Ph.D.
A. Bigelow, Ph.D.
K. Blair, Ph.D.
K. Brebner, Ph.D.
T. Callaghan, Ph.D.
P. Hauf, Ph.D.
E. Koch, Ph.D.
C. Lomore, Ph.D.
K. MacLean, Ph.D.
P. McCormick, Ph.D.
J. McKenna, Ph.D.
K. Thompson, Ph.D.
M. Watt, Ph.D.
A. Weaver, Ph.D.
E. Wright, Ph.D.

Professor Emeritus
G.P. Brooks, Ph.D.
K.C. den Heyer, Ph.D.
R.W. Johnson, Ph.D.

Senior Research Professor
J. Edwards, Ph.D.

BA and B.Sc. Major Program
Candidates must follow the degree regulations in chapters 4 and 7 and complete:
a) PSYC 100;
b) PSYC 290 (291, 292); one of PSYC 210, 220, 225 or 230;
c) 12 PSYC credits at the 300 or 400 level; and,
d) 6 additional PSYC credits.

Students contemplating pursuing an advanced major or honours degree are strongly recommended to complete PSYC 290 (291, 292) in their second year.

BA and B.Sc. Honours Program
Candidates must follow the degree regulations in chapter 4 or 7 and complete:
a) PSYC 100; one of PSYC 210, 220, 225 or 230; PSYC 290 (291, 292), 301, 302, 394;
b) 6 credits at the 400 level;
c) PSYC 391, 491 (non-credit) and PSYC 490, the honours thesis; and
d) a total of 60 PSYC credits.

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 301, 302.

B.Sc. Programs
Candidates must follow the degree regulations in chapter 7 and should note the following:
a) PSYC courses are considered science courses only when they are taken as part of a major, advanced major or honours subject in the B.Sc. program;
b) B.Sc. major program must include BIOL 111, 112; MATH 106 or 126, 107 or 127, and 12 additional credits in science courses (excluding PSYC).
c) B.Sc. advanced major and honours degree programs must include BIOL 111, 112; CHEM 100; MATH 106 or 126, 107 or 127; and 6 additional credits in science courses (excluding PSYC);
d) For the B.Sc. advanced major and honours programs, 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 enroled in joint honours programs in which psychology is one of the two honours subjects must take PSYC 230.

Note: PSYC 100 is a prerequisite for all other courses except PSYC 290 (291, 292) and 394.

Concentration in Forensic Psychology
Students enroled in the Bachelor of Arts may apply in their sophomore year to concentrate their psychology degree in forensic psychology. In the second year, applicants must take PSYC 290 (291, 292) and 6 additional credits from the following: PSYC 210, 220, 225, 230. Candidates must complete PSYC 356, 357, 376, 378, 379, 381, 382 and one of the following: PSYC 364, 365, 367, 368.

Applications are submitted to the Co-ordinator of the Forensic Psychology program (please see co-ordinator for additional information on the program).

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 on-going research in the department by participating in experiments during the course of the academic year. Credit will be granted for only one of PSYC 100 and PSYC 155. Six credits.

155 Introduction to Psychology for Nurses
A survey of the major topics of psychology applicable to the health professions, with a focus on age-related changes from conception to adolescence. Special emphasis will be placed on using critical thinking to evaluate scientific research, biological psychology, physical, cognitive and social development, health, stress, and coping, and the diagnosis and treatment of psychological disorders. Credit will be granted for only one of PSYC 155, PSYC 100 or PSYC 354. Restricted to students in the B.Sc.Nursing program. Three 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 behaviourism 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. Not offered 2017-2018.

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 Behaviour
An introduction to behavioural neuroscience, including analysis of the anatomical, physiological, and biochemical mechanisms underlying behaviour. 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 behaviour 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. Credit will be granted for only one of PSYC 260 or PSYC 354. Lab component. Prerequisite: PSYC 100. Six credits.

290 Research Methods in Psychology
An introduction to methods used to collect and analyze data in psychology. Topics include: measurement; correlation and experimental design; research ethics; descriptive statistics; hypothesis testing; inferential statistics including correlation and regression, z-tests and t-tests, basic analysis of variance. Students will use statistical software. Credit will be granted for only one of PSYC 290 (291/292) and STAT 101(201), 224, 231. Prerequisite: PSYC 100. Lab component. Six credits.

301 History & Theory of Psychology I: From Ancient Times to the Rise of Experimental 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. Credit will be granted for only one of PSYC 301 or PSYC 300. Prerequisites: 6 credits of PSYC at the 200 level. Three credits.

302 History & Theory of Psychology II: From the Beginnings of Experimental Psychology to Current Psychological Science
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. Credit will be granted for only one of PSYC 302 or PSYC 300. Prerequisites: 6 credits of PSYC at the 200 level. Three credits.

313 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. Credit will be granted for only one of PSYC 313 or PSYC 310. Prerequisites: 6 credits of PSYC at the 200 level. Three credits.

315 Positive Psychology
Positive psychology is the scientific study of human strengths and optimal human functioning. The history of, and precursors to, positive psychology will be reviewed. Research and theory related to topics including character strengths, resilience, flow, mindfulness, optimism, gratitude, positive psychology in the workplace, and altruism will be discussed. Techniques and exercises designed to enhance each aspect of optimal functioning will be explored. The format of the course will be both experiential and research-based. Credit will be granted for only one of PSYC 315 and PSYC 386 offered in 2016-2017. Prerequisite: 12 credit PSYC. Three credits.

327 The Psychology of Pain
Contrary to popular belief, the experience of pain is not necessarily linked to bodily injury or detection of intense energy. Pain can be caused by various factors, including: tissue injury, visibility of wound or noxious stimulus, attentional state, expectation, mood, previous pain experience, conditioned responses, etc. This course provides a basic understanding of pain perception and of the physical and psychological means of modulating pain. Credit will be granted for only one of PSYC 327 or PSYC 325. Prerequisites: 6 credits of PSYC at the 200 level. Three credits. Not offered 2017-2018.

328 Neural Mechanisms of Pain and Analgesia
This course examines the neurophysiological mechanisms of pain perception and related analgesic treatments. It provides a basic understanding of the neural activities underlying pain perception and the mechanisms that underlie pain-related neuroplasticity and various means of modulating pain. Credit will be granted for only one of PSYC 328 or PSYC 325. Prerequisites: 6 credits of PSYC at the 200 level. Three credits.

341 The Self
This course explores contemporary perspectives and research on the self as it relates to social behaviour. The nature and function of the self and the ways in which the self is both influenced by and influences other people will be examined from a social-psychological perspective. Topics will include: knowledge of the self, self-motivation, self-esteem, self-regulation, self-prediction, the self in the context of relationships with others, and the influence of culture on views of the self. Prerequisite: 6 credits of PSYC at the 200 level. Three credits.

347 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. Credit will be granted for only one of PSYC 347 and PSYC 345. Prerequisites: 6 credits of PSYC at the 200 level. Three credits. Not offered 2017-2018.

353 Psychology of Personality
The purpose of this course is to explore the diverse body of contemporary research and theory on personality psychology. Although the course will also present some sense of history of personality psychology, the focus will be on the most recent empirical research. The course may involve small group research projects and/or an APA-style research proposal. Credit will be granted for only one of PSYC 353 or PSYC 350. Prerequisites: 6 credits of PSYC at the 200 level. Three credits. Not offered 2017-2018.

354 Lifespan Developmental Psychology for the Health Sciences I (Childhood & Adolescence)
The field of developmental psychology is the scientific study of age-related changes in our bodies, behaviours, thinking, emotions, social relationships, and personalities. The course will provide a basic understanding of human development from conception through adolescence in relation to environmental influences, cultural expectations, maturational processes, and individual development. Credit will be granted for only one of PSYC 354 or PSYC 260. Prerequisite: PSYC 100. Three credits.

355 Lifespan Developmental Psychology for the Health Sciences II (Adulthood & Aging)
Lifespan development is an exploration of the biological, cognitive, and psychosocial changes that occur across different periods of life. This course will provide a basic understanding of human development from early adulthood until death. Age-related changes in behaviour, thinking, emotions, personalities, and social relationships will be explored in relation to maturational processes, individual differences, and cultural expectations. Credit will be granted for only one of PSYC 355 and PSYC 387 offered in 2017-2018. Prerequisites: PSYC 260 or PSYC 354. Three credits.

356 Forensic Practicum I
Students in this concentration will be required to complete two practica in approved forensic-related settings; one practicum in each year of the program. The minimum number of hours per practicum will be 40 hours. Students will be encouraged to explore options and opportunities for doing a placement in their home communities. Restricted to BA students in the forensic concentration. Three credits.

357 Forensic Practicum II
Students in this concentration will be required to complete two practica in approved forensic-related settings; one practicum in each year of the program. The minimum number of hours per practicum will be 40 hours. Students will be encouraged to explore options and opportunities for doing a placement in their home communities. Restricted to BA students in the forensic concentration. Three credits.

362 Applications of Psychology to the Health Sciences
This is a lecture and seminar course in which contemporary applications of psychology to the health sciences will be considered. The psychological issues related to the design and implementation of technologies to improve the well-being and functioning of individuals with disabilities will be covered. Credit will be granted for only one of PSYC 362 or PSYC 375. Prerequisites: 6 credits of PSYC at the 200 level. Three credits.

363 Applications of Psychology to Society
This is a lecture course in which applications of psychology to society will be considered. This course provides students with an in-depth understanding of the tools of persuasion (e.g., consistency, reciprocity, liking, social proof, persuasive language, non-verbal cues), how to use these tools in an ethical manner, and apply them to solving everyday life and real-world problems. Credit will be granted for only one of PSYC 363 or PSYC 375. Prerequisites: 6 credits of PSYC at the 200 level. Three credits.

364 Psychology of Gender
This course will review theories and research regarding gender in psychological development, social roles, and personality. Topics to be covered will include the history of research in gender; issues to consider in conducting gender research; gender role development and the socialization of gender; gender as a social variable in education and the workplace. Credit will be granted for only one of PSYC 364 or PSYC 360. Cross-listed as WMGS 343. Prerequisite: 6 credits of PSYC at the 200 level. Three credits. Not offered 2017-2018.

365 Developmental Social Psychology of Gender
This course will review theories and research that integrate developmental and social perspectives on gender. Topics will focus on gender as a social construct

and include gender role development, gender role socialization in the family and gender development in cross-cultural perspective. Credit will be granted for only one of PSYC 365 or PSYC 360. Cross-listed as WMGS 344. Prerequisite: 6 credits of PSYC at the 200 level. Three credits.

367 Basics of Psychopharmacology

This course surveys basic neuropharmacology and the actions of psychoactive drugs used to treat psychological disorders. It covers basic principles of neuropharmacology, distribution and elimination of drugs, drug-receptor interactions, neuroanatomy, neurochemistry and neurophysiology. This course is designed to provide an introduction to the pharmacological treatment of psychological disorders and to provide a foundation for advanced study in behavioural neuroscience, neuropsychopharmacology and related areas. Credit will be granted for only one of PSYC 367 or PSYC 377. Prerequisite: 6 credits of PSYC at the 200 level; PSYC 230 recommended but not required. Three credits. Not offered 2017-2018.

368 Pharmacology of Drugs of Abuse

This course covers various topics in the study of drug addiction, including pharmacological and pathophysiological effects of recreational drug use. Topics such as mechanisms of action, tolerance, long-term effects, side effects, and toxicity will also be included. The primary emphasis is on biological aspects of addiction, with only minor attention given to social aspects. The pharmacological properties of both legal and illegal addictive drugs will be examined. Credit will be granted for only one of PSYC 368 or PSYC 377. Prerequisite: 6 credits of PSYC at the 200 level. PSYC 230 recommended but not required. Three credits.

372 Cultural Psychology

The focus of this course is on how culture influences human behaviour and mind. The evolution of culture is considered as we dissect the debate surrounding claims that culture exists outside of the human species. Contemporary research and theory in human development and socialization, self-identity and cultural constructs of collectivism and individualism, acculturation and multi-culturalism, building relationships with others, conceptions of health and healing, and the impact of culture on the basic psychological processes will be covered. Prerequisites: 6 credits of PSYC at the 200 level. Three credits.

373 Human Neuropsychology

Neuropsychology is the study of how damage to the brain causes changes in thoughts and behaviours. Cognitive changes associated with specific diseases/conditions will be the focus of the course (e.g., Alzheimer's disease, multiple sclerosis, Parkinson's disease, stroke, etc.). Examples of cognitive and behavioural symptoms will be presented via videos, audio recordings, and performance on neuropsychological tests. The assessment of cognitive processes will be introduced and relevant structural and functional neuroanatomy will be reviewed. Cross-listed as BIOL 374. Prerequisite: 12 credits PSYC; PSYC 230 recommended but not required. Three credits.

374 Human Development Across Cultures

This course examines the development of the individual from a cultural perspective. Development is considered to involve a process of co-construction of the individual and culture. The impact of cultural practices, traditions, and parental beliefs on the developing child are considered, along with the interplay between those cultural forces and the biological foundations that influence the course of development. Cognitive, social, emotional development will be studied, along with a consideration of applied issues that emerge from investigations of the impact of cultural environments on child development. Prerequisites: 6 credits of PSYC at the 200 level. Three credits. Not offered 2017-2018.

376 Abnormal Psychology

This course deals with current perspectives and research on the various psychological disorders. Courses in learning, brain and behaviour, developmental psychology, and personality form a useful background for this course. Credit will be granted for only one of PSYC 376 or PSYC 370. Prerequisites: 6 credits of PSYC at the 200 level. Three credits.

378 Human Sexuality

This course provides a broad introduction to research and theory in human sexuality. It includes examination of fundamental topics such as the nature of human sexuality and contemporary issues. Specific topics include historical perspective, theories of sexuality, sex research, sexual anatomy, sexual variation, sexual response, gender, sexual dysfunction and sex therapy. Cross-listed as WMGS 378. Prerequisites: 6 credits of PSYC at the 200 level. Three credits.

379 Introduction to Clinical Psychology

This course provides an introduction to the theory, research and practice of clinical psychology. It assumes an evidence-based approach to assessment and treatment of psychological disorders, and examination of relevant ethical, professional, and theoretical issues. This course will be of interest to students intending to pursue graduate or professional studies in mental health or human services (e.g., clinical psychology, social work, counseling, nursing, law, medicine, corrections). Prerequisites: 12 credits of PSYC, including PSYC 370 or 376. Three credits.

381 Forensic Psychology I: Correctional Psychology

This course refers broadly to the production and application of psychological knowledge to legal issues. This course covers the history and mandate of corrections; nature of offending, behaviour assessment, treatment, and rehabilitation of different types of offenders. Field trips to prisons and other correctional facilities are a required component of this course and involve significant commitment of time beyond scheduled class time. At times, trips may conflict with other classes. Students are responsible for managing their schedule and workload to facilitate participation in this course without needing accommodations in other courses. Credit will be granted for only one of PSYC 381 and PSYC 380. Prerequisites: PSYC 100, 376, 379. Three credits.

382 Forensic Psychology II: Psychology & Law

A continuation of PSYC 381, this course covers the history of the relations between psychology and law; Canadian criminal law; basic concepts in criminal justice and the study of crime. The course will include attendance at provincial and Supreme Court sessions, organization of special events as well as hosting guest speakers from the criminal justice system. Students are responsible for managing their schedule and workload to facilitate participation in this course without needing accommodations in other courses. Credit will be granted for only one of PSYC 382 and PSYC 380. Prerequisite: PSYC 381. Three credits.

385 Selected Topics

The topic for 2017-2018 is Intimate Relationships. This course explores contemporary theories and research on intimate relationships. A social psychological perspective will be adopted to explore relationship processes ranging from interpersonal attraction, attachment, interdependency, communication, conflict, stress and support, and dissolution. Methods for studying dyads will also be discussed. Analysis will focus primarily on heterosexual relationships; however same-sex relationships will be explored where possible. Prerequisites: 12 credits PSYC, including PSYC 240. Three credits.

387 Selected Topics

The topic for 2017-2018 is Aging Bodies/Aging Minds. This course will cover typical perceptual, mobility, and cognitive changes that occur in older adults, how these changes impact each other, and how they influence social and emotional development. The focus is on healthy aging. Credit will be granted for only one of PSYC 387 offered in 2017-2018 and PSYC 355. Prerequisite: 6 credits of PSYC at the 200 level. Three credits.

389 Selected Topics

Prerequisite: 6 credits of PSYC at the 200 level. Three 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.

394 Advanced Statistics for Psychological Research

An examination of intermediate and advanced statistical procedures for the psychology researcher, with emphasis on the use of statistical software packages. Lectures and lab sessions cover topics such as factorial analysis of variance; mixed designs; contrasts and comparisons; power; multiple regression and correlation; the MRC approach to factorial and mixed designs; and multivariate analysis. Credit will be granted for only one of PSYC 394, PSYC 390, STAT 331. Prerequisites: grades of 70 PSYC 290(291, 292). Lab component. Three credits.

421 Advanced Topics in Cognition

This seminar and laboratory course will examine current topics in cognition. Topics considered may include attention, memory, decision-making, consciousness, pattern recognition and artificial intelligence. Credit will be granted for only one of PSYC 421 or PSYC 420. Prerequisite: PSYC 220 or 225; advanced major or honours standing or permission of the chair. Lab component. Three credits.

422 Advanced Topics in Perception

This seminar and laboratory course will examine current topics in perception. Topics considered may include multisensory integration, attention and action, sensory impairments, brain plasticity, visual perception, and haptic perception. Credit will be granted for only one of PSYC 422 or PSYC 420. Prerequisites: PSYC 220 or 225; advanced major or honours standing or permission of the chair. Lab component. Three credits. Not offered 2017-2018.

431 Advanced Topics in Behavioural Neuroscience I: Neurobiology of Psychological Disorders

Topics in the field of behavioural neuroscience will be considered. The precise topics covered in the seminar will change from year to year, however the focus of the course content will be on various aspects of the behavioural neuroscience, including, but not limited to the etiology, diagnosis and treatment of neurological disorders, broadly defined. Credit will be granted for only one of PSYC 431 or PSYC 430. Restricted to advanced major and honours students. Cross-listed as BIOL 453. Prerequisite: PSYC 230 or permission of the department chair. Lab component. Three credits. Not offered 2017-2018.

432 Advanced Topics in Behavioural Neuroscience II: Contemporary Issues

This is a seminar course in which current topics in the field of behavioural neuroscience are considered. Credit will be granted for only one of PSYC 432 or PSYC 430. Restricted to advanced major and honours students. Cross-listed as BIOL 454. Prerequisite: PSYC 230 or permission of the chair. Three credits.

441 Advanced Social Psychology

An examination of selected topics in experimental social psychology. The specific topics in this course will vary depending on the instructor. Topics include self-compassion, sexuality, and relationships. Credit will be granted for only one of PSYC 441 or PSYC 440. Restricted to advanced major and honours students. Prerequisite: PSYC 240 or 350 or 353 or permission of the chair. Lab component. Three credits. Not offered 2017-2018.

442 Advanced Social and Personality Psychology

An examination of selected topics in experimental social psychology and consideration of the overlap between social psychology and personality psychology. The specific topics will vary depending on the instructor. Topics include self-esteem, interpersonal rejection, and prejudice and stereotyping. Credit will be granted for only one of PSYC 442 or PSYC 440. Restricted to advanced major and honours students. Prerequisite: PSYC 240 or 350 or 353 or permission of the department chair. Lab component. Three credits.

461 Advanced Developmental Psychology: Social & Emotional Development

This course will examine from an empirical standpoint specialized topics in developmental psychology with a focus on social/emotional development. Topics can include the development of emotional understanding, the development of typical and atypical attachment relationships, attachment across the life span, parent child interaction, and peer relationships. Credit will be granted for only one of PSYC 461 or PSYC 460. Restricted to honours and advanced major students. Prerequisite: PSYC 260 or PSYC 354 or permission of the department chair. Lab component. Three credits. Not offered 2017-2018.

462 Advanced Developmental Psychology: Perceptual & Cognitive Development

This course will examine from an empirical standpoint specialized topics in developmental psychology with a focus on perceptual and cognitive development. Topics can include the development of intentionality, understanding self and others, language, and memory. Credit will be granted for only one of PSYC 461 or PSYC 460. Restricted to honours and advanced major students. Prerequisite: PSYC 260 or permission of the chair. Restricted to honours and advanced major students. Lab component. Three credits.

490 Honours Thesis

Prerequisites: PSYC 394, completed or concurrent; honours standing in psychology. Six credits.

491 Senior Seminar

The purpose of this non-credit course is to assist students in carrying out thesis or senior paper research, choosing a career, and gaining admission to graduate or professional school. Students will present their thesis proposal orally in the fall term and their completed research in the spring. Attendance at colloquia and guest lectures relevant to psychology is mandatory. Prerequisite: senior standing in an advanced major or honours program in psychology. No credit.

499 Directed Study I and II

These are reading or laboratory courses in which the student pursues an individual program of study under the direction of a faculty member. See section 3.5. Three credits each.

9.33 PUBLIC POLICY AND GOVERNANCE

D. Brown, Ph.D., Coordinator

The program will introduce students to the broad spectrum of public affairs and leadership in Canada and abroad. Students will develop the ability to critically assess the institutions and processes associated with government and governance, as well as to analyze the processes and outcomes in the design, implementation, and assessment of public policy at all levels of social organization. Students will engage with historical and contemporary issues and topics in public policy and develop a critical account of their development, implementation, and implications. They will also consider alternative policies and their potential impact, as well as the broader implications of policies as part of governance models and their structural logic. Students will become proficient in a core set of skills and interdisciplinary knowledge with immediate application to the broad public sector as well as private organizations dealing with government and policy matters.

Major and Joint Major

Core: PGOV 101, 201, 202, 301, 302, 303, 401
Required: ECON 101, 102, 241; PSCI 101, 102, 221, 222; STAT 101
Designated: 15 credits, see listing
Pairs: 24 credits
Minor: 24 credits
Electives: 12 credits

No more than 12 credits of designated courses or cross-listed courses may be from a single department. None of the cross-listed or designated courses may be in the student's declared minor or subsidiary or other major.

Honours with Subsidiary

Core: PGOV 101, 201, 202, 301, 302, 303, 401, 402, 451, 490
Required: ECON 101, 102, 241; PSCI 101, 102, 221, 222; STAT 101
Designated: 15 credits, see listing
Subsidiary: 24 credits
Pairs: 12 credits
Electives: 12 credits

No more than 12 credits of designated courses or cross-listed courses may be from a single department. None of the cross-listed or designated courses may be in the student's declared minor or subsidiary or other major.

Minor

Core: PGOV 101, 201, 202
Required: ECON 101 or 102
Designated: 12 credits, see listing

No more than 6 credits of designated courses or cross-listed courses may be from a single department. None of the cross-listed or designated courses may be in the student's declared major or honours subject.

101 Modern Challenges for Public Policy & Governance

This course introduces students to the field of public policy and governance by immersion in a key set of contemporary challenges for Canada and the world. It is available to all students but is also intended as the gateway course for those planning to take more Public Policy and Governance program (PGOV) courses. Students will be taught foundational concepts and explore key current issues. Three credits.

201 Public Policy

The course consists of an overview of public policy: what it is and how it is studied. Students will examine the social forces and ideas behind public policy debates as well as the nature of policy outcomes through history, in Canadian and global settings. A further understanding of policy process and outcomes is achieved by undertaking case studies of a range of policy fields such as economics, health, aboriginal studies and issues, and environmental studies and issues. Credit will be granted for one of PGOV 201 or PSCI 342. Prerequisite: PGOV 101. Three credits.

202 Governance

This course will introduce the concept of governance and ask students to address questions that often arise from the process of governance such as: What constitutes good governance? How do we keep governing bodies accountable? Who are the stakeholders? How does corporate governance differ in the public, voluntary, and private sectors? How does Indigenous Governance work? What are the risks and benefits of privatization or public-private partnerships? Prerequisite: PGOV 101. Three credits.

301 Comparative Public Policy

The course provides an intermediate examination of the ways in which public policy is formulated and implemented Canada and other democratic systems. Policies

and governance across different levels and forms of government will be covered in order to give students a detailed account of the evolution and diversity of policy formation and implementation. Credit will be granted for one of PGOV 301 or PSCI 341. Prerequisite: 6 credits PGOV. Three credits.

302 Public Management

This course provides an intermediate examination of the structure and practice of government and governance, whether it be local, indigenous, provincial, national or international entities. It seeks to answer how political communities organize themselves for governing, how governing organizations are best managed, how leaders deal with such persistent issues as political power and bureaucracy, accountability, participation and citizen rights, and financial and other resources. Prerequisite: 6 credits PGOV. Three credits.

303 Research Principles and Practices

A foundational course in the theory and practice of policy research. The course covers the history and development of policy research methods and introduces quantitative and qualitative methods applied to policy design, implementation and evaluation. Students will apply concepts and methods to research projects on contemporary problems in Canada and in the global community in such fields as economic, health, aboriginal, environment and international security. Prerequisites: 6 credits PGOV. Three credits.

401 Strategic Governance

Visiting leaders and scholars as well as program faculty will engage with students on topics pertaining to governance and policy, with an emphasis on leadership, problem-solving and long-term thinking with real-world examples. Students will make the link between academic learning and experiential learning by engaging with professionals working in policy and governance fields. Course methods will include lectures, guest speakers, cases, presentation, and simulations. Prerequisites: 12 credits at the 300 level in PGOV core or designated courses. Three credits.

402 Senior Seminar

This course is a required senior seminar for honours with subsidiary students and recommended for majors in PGOV who wish to engage with the academic literature on major contemporary public policy and governance issues. Students will review and debate recently published literature in the field and complete several assignments, both oral and written, in relation to these readings. Credit will be granted for one of PGOV 402 or PSCI 422. Prerequisite: 12 credits at the 300 level in PGOV core or designated courses. Three credits.

451 Internship

This course provides students with the opportunity to practice the concepts and ideas expanded upon in the classroom in a real-world setting. Students will spend the equivalent of one term, usually the summer between the junior and senior year, gaining hands-on experience in a work or volunteer setting. Students will be required to reflect and report on their internship experience and its relevance to the evolving knowledge of a policy sector or governance setting, as well as to learn from fellow students in post-internship seminars. Restricted to PGOV students. Prerequisites: PGOV 301, 302, 303. Three credits.

490 Honours Thesis

Under the supervision of a professor each student completes a research project, from conception to completion, over the course of the year. Students are responsible for choosing a topic, the use of resources, the methodological soundness, and literary quality of the final product. Restricted to honours students. Six credits.

PUBLIC POLICY AND GOVERNANCE DESIGNATED COURSES

Department prerequisites will apply.

Anthropology		Credits
ANTH 234	Introduction to Indigenous Anthropology	3
ANTH 332	Mi'kmaq Studies	3
ANTH 425	Power and Change	3
ANTH 435	Advanced Indigenous Issues	3

Aquatic Resources		Credits
AQUA 201	Rivers, Lakes and Freshwater Governance	3
AQUA 202	The Oceans' Commons and Society	3

Biology		Credits
BIOL 221	Issues in Resource Management	3
BIOL 222	Topics in Environmental Ecology	3
BIOL 231	Plants and Human Health	3

Business Administration		Credits
BSAD 221	Introductory Financial Accounting	3
BSAD 223	Introductory Managerial Accounting	3
BSAD 241	Introductory Financial Management	3
BSAD 261	Organizational Behaviour	3
BSAD 332	Marketing Research	3
BSAD 352	Social Entrepreneurship	3
BSAD 358	Business Ethics	3
BSAD 363	Human Resource Management	3
BSAD 367	Gender and Management	3
BSAD 384	Data Management and Analytics	3
BSAD 461	Leadership	3
BSAD 462	Industrial Relations	3
BSAD 467	Leading Change: The Challenge of Creating and Sustaining Organization Change	3
BSAD 482	Business Analytics	3

Development Studies		Credits
DEVS 201	Introduction Development: The Global South	3
DEVS 202	International Development: Canada	3
DEVS 302	Globalization and Development	3

Earth Sciences		Credits
ESCI 272	Global Change and the Climate System	3
ESCI 273	Health and the Environment	3

Economics		Credits
ECON 201	Intermediate Microeconomics Theory I	3
ECON 202	Intermediate Macroeconomics I	3
ECON 305	Economic Development I	3
ECON 306	Economic Development II	3
ECON 335	Money, Banking and Financial Markets I	3
ECON 364	Health Economics	3
ECON 365	International Trade	3
ECON 366	International Payments and Finance	3
ECON 381	Natural Resource Economics	3
ECON 391	Public Finance I: Expenditures	3
ECON 392	Public Finance: Taxation	3

History		Credits
HIST 216	Modern France, 1789 to Present	3
HIST 256	Modern Latin America	3
HIST 262	Europe in the 20th-Century	3
HIST 282	Cool Britannia: Four Nations & One State	3
HIST 304	The Working Class in Modern Canada	3
HIST 318	Canadian Women's & Gender History: Modernity	3
HIST 341	A History of Canadian-American Relations	3
HIST 347	American Social Movements, 1945-Present	3
HIST 360	Gender & Sexuality in Modern European Empires	3
HIST 374	20th-Century China	3

Human Nutrition		Credits
HNU 405	Food Availability	3

Nursing		Credits
NURS 364	Social Justice and Health	3
NURS 433	Introduction to Policy for Health Interdisciplinary Strategies	3

Philosophy		Credits
PHIL 251	Critical Thinking	3
PHIL 331	Introduction to Ethics	3
PHIL 332	Contemporary Moral and Social Issues	3
PHIL 333	Environmental Ethics	3
PHIL 371	Social and Political Philosophy	3
PHIL 372	Philosophy of Law	3
PHIL 451	Seminar in Ethics, Political Philosophy, and the Philosophy of Law I	3
PHIL 452	Seminar in Ethics, Political Philosophy, and the Philosophy of Law II	3

Political Science		Credits
PSCI 201	Ancient and Medieval Political Thought	3
PSCI 202	Modern Political Thought	3
PSCI 211	Comparative Politics I	3
PSCI 212	Comparative Politics II	3
PSCI 231	United States Politics	3
PSCI 241	Political Power and Business in Canada	3
PSCI 242	The Politics of Economic Policy in Canada	3
PSCI 250	World Politics	3

PSCI 311	European Politics	3
PSCI 321	Federalism	3
PSCI 322	Politics in Atlantic Canada	3
PSCI 335	Human Rights and International Justice	3
PSCI 343	Law and Politics	3
PSCI 344	Citizenship and Identity	3
PSCI 345	Women and Politics	3
PSCI 346	Politics of Resource Management	3
PSCI 351	Canadian Foreign Policy	3
PSCI 352	American Foreign Policy	3
PSCI 353	International Organizations	3
PSCI 354	International Political Economy	3
PSCI 399	Research Methods and Statistics	3

Sociology		Credits
SOCI 202	Research Principles and Practices	3
SOCI 217	Race, Class, Gender, and Sex	3
SOCI 247	Environmental Social Science I: Problems and Paradigms	3
SOCI 248	Environmental Social Science II: Power and Change	3
SOCI 254	Social Class of Lived Experience	3
SOCI 360	Social Policy	3
SOCI 364	Food and Society	3
SOCI 397	Sociology of First People	3
SOCI 397	Urban Society	3

Women's and Gender Studies		Credits
WMGS 303	Feminist Theory	3
WMGS 346	Critical Race & Sexuality Studies in Canada	3

9.34 RELIGIOUS STUDIES

B. Appleby, Th.D.
L. Darwish, Ph.D.
R. Kennedy, Ph.D.
K. Penner, Ph.D.
A. Sandness, Ph.D.

Senior Research Professor and Professor Emeritus
B. MacDonald, 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. Although students are able to complete a 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 or honours degree in religious studies must consult the department chair. The department offers an honours degree with other departments as a subsidiary subject. *See chapter 4 for regulations.*

111 Compassionate Global Citizenship: World Religions I

This course provides a survey of indigenous and eastern religious traditions. Students are introduced to the sacred texts and narratives, myths, symbols and rituals of Indigenous religions, Hinduism, Buddhism, Taoism and Confucianism. Through exploring the history, philosophy and sociology of these cultures, students will gain insight into key elements of global diversity. The course is designed to foster skills for compassionate global citizenship. Themes considered may include health, ecology, or social justice and peace movements. Credit will be granted for only one of RELS 111, RELS 110(111/112), RELS 120. Three credits.

112 Compassionate Global Citizenship: World Religions II

This course provides a survey of Judaism, Christianity, Islam and new religious movements. Students are introduced to the sacred texts, myths, symbols, rituals, history, philosophy and sociology of cults and new religious movements, Judaism, Christianity and Islam. This course fosters compassionate global citizenship by preparing students for a comprehensive understanding of multicultural diversity. Themes such as health, ecology, or social justice and peace movements may be covered. Credit will be granted for only one of RELS 112, RELS 110(111/112), RELS 120. Three credits.

117 Ethical Principles for Health Care Providers

This course is designed to provide the foundations for promoting moral development and ethical competence among health care professionals as informed by diverse religious and cultural traditions. Students will be introduced to the moral and ethical principles underlying debates concerning advancements in medical technologies. Special emphasis will be placed on the moral behaviours and skills demonstrated by exemplary health care providers in health care settings. Three credits. Offered 2017-2018.

120 Religion, Spirituality, and Health

This is an introductory course which provides a thematic focus on spirituality, healing and well-being in selected Eastern and Western religious traditions. Each unit of study will include an introduction to the tradition; explore spiritual paths pursued by its practitioners; examine characteristics of illness, healing and well-being in the tradition; and explore one or more specific contemporary health concerns and healing practices which arise from within each religious tradition. Credit will be granted for only one of RELS 120, RELS 100 or RELS 110(111/112). Six credits.

200 Introduction to Religious Ethics

An introduction to religious ethics, this course examines Christian and other religious traditions and their approaches to social justice, ecology, pluralism, healthcare, and non-violence. Six credits.

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. Offered every year.

212 Christianity

This course is a comprehensive investigation of the history, teachings, and cultural influence of Christianity from its beginnings as an attempted renewal of Judaism in the first century of the common era to its current role as an international influence on world affairs. We will examine representative texts and thinkers, comparing the differences among the various denominations of Christianity (Eastern Orthodox, Roman Catholic, Protestant). Students will also learn about the past and contemporary relationships between Christianity and other religions, especially Judaism and Islam. Credit will be granted for only one of RELS 212 and RELS 100. Three credits.

214 Judaism

This course introduces the historical development of Judaism from its origin to the 21st century. Special attention is given to factors that shaped this development: geographical, political, economic, social, and theological. 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. Cross-listed as SOCI 227. Three credits. Offered every year.

219 Celtic Paganism

This course examines the religious practices and beliefs of the ancient Celtic peoples that we can glean from archaeology, reports of Greek and Roman commentators, place-name evidence, and the mythology in medieval Irish and Welsh narrative tradition. Other topics include syncretism, the adaptation of pagan festivals into Christian holidays, the persistence of elements of paganism into the Christian era, witchcraft in Scotland and Ireland in the context of the European phenomenon and neo-paganism today. Cross-listed as CELT 220. Three credits. Offered 2017-2018.

221 Religion and the Environmental Crisis

Perhaps the greatest challenge of our time is the ecological crisis. This threat has provoked widespread reflection upon humanity's relationship to its environment. Such reflection however is not new. This relationship was already being explored millennia ago, in humanity's most ancient religious texts. This course investigates the historical interaction of religion and ecology, and considers how religion might yet constitute either a hindrance or an aid in navigating the present ecological crisis. Credit will be granted for only one of RELS 221 and RELS 356. Three credits.

225 Cults and Alternative Religions

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. Three credits.

229 Celtic Christianity
This course is an exploration of the development of Christianity amongst the Celtic peoples. A major facet will be the medieval hagiographic tradition and saints' cults from the fourth to the twelfth centuries. Other topics include monasticism, peregrini, the Hiberno-Scottish mission to the continent, conflict with Roman Catholicism, material culture, the modern use of the term "Celtic Christianity". Cross-listed as CELT 230. Three credits. Offered 2017-2018.

235 Hinduism and Buddhism
This course introduces the paths to enlightenment identified by members of the Hindu and Buddhist traditions of India and Tibet. We will introduce the philosophy, mythology and ritual traditions of both Hinduism and Buddhism. Three credits.

246 Philosophy of Religion
Explores the philosophy of religion, including different concepts of God with emphasis on the Judeo-Christian tradition; arguments for the existence of God; classical and modern challenges to belief in God. Issues such as 'life after death', miracles, religious experience, and the concept of prayer may also be discussed. Credit will be granted for only one of RELS 246 or PHIL 240. Cross-listed as PHIL 245. Three credits.

254 Islam
This course surveys the Islamic religious tradition taking account of its historical context from pre-origins till the present. Students will become conversant with basic Islamic beliefs, texts, and ritual and other practices across a spectrum of schools of thought. In addition, the course introduces critical questions in the study of Islam. Credit will be granted for only one of RELS 254 or RELS 370. Three credits. Offered 2017-2018.

261 Islam and Film
Students will gain a critical understanding of film as an artifact of culture and a powerful medium of religious and cultural expression in Muslim contexts. Students encounter themes such as religion and politics, marriage and family, youth, society, sexuality, ritual and devotion, Islamic law, community, and ethics, and engage critically in their cinematic representations. The course is based primarily on foreign films with English subtitles and provides a foundation for further study of Islamic traditions. Three credits. Offered 2017-2018.

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

298 Selected Topics
The topic for 2017-2018 is Fantastic Beasts and Where to Find Them in World Religions. Much contemporary fantasy draws upon ancient and medieval myths about beasts and monsters of various sorts. In this course, we will consider the religious origins of the fantastic, and how it continues to resonate in our contemporary world. 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. Open to third- and fourth-year students in any programs. Six credits.

310 Religion in Modern India
This course will explore continuity and change in modern Indian religion. After an introduction to contemporary Indian secular democracy, we will explore traditional Indian religion as a living phenomenon and review basic elements of traditional Hinduism. As well, examine the contribution of various change-makers to the evolution of Indian religious tradition and traditional Indian responses to the challenges created by Buddhism, Islam, British colonization, the partition of India, and Indian secular democracy itself. Prerequisite: any 100-level RELS course or permission of the instructor. Six credits.

311 New Testament
This course provides an introduction to the academic study of the history and literature of the early Christian movement. The aim of this course is to provide a solid understanding of the New Testament through close study of texts, historical analysis, and evaluation of evidence and arguments. We will explore several early Christian groups, their multiple disputes, arguments, positions, theologies, and understandings, through close reading of texts and appreciation of historical contexts. Credit will be granted for only one of RELS 311 and RELS 255 and RELS 265. Three credits.

312 Old Testament/Hebrew Bible
This course examines the foundational texts of both Judaism and Christianity, notably the prophetic, historical, and wisdom literature included in the Old Testament. Each biblical book will be placed in its historical, theological, and literary context, by situating it in the relevant archeological data, historical background, and contemporary scholarship. Credit will be granted for only one of RELS 312 and RELS 253. Three credits.

315 Power & Gender in Hinduism and Buddhism
This course reflects on the nature of power as understood in Hindu and Buddhist traditions. It does this by examining the sacred and gender. We will study inter-dependence and transcendence by tracing the relationship of the masculine and feminine principles in the philosophy, mythology and experience of people in the Hindu and Buddhist traditions of India and Tibet. Cross-listed as WMGS 397. Three credits.

316 Women in Early Judaism
The course investigates the depiction and experience of women from the earliest biblical narratives to the separation of Christianity from Judaism. Students analyze responses to women and ideas about women in Biblical and other early Jewish writings, in comparison to women in the rest of the Ancient Near East, in conversation with feminist interpreters of the Bible and early Judaism, we will note the relevance of this material for contemporary gender issues. Cross-listed as WMGS 316. Three credits.

317 Paul and His Interpreters
This course provides an introduction to the academic study of the history and literature of the early Christian movement. The aim of this course is to provide a solid understanding of the New Testament through close study of texts, historical analysis, and evaluation of evidence and arguments. We will explore several early Christian groups, their multiple disputes, arguments, positions, theologies, and understandings, through close reading of texts and appreciation of historical contexts. Credit will be granted for only one of RELS 317 and RELS 275. Three credits.

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 WMGS 325. Three credits.

326 Hindu Deities
This course presents the stories of goddesses and gods in the Hindu pantheon. It explores elements of ancient and classical Hindu thought associated with these stories of these deities. It identifies related elements in classical schools of Hindu philosophies such as Samkhya and Vedanta, and gives voice to the poets of the medieval Hindu devotional tradition. Together we will explore concepts of self, other, the world, devotion, the divine and freedom in Hindu religious thought. Three credits.

327 Buddhist Thought: the Way of the Bodhisattva
This course presents the Buddhist ideal of the Way of the Bodhisattva, one who vows to continue to re-incarnate, lifetime after lifetime, in order to serve all beings until such time as all beings are freed from suffering. It examines early Buddhist teachings that anticipate the development of this ideal, including the Theravada Buddhist focus on the strength of discipline of the mind and body, before detailing the Mahayana Buddhist development of this ideal and its expansion in the narrative and practice of Vajrayana or Tibetan Buddhist tradition. It will include study of Buddhist philosophy regarding the gradual states of realisation of enlightenment. Three credits.

328 Mind, Self and Society
This summer course offers three weeks of intensive learning in preparation for a one-week experience of Buddhist monastic practice to take place at Gampo Abbey in Cape Breton, Nova Scotia. Study will include the historical development of Buddhism, and in particular of Tibetan Buddhism, along with the examination of ethical and philosophic underpinnings of Buddhist monastic practice. A variety of contemplative techniques will be experienced during our time as part of the Buddhist monastic community. Prerequisite: permission of the instructor; enrolment is limited. Three credits. Offered 2017-2018.

331 Social Activists Inspired by the Bible
Trace the religious origins of ideas that have inspired global leaders to engage issues of social justice in the world. The specific activists and religious texts surveyed vary from year to year. typically including Moses Coady, Martin Luther King Jr., Mother Theresa, the Dalai Lama, Pope Francis, Bob Marley, Bono, Desmond Tutu, Tommy

Douglas, Nelson Mandela, Charles Wesley, Elie Wiesel, Jimmy Carter, Rosemary Ruether, and Dietrich Bonhoeffer. Three credits.

333 Religion, Violence and Peace

Contrary to an old belief, in our time religion is increasingly associated with violence rather than peace. This course explains why this is the case and whether there is an inherently violent element in religion that has passed unnoticed until now. The investigation takes us through Greek, Roman, Jewish, Christian and Islamic religions to find the religious underpinnings to concepts of sacrifice, scapegoating, lynching, and global violence. Credit will be granted for only one of RELS 333 and RELS 335. Three credits.

334 Black/African Diaspora: Culture, Religion and Society

This course critically examines structural and sociocultural factors that operate and/or reproduce powerlessness among Black people in the Diaspora. Attention will be given to Black/African culture, experience and contributions, especially in Canada, the United States, and the Caribbean. Attention will also be given to the intersection of religion and cultural expressions in the African Diaspora. The importance of religion in the Black Diaspora's experience of both oppression and liberation will be a key component of our analytic framework. Credit will be granted for only one of RELS 334 and RELS 398 offered in 2016-2017. Cross-listed as SOCI 337. Three credits. Offered 2017-2018.

342 Prophets and Prophecy

This course surveys the role and teaching of the biblical prophets in their ancient setting, and their impact on modern life and thought. Credit will be granted for only one of RELS 342 and RELS 253 and RELS 312. Three credits.

352 History of Early Judah

This course explores the history of ancient Judaism from the Babylonian captivity in 586 BCE to the fall of Jerusalem in 70 CE. Students will examine the geography, culture, and historical milieu of the Apocrypha, Dead Sea Scrolls, Jesus, and the earliest rabbinic writings, and discuss the major persons and events in ancient Judea. Cross-listed as HIST 357. Three credits.

353 Iconography of Christian Art: The Life of Christ

Iconography is the identification and interpretation of images. This course is an introduction to the iconography of Christian art, with an emphasis on images of the Life and Passion of Christ. The course will examine how images develop over history, and how they may be understood in light of historical events, changes in theological thought, and in the artist's own spirituality. Cross-listed as ART 356. Three credits.

354 Iconography of Christian Art: The Saints

This course is an introduction to the iconography of Christian art, with an emphasis on images of Mary and the saints. The course will examine how images develop over history, and how they may be understood in light of historical events, changes in theological thought, and in the artist's own spirituality. Discussion will include how such images were used as objects of personal devotion but also for the conveying of important theological and social values. Cross-listed as ART 357. Three credits.

363 Christianity in the Roman World

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. Three credits. Offered 2017-2018.

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. Three credits.

374 Modern and Contemporary Islam

This course examines issues and debates in modern and contemporary Islamic discourse from a broad spectrum of perspectives. The course introduces students to a plurality of voices, both Sunni and Shi'ite, on many controversial issues facing Muslims today, including, but not limited to the nature of the Qur'an, methods of interpretation, Muhammad, the role of women, Islam and the West, violence, terrorism, and human rights. The course uses secondary and primary sources in translation. Three credits.

375 Islam in Canada

Focusing primarily on the Canadian context, this course explores the variety of Muslim identities in North American society. After a brief historical survey of Islam and Muslims in North America, including immigrant and African-American Islam, the course examines the diverse perspectives of North American Muslim and non-Muslim scholars on questions and debates around integration, identity, authority, youth, education, gender, shariah in Canada (Muslim religious arbitration in civil law), media representation, discrimination, and surveillance post-9/11. Cross-listed as SOCI 374. Three credits.

395 Selected Topics

The topic for 2017-2018 is Be the Change: Learning Social Justice from Gandhi I. This course examines what India, and specifically Gandhi, can teach us about how to provoke social change in our world today. After an introduction to Gandhi, we examine alternate paradigms of thinking that influenced Gandhi, including the ancient Indian philosophic principle of non-dualism and ahimsa, or non-violence, as taught by Buddhism and Jainism. Gandhi's paradigms of thinking have inspired global leaders in their work to de-colonise and remove social limitations based on race and gender. Credit will be granted for only one of RELS 395 and RELS 310. Three credits.

397 Selected Topics

The topic for 2017-2018 is Be the Change: Learning Social Justice from Gandhi II. This course examines what Gandhi can teach us about how to provoke social change in our world today. We examine paradigms of thinking of social cohesion and social conflict demonstrated by Indian Islam. We trace the rise, development and methods of implementing colonialism which continue to shape our world today. We then closely analyse the work of Gandhi and leaders who worked to de-colonise India and to remove limitations based on gender and caste. Credit will be granted for only one of RELS 397 and RELS 310. Three credits.

398 Selected Topics

The topic for 2017-2018 is African Christianity. In this course we will discover the distinctive ideas, practices, and institutions of African Christianity from its beginnings to the present. We will examine both the roots of African Christianity in such authors as Cyprian and Augustine and the influence of African Christianity on the Western Church. We will conclude with selections of modern thinkers from an African heritage to explore how they have extended and adapted Christian thought. Credit will be granted for only one of RELS 398 and RELS 395 offered in 2013-2014. Three credits.

399 Selected Topics

Three credits.

401 Religious Approaches to Sexuality

Human sexuality is explored from two main perspectives: first, the teachings and practices of various religious traditions; and second, contemporary developments in sexual and reproductive health and rights. Among the issues to be considered are sexuality and gender roles, contraception and abortion, marriage and family. Cross-listed as WMGS 411. Prerequisite: any 100-level RELS or WMGS course. Three credits.

402 Religious Approaches to Sexual Diversity

This course will focus on religious teachings and traditions on sexual diversity within the broader context of human rights associated with sexual orientation and sexual differences. In particular, we will look at the experiences of gay, lesbian, bisexual, intersexual and transgendered persons within religious communities. Cross-listed as WMGS 412. Prerequisite: any 100-level RELS or WMGS course. Three credits.

404 The Dead Sea Scrolls

This course surveys the Dead Sea Scrolls found in the Judean desert. The most important archaeological discovery of the 20th century, these scrolls have generated much controversy. We will examine the major texts from Qumran to assess their impact on our understanding of the Hebrew Bible and the New Testament, and the period of Judaism in which Christianity arose. We will place the scrolls in their various contexts: archaeological, historical, literary, religious, and social. Credit will be granted for only one of RELS 404 and RELS 318. Three credits.

414 Ancient Indian Myth and Ritual

Ancient Indian thought assumes that there is a fundamental wholeness to our lives and to our world which only appears at times to be fragmented. The myth, ritual and philosophy of ancient India are, in many respects, a contemplation on this basic wholeness and its composite elements. Exploration of ancient Indian thought with its ideas of humans and demons, ancestors and gods, and our place in the natural world in light of this reflection on "the parts and the whole" will be discussed. Prerequisite: any 100-level RELS course. Three credits.

416 History and Archaeology of Ancient Israel

This course explores the history of ancient Israel and Judah from their origin to the fall of Jerusalem in 586 BCE. 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. Credit will be granted for only one of RELS 416 and RELS 351. Three credits.

426 The Jewish World of Jesus
This course examines the history and literature of the Jewish people from the period of the Maccabean Revolt in the 2nd century BCE to the Bar Kokhba Revolt in the 2nd century CE. The literary sources for the study of the Jewish world at the turn of the era include the Dead Sea Scrolls, the Bible, and the Mishnah. This course serves as an introduction to the religious and social environment of the historical Jesus. Credit will be granted for only one RELS 426 or RELS 440. Prerequisite: any 100-level RELS course. Three credits.

427 Jesus the Christ
Building upon RELS 426, this course begins with an examination of aspects of the life of the historical Jesus, including his teaching, ministry, and the events leading to his crucifixion. The four canonical Gospels and Letters of Paul will be analyzed as students probe the question of why Jesus came to be understood as the Messiah by the first Christians. Credit will be granted for only one RELS 427 or RELS 440. Prerequisite: RELS 426 or permission of the instructor. Three credits.

490 Honours Thesis
Each student works under the supervision of a chosen professor who guides the selection of a thesis topic, use of resources, methodological component, quality of analysis and execution, and literary calibre of the student's work. Required for all honours students. Six credits.

499 Directed Study
Under the direction of a faculty member, students may pursue an individual program of study in an area of religious studies not available in the course offerings. For eligibility, see section 3.5. Three or six credits.

» **SERVICE LEARNING** see 9.24 Interdisciplinary Studies

9.35 SOCIOLOGY
R. Bantjes, Ph.D.
P. Cormack, Ph.D.
L. Harling Stalker, Ph.D.
D. Lynes, Ph.D.
D. MacDonald, MA
P. Mallory, Ph.D.
S. Marmura, Ph.D.
R. Olstead, Ph.D.
J. Phyne, Ph.D.
D. Smythe, Ph.D.
N. Verberg, Ph.D.

Professor Emeritus
W. Jackson, Ph.D.

Senior Research Professor and Professor Emeritus
D. MacInnes, Ph.D.

The Department of Sociology offers honours, advanced major and major programs. Second year sociology courses (200 level) require SOCI 101, 102 as prerequisites. 300- and 400-level courses require at least twelve credits in sociology below the 300 level as a prerequisite, or the permission of the instructor. SOCI 101, 102 are included these credits.

BA Major in Sociology
Candidates must follow the degree requirements of the Faculty of Arts and complete 36 SOCI credits which include:
a) SOCI 101, 102;
b) SOCI 202 and at least 3 additional credits at the 200 level;
c) SOCI 301 and SOCI 302;
d) at least 12 additional SOCI credits at the 300 or 400 level.

BA Honours in Sociology
Candidates must follow the degree requirements of the Faculty of Arts and complete 60 SOCI credits which include:
a) SOCI 101, 102;
b) SOCI 202 and at least 3 additional credits at the 200 level;
c) SOCI 301 and SOCI 302 and at least 3 credits in methods: SOCI 300 or 307;
d) at least 6 additional SOCI credits at the 300 level;
e) SOCI 400 (thesis), SOCI 491, plus at least 6 credits at the 400 level; SOCI 391 is highly recommended.

Honours with a Subsidiary Subject
If sociology is selected as a subsidiary subject by an honours student in the BA program, 24 SOCI credits are required, with at least 6 of those credits at the 300 level.

101 Foundations of Sociology
This course introduces students to the origins and development of sociological thinking and research, beginning with the foundations of the discipline in the 19th century. Students are then introduced to the concepts and methods within sociology. The objective is to explore the extent and limits of our capacity to change the social world by reference to sociological research in both a Canadian and global context. Credit will be granted for only one of SOCI 101 and SOCI 100. Three credits.

102 Key Issues in Contemporary Sociology
This course builds on the foundations of sociological theory, methods and historic considerations established in SOCI 101. Students will explore a range of topics dealing with various aspects of social inequality, culture, integration, and ideological conflict in both a Canadian and global context. Together with SOCI 101, this course provides the prerequisite for all other sociology courses. Credit will be granted for only one of SOCI 102 and SOCI 100. Prerequisite: SOCI 101. Three credits.

202 Research Principles and Practices
This course addresses how various philosophic assumptions shape the aims and practices of research in sociology. It provides students with empirical research design principles and an introduction to methods of collecting and recording data, assessing reliability and validity, and conducting data analysis. Different research strategies are introduced. The ethical implications of research will be discussed. Three credits.

Note: SOCI 202 is a prerequisite for entry into higher-level methods courses.

203 Gender
This course is about gender differences and gender inequality. The main objective of the course is not only to examine differences in women's and men's social positions, but also to stimulate critical and informed thinking about the sources of gender inequality in our society. More generally, the course aims to explore the many ways in which this society is organized around gender differences and divisions. Credit will be granted for only one of SOCI 203 and SOCI/WMGS 310. Cross-listed as WMGS 203. Prerequisite: SOCI 101, 102. Three credits.

212 Social Dissent
Social dissent has been a persistent, perhaps necessary, feature of modern (capitalist, bureaucratic, technocratic, patriarchal) societies. Students will explore ways in which dissent has been voiced and alternatives have been envisioned in the 20th century, including new organizational forms and tactics of dissent, and new technologies and international networks. Students may use the course as a basis for advanced social scientific research. Three credits.

216 Canadian Society
This course presents an analysis of Canadian Society and its development from a sociological perspective. Particular attention is given to political/economic institutions, ideology, class structure, regionalism, cultural forms and national identities. Three credits.

217 Race, Class, Gender, and Sex
This course discusses the interconnected realities of race, class, gender and sex from various sociological perspectives. Substantive topics will include the socially constructed nature of these concepts in places like media, and the experiences of classism, sexism and racism in the workplace, schools, and everyday life. Credit will be granted for only one of SOCI 217 or SOCI 215. Cross-listed as WMGS 217. Three credits.

221 Sociology of Marriage and Family Life
This course analyzes the marriage and family life from a sociological perspective. It provides an overview of social changes over the past century, such as the falling birth rate, the rise in cohabitation and the legalization of same-sex marriage. Topics include marriage and fertility trends, the rise of intensive parenting and the dual earner family, the normalization of separation and divorce, the social cost of family violence, and how technology is influencing parenting. Credit will be granted for only one of SOCI 221, SOCI 210, or WMGS 210. Cross-listed as WMGS 221. Three credits.

227 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. Cross-listed as RELS 215. Three credits. Offered every year.

242 Technology and Society
This course is designed to introduce students to core sociological issues and debates pertaining to technology. Topics covered include the nature of technological artifacts and systems, technology and social change, the relationship between technological innovation and scientific knowledge, technology and inequality, the social shaping of technology, and the role of digital media in relation to new forms

of cultural identity and social control. Credit will be granted for only one of SOCI 242 or SOCI 496 completed between 2012-2014. Three credits.

243 Consumer Society
This course explores classical to contemporary theories of consumer society beginning with Marx's conception of the commodity as fetish. Themes discussed include conspicuous consumption, gender and consumption, social class, environment, identity, advertising and marketing. Three credits.

244 Cultures and Societies
This course will focus on exploring how society shapes culture and culture shapes society. Drawing on local, national and global practices of culture and cultural objects, students will learn how meaning-making is critical to understanding everyday life. Credit will be granted for only one of SOCI 244 or SOCI 298 offered in 2015-2016. Three credits.

247 Environmental Social Science I: Problems and Paradigms
This course introduces students to the major environmental challenges of the 21st century from a social science perspective. Modern societies that have sought to conquer natural limits have now conjured up unanticipated "environmental" consequences. Students will explore how human understandings of environmental "problems" as well as action towards environmental solutions are shaped by ways of thinking, social contexts and institutional power relations. Cross-listed as PSCI 247. Three credits.

248 Environmental Social Science II: Power and Change
A continuation of SOCI 247, this course addresses the same conceptual problems but focuses more on understanding the societal and political response to environmental issues. Students will critically examine both proposed ecological futures, as well as means of environmental problem solving and societal change: state policy, intergovernmental treaties, environmental movements, and market solutions. Cross-listed as PSCI 248. Prerequisite: SOCI 247 or PSCI 247. Three credits.

251 Theories of Deviance and Social Control
This course offers students a theoretical foundation for understanding social processes of deviance and social control. Using various theoretical devices, students will critically examine the social category of deviance and its use in social institutions and daily social practices. Topics could include mental illness, drug and alcohol use, alternative sexualities, social violence and disability. Credit will be granted for only one of SOCI 251, SOCI 250 or SOCI 298 completed in 2016-2017. Three credits.

252 Topics in Deviance and Social Control
This course draws upon the theoretical preparation provided in Sociology 251 to critically assess various topics in deviance and social control, and their power relations. Students will for instance, consider the complex relations of power and control associated with sex and sexuality, contemporary notions of fitness and health, white versus blue collar crime, as well as 'natural' disasters. Credit will be granted for only one of SOCI 252 or SOCI 250. Prerequisite: SOCI 251. Three credits.

254 Social Class as Lived Experience
This course explores social class as a lived experience - one in which everyday life both reveals and denies the structural advantages and disadvantages that perpetuate class differences. By way of ethnographic and theoretical literatures, students will study how stages of life and encounters with institutions (school, state, family, etc.) shape social class experiences. Three credits.

298 Selected Topics
The topic for 2017-2018 is Sociology of Health. In this class, students will approach the study of human health from a critical sociological perspective. Beginning with an understanding of the distinction between a biomedicine and the social determinants of health, the class will explore some of the dominant social causes of health and illness. In addition, we will gain a brief history of health care in Canada and come to understand how our publicly-funded health system can be contrasted with other national models. Three credits.

Note: 300- and 400-level courses require at least 12 credits in sociology below the 300 level as a prerequisite, or the permission of the instructor. SOCI 101, 102 counts as six of these credits.

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. Restricted to major, advanced major and honours students. Three credits.

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, postmodernism, and neo-Marxist theory. Restricted to major, advanced major and honours students. Three credits.

303 Early Modern Social Thought
This course examines early modern ways of thinking about the social world. These include theories of social contract, liberalism, political economy, positivistic science, evolution and progressive history. Students will discuss these intellectual influences in terms of how they either provided assumptions and authority for the emergence of the discipline of sociology in the 19th century or were questioned and challenged by sociologists. Three credits.

304 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. Cross-listed as WMGS 303. Prerequisite: WMGS 100. Three credits.

307 Qualitative Research Methods
The course introduces students to the qualitative research methods used by sociologists. The course introduces the philosophical, theoretical, and ethical aspects of qualitative research as well as qualitative approaches to data collection, data analysis, presentation of results, and methods of evaluating qualitative research. The various aspects of qualitative research are illustrated with classical and contemporary studies. Prerequisite: SOCI 202; 70 average recommended. Three credits.

312 Social Movements
This course provides students with the tools for analyzing popular movements for social change. Students will survey the best examples of social movement analysis in the neo-Marxist, new social movement, social constructionist, and resource mobilization traditions. Movements covered may include: labour, environmental, student, peace, anti-racist, women's. Prerequisite: SOCI 212. Three credits.

322 The Antigonish Movement as Change and Development
Explores both social change and economic development through the history, philosophy, and practice of the Antigonish Movement as experienced at home and abroad. This movement will be used to examine political systems, labour relations, class conflict, education, co-operative strategies, religion, and ethnicity in the context of social transformation. Cross-listed as DEVS 322. Three credits.

327 Canadian Families and Parenting
This course explores the impact of social, political, economic and cultural changes on families and parents. Topics include the diversity of family relations, work-life balance, family time, the 'parenting expert industry', 'intensive parenting,' the 'boomerang generations' and 'grand' relations. Across this range of topics, we consider how gender, race, sexuality, social class, and health influence families and parents. Cross-listed as WMGS 328. Three credits.

328 Social Inequality
Students will explore 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 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. Three credits.

331 Media Effects
This course considers a broad array of issues and controversies pertaining to the study of media effects. Topics covered include the development of propaganda theory, the social significance of advertising, and debates concerning the influence of media content on behavior and popular understandings of social reality. Attention is given to both traditional and holistic approaches to media effects in terms of the strengths and limitations of each. Credit will be granted for only one of SOCI 331 or SOCI 325. Three credits.

332 Media Forms
"*The medium is the message.*" – Marshall McLuhan. This course introduces students to various media technologies as shaping societies across time, with a focus on media forms rather than content. The course will discuss oral aboriginal culture (and western literate contact), the phonetic alphabet, monuments, papyrus, print, photography, film, TV, and digital media. Credit will be granted for only one of SOCI 332 or SOCI 325. Three credits.

334 Sociology of Anne of Green Gables
Using the iconic Canadian classic *Anne of Green Gables* this course sets out to explore the variety of theoretical perspectives used by those in the cultural Sociology. Through the use of the books in the *Anne* series, films, television, and the author's journals, students will learn how to think about and apply theorists such as Bourdieu, the Frankfurt School, and Barthes. Three credits. Not offered 2017-2018.

335 Sociology of Canada's Indigenous Peoples
This course examines how the contemporary situation of First Nations, Métis and Inuit Peoples of Canada is related to historical interactions among Aboriginal and non-Aboriginal societies and indigenous cultural traditions. This will include consideration of how concerns of cultural identity, class, and gender are complicated by Canada's colonial legacy as developed with the aid of recent post-colonial/ sociological theory. Credit will be granted for only one of SOCI 335, SOCI 317, SOCI 330 or SOCI 397 offered in 2015-2016 and 2016-2017. Three credits.

337 Black/African Diaspora: Culture, Religion and Society
This course critically examines structural and sociocultural factors that operate and/or reproduce powerlessness among Black people in the Diaspora. Attention will be given to Black/African culture, experience and contributions, especially in Canada, the United States, and the Caribbean. Attention will also be given to the intersection of religion and cultural expressions in the African Diaspora. The importance of religion in the Black Diaspora's experience of both oppression and liberation will be a key component of our analytic framework. Credit will be granted for only one of SOCI 337 and SOCI 395 offered in 2016-2017. Cross-listed as RELS 334. Three credits.

356 Intercultural Relations
This course explores the rapidly shifting contexts within which individuals and groups from diverse cultural backgrounds interact, often forming new social and political identities in the process. Questions of identity are considered at the levels of individual subjectivity, localized community, national identity, and de-localized networks. Contemporary aspects of intercultural relations are viewed considering enduring political processes and related social upheavals rooted in colonialism, nationalism and the global spread of capitalist markets. Three credits.

360 Social Policy
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. Not offered 2017-2018.

364 Food and Society
This course emphasizes linkages between food production and consumption in the changing global political economy. The social organisation of food production and consumption will be assessed from the standpoint of comparative research on global food chains and recent insights surrounding the social construction of food risks and benefits. Case studies will change on an annual basis but will always involve some consideration of the interrelations between countries from the 'North' and the 'South'. Three credits.

366 Coastal Communities
This course introduces students to social research on coastal communities. Emphasis is given to the social transformation of common property fisheries, the rise of industrial aquaculture, demographic transitions in coastal communities and recent moves towards integrated coastal resource management. Comparative case materials from North Atlantic coastal communities in Atlantic Canada, Britain, Ireland, and the Nordic Countries will be used in this course. Three credits. Not offered 2017-2018.

373 Irish Politics and 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. Cross-listed as PSCI 373. Three credits.

374 Islam in Canada
Focusing primarily on the Canadian context, this course explores the variety of Muslim identities in North American society. After a brief historical survey of Islam and Muslims in North America, including immigrant and African-American Islam, the course examines the diverse perspectives of North American Muslim and non-Muslim scholars on questions and debates around integration, identity, authority, youth, education, gender, shariah in Canada (Muslim religious arbitration in civil law), media representation, discrimination, and surveillance post-9/11. Cross-listed as RELS 375. Three credits.

380 Urban Sociology
This course covers the major themes and empirical research issues in urban sociology in the 20th- and 21st-century. This includes the rise of the 'urban' as a social science phenomenon, the Canadian city in comparative and historical perspective, major theoretical debates in urban social science, the intersection of class, gender and racial forms of inequality in cities, the shifting nature of social and spatial relations, and urban planning, sustainability and globalization. Credit will be granted for only one of SOCI 380 or SOCI 398 completed from 2014-2016. Three credits.

387 Hockey and Canadian Culture
This course sets out to explore the intersection between ice hockey and Canada's socio-cultural identity. The course will have students immerse themselves in contemporary literature to understand the social, cultural, political and economic nuances of hockey in the Canadian context. Three credits.

391 Junior Seminar
This seminar will assist honours students in their third-year and their thesis planning and provide an environment in which to learn with senior students working on their thesis. Students will choose an advisor 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 the discipline. Highly recommended for and restricted to honours students. Three credits.

394 Selected Topics
The topic for 2017-2018 is Love, Intimacy and Power. Major transformations have occurred in the realm of intimacy and in the way people connect and disconnect in their personal lives. But what is intimacy and what forms can it take today? Are intimate relations only personal and private, or do they have broader social significance? In developing a sociological perspective on intimate relations, this course takes as its starting point that intimacy has no single relational form or institutional home in our society. In other words, intimacy can develop not only between romantic partners, family members, and friends, but also in less personal bonds between strangers and acquaintances. Likewise, just as intimacy exceeds any single type of relational form, so it also manifests in and through various social institutions and contexts. Three credits.

395 Selected Topics
Three credits.

397 Selected Topics
Three credits.

398 Selected Topics
The topic for 2017-2018 is Global Agriculture. This course begins with an interdisciplinary survey of the scientific, philosophical, political, social and cultural aspects of global agriculture and food production. Topics examined include the green revolution, the relationship between agricultural and social sustainability, local food versus export economies, food security, food sovereignty and justice, as well as biotechnology, soil science and climate farming. We will also explore the nature and composition of food, techniques and concepts of food science, practices used in food processing, and issues related to food safety. Farm visits are included. Three credits.

400 Honours Thesis Research
A required course for all senior honours students. Six credits.

417 Social Difference: Race, Ethnicity, Gender, Class, Sex, and Disability
Explores current theories of social difference and the personal, social, economic, and political effects of these differences in Canadian, western, and international contexts. Topics include oppression, resistance, identity politics, and discourse theory. Starting with the question, "What differences do some differences make?" Students will examine how issues of difference become relations of dominance. Prerequisite: SOCI 215. Cross-listed as WMGS 417. Three credits.

421 Ancestry, Society, and Personal Identity
This course attempts to locate personal biography in the context of social history. Students' genealogies provide the starting point for explorations of family, social history, and personal identity. Students will apply sociological ideas to the historical periods that helped shape their personal and family histories. Three credits.

427 Friendship and Personal Life
Is friendship only personal and private, or does it have broader public, social, and political significance? This seminar addresses contemporary scholarship on the sociology of friendship as well as classic accounts of friendship by philosophers

and social theorists. Through studying beliefs and practices of friendship we will address themes such as the self and personhood, gifts and exchange, trust and intimacy, sexuality and gender, social capital and networks, and the relation of friends to strangers and enemies. Three credits.

433 Advanced Problems in Environment and Society

The course allows students to pursue issues raised in SOCI 247 and 248 in greater depth. It also exposes them to new developments in social theory. Each year will have a different thematic focus which could include: the ways in which social conceptions of "natural" and "unnatural" have changed over time; the social implications of new biotechnologies; the global environmental movement; or ideals of an ecological future. Prerequisites: SOCI 247, 248 or PSCI 247, 248. Three credits.

451 Selected Topics in Social and Criminal Justice

This course examines current theoretical and research issues in crime and social justice. Using qualitative, quantitative, and historical methodologies, students will explore topics such as gender, class, minorities, and criminal justice; police-community relations; carceral and non-carceral forms of punishment; criminal and regulatory legal procedures. Three credits.

491 Senior Seminar

A forum in which students gain scholarly experience by presenting and discussing their research; and taking part in colloquia, guest lectures, and public talks relevant to sociology. Required for honours students in their senior year. No credit.

498 Selected Topics

The topic for 2017-2018 is Sociology of Science and Technology. This course is designed to engage students with a variety of issues and debates pertaining to the sociology of science and technology. Some of these are linked to more traditional lines of social scientific enquiry, while others have arisen within the relatively new field of science and technology studies. The relationship between technology and social/cultural evolution, the industrial revolution and its legacy, and the technologies and social changes most frequently associated with post-industrialism will be explored. Attention is then directed to the contested status of science as a unique way of knowing, the social construction of scientific concepts and technological artifacts, the uncertain relationship between scientific knowledge and technological innovation, and questions of human versus non-human agency. The latter part of the course focuses on governance, identity and culture within post-industrial societies (those increasingly dependent on digital technology), and the notion of 'post-humanism' as both a utopian movement and target of social critique. Three credits.

499 Directed Study

Under the direction of a professor, students will work in an area of sociology not available in other course offerings. Students must consult with the faculty member by March 31 of the academic year in which they wish to take the course. See section 3.5. Three or six credits.

» **SPANISH** see 9.26 Modern Languages

9.36 WOMEN'S AND GENDER STUDIES

N. Forestell, Ph.D., Co-ordinator

Advising Faculty	Department
R. Chisholm, Ph.D.	Sociology
R. Hurst, Ph.D.	Women's and Gender Studies
K. MacLean Ph.D.	Psychology
P. Mallory, Ph.D.	Sociology
Z. Ozkok, Ph.D.	Economics
C. Weaving, Ph.D.	Human Kinetics

The academic field of women's and gender 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 or a BA with Joint Advanced Major or Major in women's and gender studies and a Faculty of Arts subject. *See chapter 4.* Arts and science students may fulfill requirements for a pair in women's studies and gender.

Students interested in women's and gender studies should consult with the co-ordinator as early as possible.

Major in Women's and Gender Studies

a) 12 credits of WMGS 100, 205 and 303; and,
b) 24 credits WMGS including cross-listed courses.
No more than 12 credits of cross-listed courses may be from a single department. None of the cross-listed courses may be in the student's declared minor subject.

Joint Major in Women's and Gender Studies and a Faculty of Arts Discipline

a) 36 credits in WMGS (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 WMGS 100, 205 and 303; and,
   ii) 24 credits WMGS including cross-listed courses.
   No more than 12 credits of cross-listed courses may be from a single department. None of the cross-listed courses may be in the student's declared subject B.
b) Course Pattern: see section 4.1.3

Advanced Major in Women's and Gender Studies

a) 18 credits of WMGS 100, 205, 303 and 400;
b) 18 credits WMGS including cross-listed courses; and
c) A senior paper. Guidelines for the senior paper are available from the co-ordinator or the course instructor for WMGS 400. The senior paper is written in conjunction with WMGS 400. No more than 12 credits of cross-listed courses may be from a single department. None of the cross-listed courses may be in the student's declared minor subject.

Joint Advanced Major in Women's and Gender Studies and a Faculty of Arts Discipline

a) 36 credits in WMGS (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 WMGS (subject B). The program and department requirements for advanced majors are applicable in both subjects. Students must complete the following:
   i) 18 credits of WMGS 100, 205, 303 and400;
   ii) 18 credits WMGS including cross-listed courses.
   No more than 12 credits of cross-listed courses may be from a single department. When WMGS is subject A, none of the cross-listed courses may be in the student's declared subject B. When WMGS 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 senior paper are available from the women's and gender studies co-ordinator or the course instructor for WMGS 400. The senior paper will be written in WMGS 400 when women's and gender studies is subject A. When women's and gender studies is subject B, the senior paper will be written for the department or program of subject A.

Subsidiary in Women's and Gender Studies

a) 24 credits in WMGS and 48-60 credits in the honours subject. Students are encouraged to include an additional six credits of WMGS cross-listed courses. No more than 6 credits of WMGS cross-listed courses may be from a single department. None of the cross-listed courses may be in the student's declared honours subject.
   i) 12 credits of WMGS 100, 205 and 303
   ii) 12 credits WMGS including cross-listed courses.

Minor in Women's and Gender Studies

a) WMGS 100; and,
b) 18 credits in women's and gender studies, which may include WMGS 205 and/or 303 in addition to cross-listed courses. No more than six credits of cross-listed courses may be from a single department. None of the cross-listed courses may be in the student's declared major subject.

Pair

a) WMGS 100 (6 credits); and
b) 6 credits in women's and gender studies, which may include WMGS 205 and/or 303 or cross-listed course(s).

Social Justice Colloquium
The Social Justice Colloquium is a first-year option for Bachelor of Arts students. Participants are enroled in dedicated sections of anthropology, global history and women's and gender studies. See section 4.5 for further information.

100 Introduction to Women's and Gender Studies
This course will offer an overview of women's and gender studies from an interdisciplinary perspective. Students will study the development of feminist movements and will examine how concepts of race, class, sexuality and ability intersect in shaping colonialism, sexual and reproductive health, violence, family relations, paid and unpaid labour, political systems and poverty. The course will consider the relationship between the local and the global through discussion of such topics as popular culture, consumerism and environmentalism. Credit will be granted for only one of WMGS 100 or WMNS 200. Six credits.

203 Gender
This course is about gender differences and gender inequality. The main objective of the course is not only to examine differences in women's and men's social positions, but also to stimulate critical and informed thinking about the sources of gender inequality in our society. More generally, the course aims to explore the many ways in which this society is organized around gender differences and divisions. Credit will be granted for only one of WMGS 203 and SOCI/WMGS 310. Cross-listed as SOCI 203. Prerequisite: SOCI 101, 102. Three credits.

205 Gender, Sexuality and the Body
This course focuses on the ways that all bodies are sexualized and gendered in Western philosophical thought, biomedicine and science. Topics include Western binaries (man/woman, form/matter, mind/body), the sociocultural processes through which bodies are sexualized, the biological/medical sciences and objectivity, a critique of the dual sex model from the perspective of transfeminist theory and bodily transformations and normalizations (including cosmetic surgery, monstrosity and disability, and the feminist debate about female genital surgeries). Prerequisite: WMGS 100 or third- or fourth-year status with permission of instructor. Three credits.

217 Race, Class, Gender, and Sex
This course discusses the interconnected realities of race, class, gender and sex from various sociological perspectives. Substantive topics will include the socially constructed nature of these concepts in places like media, and the experiences of classism, sexism and racism in the workplace, schools, and everyday life. Credit will be granted for only one of WMGS 217 or WMGS 215. Cross-listed as SOCI 217. Three credits.

221 Sociology of Marriage and Family Life
This course analyzes the marriage and family life from a sociological perspective. It provides an overview of social changes over the past century, such as the falling birth rate, the rise in cohabitation and the legalization of same-sex marriage. Topics include marriage and fertility trends, the rise of intensive parenting and the dual earner family, the normalization of separation and divorce, the social cost of family violence, and how technology is influencing parenting. Credit will be granted for only one of WMGS 221 or WMGS 210. Cross-listed as SOCI 221. Three credits.

232 Gender and Popular Culture
This course will introduce a range of topics within the broad field of gender and popular culture as well as how to study and critique genres of popular culture. Beginning with the questions, "What is cultural studies?" and "Why is it important to study popular culture?" we move on to study a range of pop culture media, including music, television, film, video games and graphic novels/memoirs through this methodological and theoretical lens. Prerequisite: WMGS 100. Three credits.

254 Topics in 18th-Century Literature
The Whore' Story. This course explores the changing literary, social and cultural significance of the figure of the whore in a variety of 18th century works. Poetry, pornography, and pamphlets, as well as Hogarth's engravings *A Harlot's Progress*, Behn's play, *The Rover*, and Cleland's novel, *Memoirs of a Woman of Pleasure* (a.k.a. *Fanny Hill*) will be studied among other works. Graphic language and content may offend some students. Cross-listed as ENGL 254. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

299 Selected Topics in Women's and Gender Studies I
Three 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. Cross-listed as SOCI 304. Prerequisite: WMGS 100. Three credits.

316 Women in Early Judaism
The course investigates the depiction and experience of women from the earliest biblical narratives to the separation of Christianity from Judaism. Students analyze responses to women and ideas about women in Biblical and other early Jewish writings, in comparison to women in the rest of the Ancient Near East, in conversation with feminist interpreters of the Bible and early Judaism, we will note the relevance of this material for contemporary gender issues. Cross-listed as RELS 316. Three credits.

317 Canadian Women's and Gender History: From Colony to Nation
This course introduces students to major themes in the field of Canadian women's and gender history. Covering the period from the late 16th century to the late 19th century, the course examines the historical development of women's roles, experiences, identities and gender relations. Particular attention is given in this course to the impact of colonialism, and the intersection of gender, race, economic/class status, and Indigenous/non-Indigenous status in shaping women's work, family roles, sexuality, political engagement and activism. Credit will be granted for only one of WMGS 317 or WMGS 308. Cross-listed as HIST 317. Three credits.

318 Canadian Women's and Gender History: Modernity
This course introduces students to major themes in the field of Canadian women's and gender history. Covering the period from the late 19th century to the late 20th century, the course examines the historical development of women's roles, experiences, identities and gender relations. Particular attention is given to the intersection of gender, race, economic/class status, and Indigenous/non-Indigenous status in shaping women's work, family roles, sexuality, political engagement and activism. Credit will be granted for only one of WMGS 318 or WMGS 308. Cross-listed as HIST 318. Three credits.

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 RELS 325. Three credits.

326 Issues in the Anthropology of Kinship
This course explores current themes and debates about the constitution of families cross culturally. It will examine topics such as: cultural understandings of kinship; historical transformations of kinship systems; current reconfigurations of marriage; partnering strategies; new reproductive technologies; transnational adoption; intra-familial conflict; the role of kinship for individuals and in societies; and the influence of the state on kin patterns. Course material will include ethnographic examples from around the world. Cross-listed as ANTH 326. Prerequisite: ANTH 110 or ANTH 111/112, or WMGS 100 or 200 or permission of the instructor. Three credits.

327 Feminist Anthropology
This course examines how past and present feminist anthropologists have used and problematized categories of difference and identity, such as, gender, class, sexuality, race, ethnicity, ability, religion and nationality as they pursue anthropological research. Focusing primarily on socio-cultural anthropological research, but also addressing work by linguistic and biological (physical) anthropologists and archaeologists, the course will highlight the theoretical, methodological, and empirical contributions of feminist anthropologists to anthropology and to women and gender studies. Credit will be granted for only one of ANTH 323 and ANTH 324 and WMGS 324. Cross-listed as ANTH 323. Prerequisite: ANTH 110 or ANTH 111/112 or WMGS 100 or WMGS 200 or permission of the instructor. Three credits.

328 Canadian Families and Parenting
This course explores the impact of social, political, economic and cultural changes on families and parents. Topics include the diversity of family relations, work-life balance, family time, the 'parenting expert industry', 'intensive parenting,' the 'boomerang generations' and 'grand' relations. Across this range of topics, we consider how gender, race, sexuality, social class, and health influence families and parents. Cross-listed as SOCI 327. Three credits.

329 Studies in Women Writers: Feminisms and Their Literature
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 ENGL 329. Three credits.

330 Studies in Women Writers: Genres, Cultures, and Contexts
This course explores modern and contemporary poetry written by women in English. Cross-listed as ENGL 330. Prerequisite: 9 credits ENGL. Three credits. Not offered 2017-2018.

332 Gender in Sport and Physical Activity
Explores the role of women and men in sport/physical activity/recreation from a historical, philosophical, and sociocultural perspective. This course covers embodiment, objectification, equity, racism, homophobia, politics of difference and identity. Cross-listed as HKIN 332. Three credits.

333 The Medieval Body
This class explores late medieval conceptions of the physical body, which were always essential to identity in the Middle Ages. Medieval discussions of the practice of reading, clothing and fashion and even spiritual union with God, often involved debates and metaphors based upon the physical body. Through an exploration of primary and secondary texts along with seminar discussions, the class will explore the interconnectedness of late medieval ideas of corporeality, identity, spirituality and sexuality. Cross-listed as HIST 332. Three credits.

343 Psychology of Gender
This course will review theories and research regarding gender in psychological development, social roles, and personality. Topics to be covered will include the history of research in gender; issues to consider in conducting gender research; gender role development and the socialization of gender; gender as a social variable in education and the workplace. Credit will be granted for only one of WMGS 343 or WMGS 360. Cross-listed as PSYC 364. Three credits. Not offered 2017-2018.

344 Developmental Social Psychology of Gender
This course will review theories and research that integrate developmental and social perspectives on gender. Topics will focus on gender as a social construct and include gender role development, gender role socialization in the family and gender development in cross-cultural perspective. Credit will be granted for only one of WMGS 344 or WMGS 360. Cross-listed as PSYC 365. Prerequisite: 6 credits of PSYC at the 200 level. Three credits.

345 Women and Politics
An introduction to the study of women and politics, this course has three parts: feminist political thought and the 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 PSCI 345. Prerequisite: PSCI 101/102 (100) or WMGS 100. Three credits.

346 Critical Race & Sexuality Studies in Canada
This seminar course offers students a survey of feminist approaches to contemporary critical race theory and sexuality studies in Canada, with a particular focus on the values of 'multiculturalism' and 'tolerance.' The course will consider the intersections of gender with such topics as colonialism, racism and immigration, whiteness, as well as homophobia and homonationalism. Credit will be granted for only one of WMGS 346 or WMGS 399, ST: Critical Race & Sexuality. Prerequisite: WMGS 100. Three credits.

364 Social Justice and Health
Examines the relationship between injustice and health outcomes nationally and globally. Core social justice ideas are analyzed, including the cycle of oppression, distinctions between equality and equity, and achievement of human rights as an ethical imperative. Modern and historical contexts are explored in key justice related areas: corporatization of health care; policy-created poverty; worldwide water crisis; links between planetary health and human health; and global conflict as a key driver of injustice. Learning includes analysis of selected award winning films. Cross-listed as NURS 364. 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 NURS 365. Three credits.

367 Gender and 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 BSAD 367. Prerequisite: BSAD 261. Three credits.

370 Gender & Sexuality in Modern European Empires
This course examines major issues in the history of gender and sexuality in the new imperialism. Themes to be covered include imperial families, race, gender and professionalism, gender, sexuality and citizenship, and women in imperialism and global movements. Cross-listed as HIST 360. Three credits.

378 Human Sexuality
This course provides a broad introduction to research and theory in human sexuality. It includes examination of fundamental topics such as the nature of human sexuality and contemporary issues. Specific topics include historical perspective, theories of sexuality, sex research, sexual anatomy, sexual variation, sexual response, gender, sexual dysfunction and sex therapy. Cross-listed as PSYC 378. Prerequisites: 6 credits of PSYC at the 200 level. Three credits.

395 Selected Topics in Women's and Gender Studies I
Course content changes from year to year and may reflect faculty involvement in a specific area of research. Three credits.

397 Power & Gender in Hinduism and Buddhism
This course reflects on the nature of power as understood in Hindu and Buddhist traditions. It does this by examining the sacred and gender. We will study inter-dependence and transcendence by tracing the relationship of the masculine and feminine principles in the philosophy, mythology and experience of people in the Hindu and Buddhist traditions of India and Tibet. Cross-listed as RELS 315. Three credits.

398 Themes in the History of Sexuality
A comparative study of the history of sexuality during the modern period from the eighteenth through the twentieth centuries. Following a broadly chronological and thematic approach to a diverse history of sexualities, the course will explore in particular the changing meanings of and interconnections between sexuality, race, class and gender. Topics will include: indigenous sexual cultures; sexuality and colonialism; inter-racial sexual relationships; the 'invention of heterosexuality'; moral panics, prostitution, the regulation of sexual desire; and sexual subcultures. Cross-listed as HIST 398. Three credits.

399 Selected Topics in Women's and Gender Studies II
Prerequisite: WMGS 100. Three credits.

400 Advanced Field Seminar
This course focuses on understanding inequality from an academic perspective, and seeks to do so through understanding grass-roots activism and movements for social change. This course is designed to combine feminist theories with feminist activist work, allowing students to learn from how feminism looks as gender challenges are enacted in homes, workplaces and political spaces. Students will examine research regarding social change through a feminist lens, and will gain field-based knowledge through placement with an organization, community group or service. Six credits.

411 Religious Approaches to Sexuality
Human sexuality is explored from two main perspectives: first, the teachings and practices of various religious traditions; and second, contemporary developments in sexual and reproductive health and rights. Among the issues to be considered are sexuality and gender roles, contraception and abortion, marriage and family. Cross-listed as RELS 401. Prerequisite: any 100-level RELS or WMGS course. Three credits.

412 Religious Approaches to Sexual Diversity
This course will focus on religious teachings and traditions on sexual diversity within the broader context of human rights associated with sexual orientation and sexual differences. In particular, we will look at the experiences of gay, lesbian, bisexual, intersexual and transgendered persons within religious communities. Cross-listed as RELS 402. Prerequisite: any 100-level RELS or WMGS course Three credits. Offered 2017-2018.

Other courses may be considered WMGS cross-listed courses after consultation with the women's and gender studies co-ordinator.

UNIVERSITY PERSONNEL

As of February 15, 2017

University Faculty

Professors

Adams, C., Ph.D.(Toronto)	Physics
Anderson, A., Ph.D.(Queen's)	Earth Sciences
Apaloo, J., Ph.D.(Montana)	Mathematics, Statistics & Computer Science
Aquino, M.A.S., Ph.D.(Carleton)	Chemistry
Arpin, M., Ph.D.(Laval)	Modern Languages
Baldner, S., Ph.D.(Toronto)	Philosophy
Bantjes, R., Ph.D.(Lancaster, UK)	Sociology
Beltrami, H., Ph.D.(UQAM)	Earth Sciences
Bickerton, J., Ph.D.(Carleton)	Political Science
Bigelow, A., Ph.D.(Simon Fraser)	Psychology
Boyle, T., Ph.D.(Carleton)	Business Administration
Brebner, K., Ph.D.(Carleton)	Psychology
Callaghan, T., Ph.D.(Brown)	Psychology
Cormack, P., Ph.D.(York)	Sociology
De'Bell, K., Ph.D.(London, UK)	Mathematics, Statistics & Computer Science
DeMont, M.E., Ph.D.(UBC)	Biology
English, L., Ed.D.(Columbia)	Adult Education
Forestell, N.M., Ph.D.(OISE)	History
Garbary, D., Ph.D.(Liverpool)	Biology
Genge, A., Ph.D.(State U. NY)	Music
Grenier, Y., Ph.D.(Laval)	Political Science
Groarke, L., Ph.D.(Waterloo)	Philosophy
Hauf, P., Ph.D.(Frankfurt)	Psychology
Hynes, T.W., Ph.D.(Calgary)	Business Administration
Kalman, S., Ph.D.(McMaster)	History
Kellman, L., Ph.D.(UQAM)	Earth Sciences
Klapstein, D., Ph.D.(Victoria)	Chemistry
Kocay, V., Ph.D.(Toronto)	Modern Languages
Kolen, A., Ph.D.(Saskatchewan)	Human Kinetics
Langille, E.M., D. ès L.(Sorbonne)	Modern Languages
Leaist, D.G., Ph.D.(Yale)	Chemistry
Lent, M.C., Ph.D.(Durham)	Business Administration
Lin, M., Ph.D.(Linkoping)	Mathematics, Statistics & Computer Science
MacAulay, K., Ph.D.(Queen's)	Business Administration
MacCaull, W., Ph.D.(McGill)	Mathematics, Statistics & Computer Science
MacDonald, K., Ph.D.(Pennsylvania)	Education
MacDonald, L., Ph.D.(Alberta)	Education
MacDougall, D., Ph.D.(Calgary), RN	Nursing
Madden, R.F., MBA(Queen's), FCPA, FCA(ICANS)	Business Administration
Mahaffey, T., Ph.D.(Queen's)	Business Administration
Marangoni, D.G., Ph.D.(Dalhousie)	Chemistry
Marquis, P.A., Ph.D.(Queen's)	English
Marzlin, K.P., Ph.D.(Konstanz, Germany)	Physics
McGibbon, E., Ph.D.(Toronto), RN	Nursing
McGillivray, M.B., Ph.D.(Queen's)	English
Melchin, M.J., Ph.D.(UWO)	Earth Sciences
Moynagh, M.A., Ph.D.(Texas-Austin)	English
Murphy, J.B., Ph.D.(McGill)	Earth Sciences
O'Mahoney, T., M.Mus.(Miami)	Music
Orr, J., Ph.D.(Alberta)	Education
Palanisamy, R., Ph.D.(IIT, New Delhi)	Business Administration
Phyne, J., Ph.D.(McMaster)	Sociology
Poole, P., Ph.D.(Boston)	Physics
Rasmussen, R., Ph.D.(Saskatchewan)	Human Kinetics
Scrosati, R., Ph.D.(UBC)	Biology
Smith, D., Ph.D.(Manitoba)	English
Smith, G., M.Mus.(Eastman)	Music
Smith-Palmer, T., Ph.D.(Auckland)	Chemistry
Stan, L., Ph.D.(Toronto)	Political Science
Stanley-Blackwell, L., Ph.D.(Queen's)	History
Sweet, W., Ph.D.(Ottawa), DEA(Sorbonne), D.Ph.(Saint Paul)	Philosophy
Tkacz, G., Ph.D.(McGill)	Economics
Tynan, P., MM(U. North Texas)	Music
van Bommel, M., Ph.D.(Waterloo)	Mathematics, Statistics & Computer Science
van den Hoogen, R., Ph.D.(Dalhousie)	Mathematics, Statistics & Computer Science
Vincent, S., Ph.D.(Toronto)	Anthropology
Wamsley, K.B., Ph.D.(Alberta)	Human Kinetics
Wang, P., Ph.D.(Regina)	Mathematics, Statistics & Computer Science
Watt, M., Ph.D.(Dalhousie)	Psychology
Wilputte, E., Ph.D.(Toronto)	English
Wright, E., Ph.D.(Alberta)	Psychology
Yang, L.T., Ph.D.(Victoria)	Mathematics, Statistics & Computer Science
Zhou, P., Ph.D.(Witwatersrand)	Mathematics, Statistics & Computer Science

Associate Professors

Alex, M., M.Sc.N.(Dalhousie), RN	Nursing
Al-Maini, D., Ph.D. (Calgary)	Philosophy
Anthony, D., Ph.D.(Liverpool)	Business Administration
Appleby, B., Th.D.(Toronto)	Religious Studies
Austen, E., Ph.D.(UBC)	Psychology
Billington, R., M.Mus.(W. Michigan)	Music
Bishop, C., Ph.D.(Simon Fraser)	Biology
Boucher, J.L., Ph.D.(Université de Montréal)	Human Kinetics
Brown, D., Ph.D.(Melbourne)	Political Science
Brunkhorst, K., MM(University of North Texas)	Music
Byrne, C., Ph.D.(Toronto)	Philosophy
Carter, G.G., M.Mus.(Eastman)	Music
Coady, M., Ph.D.(Nottingham, UK)	Adult Education
Casey, A., Ph.D.(Calgary)	Human Kinetics
Chisholm, R., Ph.D.(York)	Sociology
Cho, Y., Ph.D.(Queen's)	Political Science
Comeau, F., Ph.D.(Dalhousie), P.Eng.	Engineering
Cormier, J., Ph.D.(McGill)	Chemistry
D'Arcy, M., Ph.D.(Cornell)	English
Darwish, L., Ph.D.(Concordia)	Religious Studies
Dodaro, S., Ph.D.(Toronto)	Economics
Duff, D., Ph.D.(Calgary)RN	Nursing
Fawcett, C., Ph.D.(McGill)	Anthropology
Finbow, S., Ph.D.(Victoria)	Mathematics, Statistics & Computer Science
Foran, A., Ph.D.(Alberta)	Education
Foshay, N., MBA(UBC)	Business Administration
Fox, A., Ph.D.(Toronto)	Human Nutrition
Frazer, C., Ph.D.(Brown University)	History
Fuller, M., Ph.D.(York)	Business Administration
Galway, M., Ph.D.(Australian NU)	Biology
Gondra, I., Ph.D.(Oklahoma State)	Mathematics, Statistics & Computer Science
Graham, D., Ph.D.(Nottingham)	Education
Graham, L., Ph.D.(Calgary)	Biology
Gregory, S., Ph.D.(University of London)	Art
Haller, M., Ph.D.(Pittsburgh)	Anthropology
Hansen-Ketchum, P., Ph.D.(Alberta)	Nursing
Harling-Stalker, L., Ph.D.(Carleton)	Sociology
Hawley, M.P., Ph.D.(Alberta)	Nursing
Hurst, R., Ph.D.(York)	Women's and Gender Studies
Isnor, R., D.Phil.(Sussex, UK)	Political Science
Jamieson, J., Ph.D.(McGill)	Human Nutrition
Kane, D., Ph.D.(East Carolina)	Human Kinetics
Kearns, L., Ph.D.(Toronto)	Education
Kennedy, R., Ph.D.(Notre Dame)	Religious Studies
Khoury, J., Ph.D.(Carleton)	English
Koch, E., Ph.D.(Florida)	Psychology
Lalande, G., Ph.D.(McGill)	History
Langdon, J., Ph.D.(McGill)	Adult Education
Lange, E., Ph.D.(Alberta)	Adult Education
LeBlanc, R., Ph.D.(Laval)	Modern Languages
LeBris, K., Ph.D.(École Polytechnique de Montréal)	Physics
Leo, T.W., Ph.D.(Toronto)	Economics
Linkletter, M., Ph.D.(Harvard)	Celtic Studies
Litz, S.A., Ph.D.(Konstanz, Germany)	Business Administration
Lomore, C., Ph.D.(Waterloo)	Psychology
Long, B., Ph.D.(Saint Mary's)	Business Administration
Lukeman, R., Ph.D.(British Columbia)	Mathematics, Statistics & Computer Science
Lunney Borden, L.A., Ph.D.(UNB)	Education
Lynes, D.A., Ph.D.(York)	Sociology
MacDonald, C., Ph.D.(Dalhousie), RN	Nursing
MacDonald, J., Ph.D.(Ottawa), RN	Nursing
Mackenzie, S., Ph.D.(Saskatchewan)	Human Kinetics
MacLean, B.J., Ph.D.(Memorial)	Chemistry
MacLean, K., Ph.D.(Simon Fraser)	Psychology
MacLeod, K., Ph.D.(Toronto)	Education
Mallory, P., Ph.D.(York)	Sociology
Maltby, N., Ph.D.(Strathclyde)	Business Administration
Marmura, S., Ph.D.(Queen's)	Sociology
Mazier, P., Ph.D.(UBC)	Human Nutrition
McCormick, P., Ph.D.(Waterloo)	Psychology
McInnis, P., Ph.D.(Queen's)	History
McKenna, J., Ph.D.(McGill)	Psychology
McMillan, L.J., Ph.D.(UBC)	Anthropology
McPherson, C., Ph.D.(McMaster), RN	Nursing
Mitton-Kukner, J., Ph.D.(Alberta)	Education
Morrison, B., Ph.D.(Strathclyde)	Business Administration
Mukerji, B., Ph.D.(Carleton)	Business Administration

Munroe, E., Ph.D.(Calgary) Education
Murray-Orr, A., Ph.D.(Alberta) Education
Mwebi, B., Ph.D.(Alberta) Education
Nilges, M., Ph.D.(Illinois) English
Oguejiofor, E., Ph.D.(Saskatchewan), P.Eng. Engineering
Orlova, G., Ph.D.(Boston) Chemistry
Oxner, M., Ph.D.(Alberta), CFA(AIMR) Business Administration
Penner, K., Ph.D.(McMaster) Religious Studies
Potts, J., Ph.D.(John Hopkins) English
Risk, D., Ph.D.(Dalhousie) Earth Sciences
Robinson, D.B., Ph.D.(Alberta) Education
Rosborough, J., Ph.D.(UWO) Economics
Roy, C., Ph.D.(OISE) Adult Education
Rushton, C., Ph.D.(Bristol) English
Sandness, A., Ph.D.(Sorbonne) Religious Studies
Semple, R., Ph.D.(King's College, UK) History
Taylor, B., Ph.D.(Calgary) Biology
Taylor, T., Ph.D.(Dalhousie) Mathematics, Statistics & Computer Science
Tokarz, W., Ph.D.(Alberta) Modern Languages
Tompkins, J., Ed.D.(OISE) Education
Trembinski, D., Ph.D.(Toronto) History
van Zyl, B., Ph.D.(Queen's) Physics
Verberg, N.J., Ph.D.(Waterloo) Sociology
Vishwakarma, V.K., Ph.D.(U of New Orleans) Business Administration
Vossen, D., Ph.D.(UWO) Human Kinetics
Wadsworth, L., Ph.D.(Saskatchewan) Human Nutrition
Weaver, A., Ph.D.(UNB) Psychology
Weaving, C., Ph.D.(UOW) Human Kinetics
White, R., Ph.D.(OISE) Education
Whitty-Rogers, J., Ph.D.(Alberta), RN Nursing
Williams, P.J., Ph.D.(Memorial) Biology
Withey, P., Ph.D.(Victoria) Economics
Wright, K., Ph.D.(Toronto) English
Wyeth, R., Ph.D.(Washington) Biology
Young, D.C., Ph.D.(Western) Education
Zecker, R., Ph.D.(Pennsylvania) History

Assistant Professors

Arnott, M., MN(South Queenlands) Nursing
Berrigan, L. Ph.D.(Carleton) Psychology
Blair, K., Ph.D.(Queen's) Psychology
Delorey, R., MBA(Moncton) Business Administration
Fellion, M., Ph.D.(Cornell) English
Ghouma, H., Ph.D.(Montreal) Business Administration
Gilham, C., Ph.D.(Calgary) Education
Gougeon, L., Ph.D.(McGill) Human Nutrition
Hallet-Tapley, G., Ph.D.(Dalhousie) Chemistry
Jewers, H., MN(Dalhousie), RN Nursing
Karunakaran, V., Ph.D.(Strathclyde) Biology
Lam, M., Ph.D.(UBC) Human Kinetics
Leung, O., Ph.D.(Bentley) Business Administration
Lukeman, S., M.Sc.(Ottawa) Nursing
MacLellan-Peters, J., B.Sc.N.(Dalhousie), RN Nursing
Moseley, J., M.Ad.Ed.(StFX), RN Nursing
Ozkok, Z., Ph.D.(Madrid) Economics
Palmer, M., Ph.D.(Guelph) Human Kinetics
Parikh, B., Ph.D.(Memphis) Business Administration
Paz, M., MA(Ottawa) Modern Languages
Purvis, J., MN(Dalhousie) Nursing
Razul, S., Ph.D.(Dalhousie) Chemistry
Thompson, K., Ph.D.(Victoria) Psychology
van Wijlen, J., MN(Dalhousie) Nursing

Lecturers

Alex, J., CA(ASCA) Business Administration
English, M., B.Sc.(Dalhousie) Human Nutrition
Hanlon, J., MMUS(North Texas) Music
MacIsaac, M., MBA(Bradford, UK) Business Administration

Part-Time Faculty

Boulter, C., Ph.D.(South Australia) Education
Boyd, C., LL.B.(Victoria) Business Administration
Braid, J., Ph.D.(Dalhousie) Earth Sciences
Brown-Georgallas, K., BFA(NSCAD) Art
Carty, E., M.Litt.(Glasgow) Philosophy
Cavanagh, M. Human Kinetics
Clark, S. Human Kinetics
Crouse, Z., M.Ed.(StFX) Education
Dunnewold, H., P.Eng.(TUNS) Engineering
Fecteau, J., MFA(UBC) Art
Gibson, M., MA(Goldsmiths College, UK) Art
Gillies, C., LL.B.(Dalhousie) Business Administration
Haley, F., MHSA(Dalhousie), P.Dt. Human Nutrition
Jan, S., BA(StFX) Art
Kraglund-Gauthier, W., Ph.D.(South Australia) Education
Lade, M., M.Ed.(Kiell) Modern Languages
Lauff, R., M.Sc.(McMaster) Biology
Legere, R., MBA(St. Mary's) Business Administration
Lin, Q., MMAD Business Administration
MacAskill, W., Ph.D.(Alberta) Education
MacDonald, D., MA(Acadia) Sociology
MacDonald, S., M.Ed.(MSVU) Education
MacEachern, L., MBA (St. Mary's) Business Administration
MacFarlane, M., BFA(NSCAD) Art
MacLennan, H., BBA(StFX) Business Administration
MacPherson, E., M.Ed.(StFX) Education
Mattie, D., BIS(StFX) Business Administration
McNeil-Wilson, A., M.Ed.(MSVU) Education
Nicholson, M., B.E.D.S.(TUNS) Art
Olson, M., Ph.D.(Alberta) Education
Patterson, G., M.Ed.(Acadia) Education
Price, S., MBA(St. Mary's) Business Administration
Pulsifer, M., M.Sc.(Acadia) Biology
Razul, S., Ph.D.(Dalhousie) Engineering
Reid, L., M.Ed. P.Dt., C.D.E. Human Nutrition
Robertson, G., Ph.D.(Dalhousie) Biology
Rogers, W., CSPWC, TWSA, SCA Art
Ryan, R., M.Ed.(Memorial) Education
Smythe, D., Ph.D.(Toronto) Sociology
Sparks, B., MA(Carleton) Art
St. James, P., M.Sc.(Chicago Medical School) Human Nutrition
Sutherland, T., M.Kin.(Calgary) Human Kinetics
Syperek, A., BFA(NSCAD) Art
Tetu, O. Art
Tobin, R., Ph.D.(Dalhousie) Earth Sciences
Vossen, J., M.Sc.(UWO) Human Kinetics
Withrow, J., Ph.D.(South Carolina) Education
Young, R., BD Vis.Com.(NSCAD), M.Ad.Ed.(StFX) Art

Adjunct Professors

Abler, T., Ph.D.(Toronto) Anthropology
Beaton, E., Ph.D.(Manitoba) Sociology
Derksen, D., Ph.D.(Alberta) Chemistry
Gregg, J., Ph.D.(Dublin) Biology
Gregg, M., Ph.D.(Toronto) Anthropology
Hill, N., Ph.D.(Dalhousie) Mathematics, Statistics & Computer Science
Holmes, C., Ph.D.(Dalhousie) Anthropology
Johns, R., Ph.D.(UNB) Biology
Johnson, C., Ph.D.(MSVU) Human Nutrition
Lariviere-Jenkins, S., M.Ed.(StFX) Education
Oickle, D., M.Sc.(Saskatchewan) Human Nutrition
Power, R., M.Ed.(StFX) Education
Robinson, I., M.Ed.(StFX) Education
Simpson, A., MA(Queen's) English
Smith, E., Ph.D. Earth Sciences
van Rooyen, D., Ph.D.(Carleton) Earth Sciences

Retired Faculty

Aalto, S., Ph.D.(Oregon State) Mathematics, Statistics & Computer Science
Aboud, Sr. H.T., Ph.D.(Cornell) Human Nutrition
Amoako Tuffour, J., Ph.D.(Alberta) Economics
Asadulla, S., Ph.D.(Florida) Math, Computing & Information Systems
Beck, J.F., Ph.D.(UBC) Chemistry
Beckwith. C., Artist in Residence Music
Bernard, I., Ph.D.(Pennsylvania) Education
Berridge, J., Ph.D.(Basel) Religious Studies
Bilek, L., Pea.D.(Prague) Human Kinetics
Bourbeau-Walker, M., Ph.D.(UBC) Modern Languages
Brooks, G.P., Ph.D.(Queen's, Belfast) Psychology
Buckland-Nicks, J., Ph.D.(Alberta) Biology
Burke, Sr. B., MA(Columbia TC) Music
Calliste, A., Ph.D.(Toronto) Sociology and Anthropology
Cameron, J. D., Ph.D.(Queen's) History
Carty, E., M.Litt.(Glasgow) Philosophy
Clancy, P., Ph.D.(Queen's) Political Science
Cormier, J., MN(Dalhousie), RN Nursing
Currie, S., Ph.D.(Alabama) English

den Heyer, K.C., Ph.D.(Manitoba) Psychology
Duncan, C.M., Ph.D.(UWO) Business Administration
Delgado, I., MFA(Instituto Allende) Art
Dossa, S.A., Ph.D.(Toronto) Political Science
Edwards, J.R., Ph.D.(McGill) Psychology
El-Sheikh, S., Ph.D.(Queen's) Economics
Fabijancic, U., Doc. IIIe cycle (Montpellier III) Modern Languages
Gallant, C.D., Ph.D.(Illinois) Mathematics, Statistics & Computer Science
Gallant, L., MBA(Queen's) CFP, FCA(ICANS) Business Administration
Gallant, M., M.Sc.P.E.(Dalhousie) Human Kinetics
Gerriets, M., Ph.D.(Toronto) Economics
Gillen, M., Ed.D.(Toronto) Adult Education
Gillis, A., Ph.D.(Texas)RN Nursing
Gillis, D., Ph.D.(Nottingham) Human Nutrition
Gillis, H.A., Ph.D.(Notre Dame) Chemistry / Academic Vice-President 1995-99
Gillis, M.L., M.Sc.(Boston), RN Nursing
Graham, H., MN(Dalhousie), RN Nursing
Grant, C., Ph.D.(Purdue) Economics
Grant, J., Ed.D.(Toronto) Education
Grant, Sr. J., M.A.(Notre Dame) Art
Grew, E., MNS(Harvard) Nursing
Harrison, J.F., Ph.D.(Durham) Political Science
Hayes, Z.L., Ph.D.(Waterloo) Psychology
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
Jan, N., Ph.D.(Cambridge) Physics
Jensen, E., MN(Dalhousie)RN Nursing
Johnson, R.W., Ph.D.(Manitoba) Psychology / Academic Vice-President & Provost 1999-2005
Lander, D., Ph.D.(Nottingham) Adult Education
Langley, J.T., M.Sc.(Nebraska)FCGA Administrative Vice-President 1972-2002
Liengme, B.V., Ph.D.(Imperial) Chemistry
Losier, Sr. A., Ph.D. (Notre Dame) Theology
Lynch, B.M., Ph.D.(Melbourne) Chemistry
MacAdam, A.J., MPE(Springfield) Human Kinetics
MacDonald, Rev. R.B., SSL(Biblicum), STD(Urban) Religious Studies
MacDonell, Sr. M., Ph.D.(Harvard) Celtic Studies
MacEachern, A., Ph.D.(Iowa State) Mathematics, Statistics & Computer Science
MacFarlane, E., M.Ad.Ed.(StFX) RN Nursing
MacInnes, D., Ph.D.(McMaster) Sociology and Anthropology
MacInnis, M., M.Ed.(Alberta) Education
MacIsaac, T., Ph.D.(Temple) Education
MacKinnon, Rev. G.A., Ph.D.(Ottawa) Theology / President 1978-90
MacKinnon, R.J., Ph.D.(Oklahoma State) Information Systems
MacLellan, M., MN(Dalhousie)RN Nursing
MacMullin, Sr. M.R., Ed.D.(Temple) Education
MacNeil, T., Ph.D.(Wisconsin) Adult Education
MacPherson, J., Ph.D.(Ottawa) English
Mahody, M.J., M.Ed.(MSVU) Education
Marshall, W.S., Ph.D.(UBC) Biology
McAlduff, E.J., Ph.D.(Toronto) Chemistry
McDonnell, R., ME(TUNS) Engineering
McFarland, J.M., DPE(Springfield) Human Kinetics
McMullin J., Ph.D.(Boston College) Director of Counselling
Mensch, J.R.,Ph.D.(Toronto) Philosophy
Mifflen, Rev. S., Ph.D.(Indiana) Education
Miller, A.G., Ph.D.(Queen's) Biology
Milner, P., Ph.D.(Notre Dame) English
Morrissey, L., MNS(Cornell) Human Nutrition
Meyer, M., Ph.D.(McGill) Education
Nash, R., Ph.D.(Calgary) Sociology and Anthropology
O'Brien, K., Ph.D.(Notre Dame) English
O'Donnell, J.C., C.M., M.Mus.(King's, London), Ph.D.(hon)StFX Music
Olson, M., Ph.D.(Alberta) Education
Palepu, R., Ph.D.(India) Chemistry
Parsons, C.N., MA(Hons.)(Edinburgh) Celtic Studies
Pencer, E.L., Ph.D.(Waterloo) Psychology
Phillips, P., Ph.D.(Toronto) History
Pink, D., Ph.D.(UBC) Physics
Pluta, L., Ph.D.(Queen's) Economics
Quinn, J., Ph.D.(Wisconsin) Mathematics, Statistics & Computer Science
Quinn, W.R., Ph.D.(Queen's), P.Eng. Engineering
Rancy, C.,Ph.D.(Toulouse) Modern Languages
Riley, S.E., D. Phil.(Oxford) President, 1996-2014
Roach, I., MFA(Guanajuato) Art
Schuegraf, E.J., Ph.D.(Alberta) Mathematics, Statistics & Computer Science
Sears, J.T., DBA(Harvard) Business Administration / Academic Vice-President 1984-1987, 1991-1995
Seymour, N., Ph.D.(McGill) Biology
Shaw, J., Ph.D.(Arizona)RN Nursing
Sony, S.D., MN(Delhi)RN Nursing
Sproull-Seplaki, B., M.Sc.N.(Pennsylvania)RN Nursing
Steinitz, M.O., Ph.D.(Northwestern) Physics
Stouffer, A.P., Ph.D.(Claremont) History
Sullivan, A., Ph.D.(UBC) Human Nutrition
Taylor, J.O., Ph.D.(Ottawa) English
Trites, G., BA(York), FCA(ICANS) Business Administration
Walsh, P., Ph.D.(Dublin) English
Wood, G., Ph.D.(Bologna, Italy) Modern Languages
Woodfine, W., Ph.D.(MIT) Economics
Young, R.K., Ph.D.(Toronto) Business Administration

Nurse Educators

Briand, K., MN, RN Nursing
Cabrera, D., MN(UNB) RN Nursing
Chisholm, M., B.Sc.N,(StFX)RN Nursing
Connolly, D., MN(Southern Queensland)RN Nursing
Delorey, D., B.Sc.N.(Dalhousie)RN Nursing
Dobbin, A.M., B.Sc.N.(StFX)RN Nursing
Farrell, L., B.Sc.N.(StFX)RN Nursing
Fraser, Y., B.Sc.N.(StFX)RN Nursing
Kenny, K., B.Sc.N.(StFX)RN Nursing
LePage, F., MN(Southern Queensland)RN Nursing
Livingston S., B.Sc.N.(StFX)RN Nursing
MacKenzie, P., B.Sc.N.(StFX)RN Nursing
MacNeil, M., B.Sc.N.(StFX)RN Nursing
Panagopoulos, W., B.Sc.N.(StFX)RN Nursing
Wood, S., B.Sc.N.(StFX)RN Nursing

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Azad, M., MA.Sc.(Dalhousie) Engineering
Boucher, S., B.Sc.(StFX) Chemistry
Buckland-Nicks, L., B.Sc.(Alberta) Biology
Budicky, P., B.Sc., MBA(Waterloo) Chemistry
Burbidge, M., M.Sc.(Victoria) Biology
Bursey, S., B.Sc.(Memorial) Chemistry
Cozzi, R., M.Sc.(Quebec) Biology
Fraser, H., B.Sc.(StFX) Chemistry
Fraser, J., B.Sc., B.Ed.(StFX) Chemistry
Hanlon, B., B.Sc.HNU(StFX) Human Nutrition
Hazel, M., M.Sc.(McMaster) Biology
Hunter, K., B.Sc.(StFX) Biology
Keizer, P., B.Sc.(StFX) Mathematics, Statistics & Computer Science
Layes, J., BA(StFX) Psychology
Lauff, R., M.Sc.(MacMaster) Biology
LeGay, W., B.Sc.(StFX) Psychology
MacNeil, A., M.Ed.(StFX) Human Kinetics
Marchand, C., B.Sc., B.Ed.(MSVU) Biology
McInnis, R., BA(StFX) Psychology
Murphy, C., M.Sc.(McGill) Earth Sciences
Powell, J., M.Sc.(StFX) Physics
Rennie, C., M.Sc.(Queen's) Earth Sciences
Rogers, L., BA, B.Sc.(StFX) Biology
Schuegraf, M., M.Sc.(York) Biology
Schumacher, M., M.Sc.(Waterloo) Earth Sciences
Spencer, G., M.Sc.HKIN(Windsor) Human Kinetics
Thompson, K., B.Sc.Phys.Ed.(Saskatchewan) Human Kinetics
Vossen, J., M.Sc.(Western Ontario) Human Kinetics

Student Success Centre

Leeming, M., Ph.D.(Dalhousie) Interim Co-ordinator
Sparks, B., BFA, MA (Carleton) Learning Skills Instructor
ten Brinke, C., BA(CBU) Learning Skills Instructor

Professor Emeritus/a

Aalto, S., Ph.D.(Oregon State) Mathematics, Statistics & Computer Science
Brooks, G.P., Ph.D.(Queen's, Belfast) Psychology
den Heyer, K.C., Ph.D.(Manitoba) Psychology
Gillis, A., Ph.D.(Texas)RN Nursing
Hunter, D., Ph.D.(King's, London) Physics
Jackson, W., Ph.D.(Washington) Sociology and Anthropology
Jan, N., Ph.D.(Cambridge) Physics
Johnson, R.W., Ph.D.(Manitoba) Psychology / Academic Vice-President &

	Provost 1999-2005
MacDonald, B., Ph.D.(CUA)	Religious Studies
MacDonell, Sr. M., Ph.D.(Harvard)	Celtic Studies
MacInnes, D., Ph.D.(McMaster)	Sociology and Anthropology
McAlduff, E.J., Ph.D.(Toronto)	Chemistry
O'Donnell, J.C., C.M., M.Mus.(King's, London)	Music
Quinn, J., Ph.D.(Wisconsin)	Mathematics, Statistics & Computer Science
Steinitz, M.O., Ph.D.(Northwestern)	Physics

Senior Research Professors

Buckland-Nicks, J., Ph.D.(Alberta)	Biology
Clancy, P., Ph.D.(Queen's)	Political Science
Dossa, S.A., Ph.D.(Toronto)	Political Science
Edwards, J.R., Ph.D.(McGill)	Psychology
Gillis, D., Ph.D.(Nottingham)	Human Nutrition
Holloway, S., Ph.D.(Ohio State)	Political Science
Lynch, B.M., Ph.D.(Melbourne)	Chemistry
MacDonald, B., Ph.D.(CUA)	Religious Studies
MacInnes, D., Ph.D.(McMaster)	Sociology and Anthropology
Marshall, W.S., Ph.D.(UBC)	Biology
Meyer, M., Ph.D.(McGill)	Education
Miller, A.G., Ph.D.(Queen's)	Biology
Phillips, P., Ph.D.(Toronto)	History
Pink, D., Ph.D.(UBC)	Physics
Quinn, W.R., Ph.D.(Queen's), P.Eng.	Engineering

Chaplains

Gillies, Father Andrew, M.Div. (St. Augustine)	University Chaplain
McIntyre, Laurel, MPTh (Ottawa)	Associate Chaplain
Smith, Rev. Peter	United
Channen, Rev. Susan, M.Div.	Anglican

Library

Duggan, L., MLIS(Dalhousie)	University Librarian
Cameron, S., MLIS(UWO)	Librarian
MacKenzie, K. MA(Saint Mary's)	Archivist
Matheson, L., MLIS(McGill)	Librarian
van den Hoogen, S., MLIS(Dalhousie)	Librarian

Coady International Institute

Alma, E., MA(Royal Roads)	Associate Director, Women and Indigenous Programming
Baden-Clay, A., BA(UNSW)	Manager, Youth Programs
Bourgeois, R., Ph.D.(Toronto)	Teaching Staff, International Centre for Women's Leadership
Cash, C., Ph.D.(Waterloo)	Program Staff
Chowdhury, N., M.Sc.(Jahangirnagar)	Specialist, Women's Leadership and Gender
Cunningham, G., MA(Guelph)	Assistant Director, Local to Global Innovation and Knowledge
den Heyer, M., Ph.D.(Dalhousie)	Senior Program Analyst
Fletcher, D., M.A.Ed.(StFX)	Manager, Education Programs
Ghore, Y., MPA(Columbia)	Senior Program Staff
Gladkikh, O., MA(UWO)	Senior Program Staff
Irving, C., MA(Memorial)	Library Specialist
Jain, A., MBA(IMT India)	Senior Fellow, Microfinance
Johnson, P., MBA(CBU)	Program Officer, International Centre for Women's Leadership
Kraglund-Gauthier, Ph.D., (South Australia)	Manager, Networks and Ongoing Learning
Landry, J., MA(UBC)	Program Teaching Staff
MacDonald, J., BA(StFX)	Admissions & Recruitment Officer
Marlow, J., BBA(StFX)	Associate Director, Finance and Administration
Peters, B., MA(Carleton)	Program Staff
Provost, K., BA, CFRE(McGill)	Associate Director, Fund Development and Communications
Savage, S., BA(Dalhousie)	Associate Director, Youth, Partnerships, and Programming
Schreiber, V., BIS(Waterloo)	Program Manager, EMPOWER
Tursunova, Z., Ph.D.(Manitoba)	Program Teaching Staff, Coady International Institute & Adult Education
Walsh, S., Ph.D.(Manitoba)	Associate Director, Education
Webber, J., Ph.D.(Kwa-Zulu Natal)	Director, Coady International Institute, University Vice-President

Extension Department

Brophy, P., BIS(StFX)	Co-ordinator, Self Employment Benefit Program
Davison, P., Ph.D.(UNB)	Director
MacIntosh, P., M.A.Ed.(MSVU)	Fieldworker
McNeil, S., BBA(StFX)	Co-ordinator, Innovation and Incubation

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Delorey, T., M.Ed., (StFX)	Co-ordinator
Goldie, H., M.Ed.(StFX)	Co-ordinator
Landry, J., Ed.D.(Calgary)	Director
MacDonald, P., M.Ad.Ed.(StFX)	Co-ordinator, Distance Nursing Programs

Diploma in Adult Education

Goggin, William, M.Ad.Ed.(StFX)	Director

Industry Liaison and Knowledge Transfer Office

Andrew J.D. Kendall, B.Sc.	Manager

Research Grants Office

John D. Blackwell, MA, MLIS	Director

Administrative Departments

Administrative Services

Vice-President, Finance & Operations	Andrew Beckett, CPA-CA
Director of Finance	Helen MacGregor, BBA, B.Ed., CMA
Director, Human Resources	Jennifer Swinemar-Murray, B.Comm.
Interim Head of Student Services	Bob Hale, BBA

Recruitment and Admissions

Director, Recruitment & Admissions	Justin Fox, MA, MLIS
Manager, Recruitment	Mark Kolanko, BA HKIN
Manager, Admissions	Kara Deon BBA, BIS
Co-ordinator, Tours & Special Events	Keegan MacNeil, BBA
International Admissions Specialist	Brittany Wood, BBA
Admissions Officer	Laura Doiron, BBA, CA

University Advancement

Vice-President, Advancement	Murray Kyte, BBA, M.Ed., LL.B.
Director, Alumni Affairs	Mary Jessie MacLellan, B.S.A.
Director, Development	Wendy Langley, MA HKIN
Director, Marketing & Communications	Kyler Bell, B.Comm.

Athletics and Recreation

Director	Leo MacPherson, MBA
Manager, Varsity Athletics and Communications	Krista McKenna, MA
Athletic Therapist	Tara Sutherland, M.HKIN., CAT(C)
Assistant Athletic Therapist	Angela Wylie, B.Sc.HKIN.,CAT(C)
Co-ordinator, Marketing & Events	Leah Bond, BA
Co-ordinator, Sponsorships & Fund Development	Alexa Zarins, BAHKIN
Coach, Women's Rugby	Michael Cavanagh
Coach, Cross Country, Track and Field	Bernard Chisholm, B.Ed.
Coach, Men's Basketball	Stephen Konchalski, LLB
Coach, Men's and Women's Soccer	Graham Kennedy, M.Ed.
Coach, Men's Hockey	Brad Peddle, B.Sc.P.E
Coach, Women's Basketball	Augy Jones, M.Ed.
Coach, Women's Hockey	David Synishin, BA
Coach, Men's Football	Gary Waterman, B.Sc.P.E.
Strength & Conditioning Coach	Kyle Orser, M.Sc.

Co-operative Education Program

Manager	Jane MacDonald, MLIS, M.Ad.Ed., M.Ed.,

Facilities Management

Director	Leon MacLellan, M.Eng., P.Eng.
Maintenance Manager	Shaun Chisholm, BBA
Manager, Custodial Services	Peter MacDonald
Budget Analyst	Dave MacNeil, BBA
Project Manager	Brian Doiron, P.Eng.
Project Manager	Tim Handforth, CET
Project Manager	Sandy MacDonald, P.Eng.
Project Co-ordinator	Candice Finbow, BA
Manager, Project Office	Jeff De Leebeeck
Manager, Safety & Security	Robert Proctor, BA, B.Ed.

Office of Internationalization

Director of Internationalization	Marla Gaudet, M.Ad.Ed.

Office of the Registrar

Registrar & Director of Enrolment	Tara Buksaitis, BA, MLIS
Associate Registrar	Shannon Morell, B.Ed.
Financial Aid Officer	Mary Fisher-MacDonnell, BA, BBA
Research Analyst	Aimee MacDonald, BIS, HRM

Service Learning

Program Co-ordinator	Mary Oxner, Ph.D.
Program Manager	Megan Turner, MA

Student Services

Head of Student Services	Bob Hale, BBA
Director, Athletics & Recreation	Leo MacPherson, MBA
Director, Health, Counselling & Accessible Learning	Margaret McKinnon, MA., R. Psych
Director, Student Life	Jacqueline De Leebeeck, MA
Manager, Accommodations, Residence Services	Johnann LeBlanc
Manager, Student Career Centre	Jane MacDonald, MLIS, M.Ad.Ed., M.Ed.
Manager, Student Life	Shannon Travers, M.Ed.
Student Conduct Co-ordinator	Matt Girard, BA
Centre Accessible Learning, Co-ordinator	Elizabeth Kell, M.Ad.Ed.
Students of African Descent Advisor	Michael Fisher, MA
Director of Internationalization	Marla Gaudet, M.Ad.Ed.
Human Rights & Equity Advisor	TBA
Aboriginal Students Advisor	Terena Francis, BA
LGBTQ Students Advisors	Chris Frazer, Ph.D.

IT Services

Director	John DeLorey, B.Sc.
Manager, IT	Dave Mattie, BIS, B.Sc.
Manager, IT Infrastructure	Aaron MacDonald
Manager, Academic Techology & IT Support Services	Mari Roach, BA

GLOSSARY

Academic Calendar (also known as the Calendar)
The university's official publication which outlines admission requirements, fees, grading systems, academic regulations, course offerings, and other information. Students admitted in a particular year are bound by the regulations described in the Academic Calendar for that year.

Academic Year
The regular academic year at StFX runs from September to April. The first term lasts from early September to mid-December and the second term, from early January to late April. See also spring and summer sessions.

Advanced Standing
Students may enter a higher level of courses in a subject when they have mastered the lower, usually introductory, level. This is normally permitted after completion of international baccalaureate (IB) or advanced placement (AP) courses. *See section 1.3 h*. Advanced standing does not reduce the number of credits required for a degree.

Audit
To take a course without receiving academic credit. A student may audit any course with the permission of the professor who teaches it. A student may attend and participate in the course and may, in agreement with the instructor, choose to receive feedback from submitted course work and/or exams, but will not receive a grade and will not be given credit for the course. The fee for a course taken for audit is normally one-half of the normal course 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), or education (B.Ed.); 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.

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 four deans: The Dean of Arts, the Dean of Business, the Dean of Education and the Dean of Science.

Dean's List
An academic honour granted to students who achieve high grades while enrolled in at least 24 credits. *See 3.19.*

Decile
The student decile ranking in a course (10 high, 1 low) recorded for courses with 15 or more registrants.

Diploma
An earned document which follows a program of study typically lasting two years or less.

Distinction
A designation awarded to students whose general average over their final three years of study is 80 or higher. Minimum averages each year may also apply. *See 3.20.*

Electives
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 aquatic resources, business administration, education, engineering, human kinetics, human nutrition or nursing.

Faculty
A grouping of departments which give academic instruction in related subjects. At StFX, there are four faculties: the Faculty of Arts, the Faculty of Business, the Faculty of Education and the Faculty of Science. The Faculty of Arts is comprised of subjects in the humanities and social sciences. Within the Faculty of Business are the business administration and information systems subjects. The Faculty of Education includes education courses at the undergraduate, graduate and doctural level. 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.

Full Time/Part Time
There are several definitions of full time/part time. Normally a student carries 30 credits for an academic year. Only students carrying at least 30 credits are considered for in-course scholarships. For the purpose of billing students, the business office considers a student carrying 24 or more credits to be full time. For the purpose of student loans 18 to 24 credits, or 60 percent to 80 percent of the normal load, may be considered full time by agencies which administer loan programs. For purposes of reporting to Statistics Canada full time is defined as 18 credits or more.

Grade Appeal
The process by which a student appeals his or her final grade for a course. *See 3.13*.

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 including art, Catholic studies, Celtic studies, classical studies, English, French, German, history, Mi'kmaq, music, philosophy, religious studies, Spanish.

Invigilator
A person who, in the absence of the professor, administers and oversees examinations.

Junior
A third-year student.

Levels

Course Level

Courses are numbered and referred to according to the normal year of study in which a student would complete them, as in 100-level (first year), 200-level (second year), 300-level (third year) and 400-level (fourth year) courses.

Student Level

A student's level corresponds to the level of his/her degree program. The most common student levels at StFX are UG (Undergraduate), ED (Bachelor of Education) and GR (Graduate).

Year of Study

Most four-year degree programs require the completion of 120 credits, normally at 30 credits per year for four years. Students' year of study is based on the number of credits they have earned towards their current degree. Students are "promoted" to the next year of study when they are within six of the required number of credits for that year. For example, a student who has earned 54 credits is considered to be a third year (junior) student.

Major
A student's primary subject. StFX also offers joint majors, studying a combination of two subjects. While StFX does not have programs with double majors, there are opportunities for students to have the equivalent of double majors.

Mature Student
A candidate who has not fulfilled the normal admission requirements and has been out of school for at least three years.

Minor
The secondary subject or area of study, normally at least 24 credits in one subject.

Non-Degree Student
A student who is not registered in a degree program but is enroled in courses either part time or full time.

Orientation
A program for new students providing an academic and social introduction to university life prior to the beginning of classes in September.

Pair
Twelve credits in one subject, with at least six credits at the 200-level or higher. As exceptions, language pairs in French, Celtic Studies and Classics may be composed of 12 credits at the 100-level. A student may complete only one pair from a department, and may not complete a pair in the major or minor subject. A pair may not be completed in any of the professional or applied program disciplines: AQUA, BSAD, ENGR, HKIN, HNU or NURS.

Passing Grade
The passing grade for all undergraduate courses is 50. *See chapter 3*. For education, *see chapter 4*. For graduate studies, *see chapter 8*.

Pattern
The recommended or suggested series of courses a student takes in order to fulfill degree requirements.

Placement Test
Incoming students who wish to study music or modern languages must take placement tests to determine their eligibility for, and appropriate level of, study. *See department guidelines, chapter 9*.

Plagiarism
A form of cheating in which a student attempts to pass off as his or her work the words or ideas of another person or another writer. *See 3.8*.

Prerequisite
A course which must be completed before taking another course.

Program
An approved set of courses, requirements and study pattern, leading to a degree, diploma or certificate.

Rank
The student's rank in his/her group and year of study. Ranking is not recorded for students enrolled in less than 24 credits or for those who withdraw during an academic year.

Registrar
The university officer responsible for managing academic information and processes and enforcing the regulations contained in the Academic Calendar as they pertain to students' academic performance.

Registration
The process of formally enrolling in courses.

Repeated Course
When a student repeats a course, the original grade remains on the transcript and in the student's average. However, the credits orginally 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 behaviour, including anthropology, development studies, economics, political science, psychology, public policy and governance, sociology and women's and gender studies.

Sophomore
A second-year student.

Special Needs Student
A student with a physical or learning disability. *See 1.1.*

Spring Session
An eight-week term from early May to late-June.

Student Loan
A sum of money which must be repaid. Loans to university students are obtained through the Canada Student Loan Plan.

Study Abroad
The opportunity for a student enrolled in a four-year program to study at another accredited university as part of a degree from StFX. *See 3.18.*

Subject Abbreviations
The abbreviations below are used throughout the Calendar and on transcripts:

ADED	Adult Education	HIST	History
ANTH	Anthropology	HKIN	Human Kinetics
AQUA	Aquatic Resources	HLTH	Health
ART	Art	HNU	Human Nutrition
BIOL	Biology	IDS	Interdisciplinary Studies
BSAD	Business Administration	MATH	Mathematics
CATH	Catholic Studies	MIKM	Mi'kmaq
CELT	Celtic Studies	MNST	Ministry
CHEM	Chemistry	MUSI	Music
CLAS	Classical Studies	NURS	Nursing
COOP	Co-operative Education	PGOV	Public Policy and Governance
CSCI	Computer Science	PHIL	Philosophy
DEVS	Development Studies	PHYS	Physics
ECON	Economics	PSCI	Political Science
EDUC	Education	PSYC	Psychology
ENGL	English	RELS	Religious Studies
ENGR	Engineering	SOCI	Sociology
ENSC	Environmental Sciences	SPAN	Spanish
ESCI	Earth Sciences	STAT	Statistics
FREN	French	WMGS	Women's and Gender Studies
GERM	German		

Subsidiary Subject
When the study of two subjects is combined such that one is subordinate to the other, the second is considered a subsidiary to the first. Within the BA Honours with Subsidiary program, the subjects in which an honours is possible are those in which one may complete a single honours, with the added exceptions of development studies and women's and gender studies. A subsidiary is possible in those fields in which one may complete at least a major in the Bachelor of Arts, with the added exception of art history.

Summer Session
A six-week term scheduled from early July to mid-August.

Thesis
The lengthy paper required for an honours or graduate degree.

Transcript
The record of a student's program of study, courses taken, and grades achieved. *See section 3.15 for information on academic records.*

Transfer Credit
Courses taken at another university or college are given equivalent StFX course numbers and credit value for transfer credit.

Undergraduate Degree
A first degree completed at a university or college. At StFX, the first degree is the baccalaureate degree which takes four years of full-time study to complete.

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counselling services 6
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health services 6
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