

St. Francis Xavier University

Academic Calendar

2019-2020





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. 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 March 2019.

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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 Phone: 902-867-2219
 Fax: 902-867-2329
 Email: admit@stfx.ca

Registrar's Office

Toll free 1-888-Reg-StFX(734-7839)
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 Fax: 902-867-5458
 Email: registr@stfx.ca



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CALENDAR OF EVENTS 2019 - 2020

JUNE 2019

- Thu. 13 2019-2020 Course timetable posted
Registration start times available on Banner Self-service
- Mon. 17 Course registration for the 2019-2020 academic year begins for continuing students
- Mon. 24 Summer term classes begin

JULY

- Mon. 1 Canada Day, offices closed
- Fri. 5 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 Self-service
- Tue. 9 Course registration for the 2019-2020 academic year begins for first-year students

AUGUST

- Mon. 5 Civic Holiday, offices closed
- Wed. 28 International students - arrival services (day 1)
- Thu. 29 International students - arrival services (day 2)
- Fri. 30 International Student Orientation (attendance mandatory)
- Sat. 31 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.

SEPTEMBER

- Mon. 2 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. 3 Classes begin
- Sun. 8 Opening Mass of the Holy Spirit 5:00 p.m.
- Tue. 10 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
- Sun. 15 Student Account - First term payment due
- Thu. 19 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. 20 HKIN Outdoor Camp session 1 begins
- Fri. 27 December exam schedule available

OCTOBER

- Mon. 14 Thanksgiving Day, offices closed
- Tue. 15 Fall Study Break begins
- Mon. 21 Classes resume after break
- Wed. 23 Final day for partial tuition refunds for first-term courses, when applicable
- Fri. 25 Professors to submit October mid-term grades by 9:00 a.m.
HKIN Outdoor Camp session 2 begins
- Thu. 31 Final date to apply for degree or diploma to be conferred at Spring Convocation

NOVEMBER

- Fri. 1 Last day to drop first-term three-credit courses
- Mon. 11 Remembrance Day, offices closed
- Wed. 20 Final day for partial tuition refunds for full year courses, when applicable

DECEMBER

- Sun. 1 Fall Convocation
- Mon. 2 Last day of classes for first term
- Tue. 3 Feast Day of St. Francis Xavier, Alumni Memorial Mass
- Thu. 5 Term examinations begin
- Mon. 16 Christmas recess begins after last examination
- Fri. 20 Professors to submit term grades by 9:00 a.m.
- Mon. 23 Offices closed for holidays

JANUARY 2020

- Thu. 2 Offices re-open
- Sun. 5 Residences re-open
- Mon. 6 Second term classes begin
- Mon. 13 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. 15 Student Account - Balance due in full
- Fri. 24 Final date for submission of application to the B.Ed. program
- Fri. 31 April exam schedule available

FEBRUARY

- Mon. 17 Winter Study Break begins
Nova Scotia Heritage Day, offices closed
- Mon. 24 Classes resume after break
- Tue. 25 Last day for partial tuition refunds for second-term courses, when applicable
- Fri. 28 Second-term, three-credit mid-term grades available to students

MARCH

- Fri. 6 Last day to drop second-term three-credit courses
- Mon. 9 Formal academic advising period begins
- Mon. 23 For Spring Convocation, final date for:
- seniors to submit senior theses
 - graduate students to submit theses
- Wed. 25 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

APRIL

- Fri. 3 Last day of classes
- Tue. 7 Final examinations begin
- Fri. 10 Good Friday, no exams, offices closed
- Tue. 21 Last day of examinations
- Mon. 27 Professors to submit final grades by 9:00 a.m. for graduation candidates
Spring term classes begin

MAY

- Fri. 1 Spring Convocation list published
- Sun. 3 Spring Convocation
- Mon. 4 Professors to submit final grades for continuing students by 9:00 a.m.
- Mon. 18 Victoria Day, offices closed



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 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, Director of Student Services
Murray Kyte, BBA, M.Ed., LL.B.	Vice-President, Advancement
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
Mike Melchin, Ph.D.	Interim Dean of Science
Tara Buksaitis, BA, MLIS	Registrar & Director Enrolment Planning
Vacant	University Librarian

BOARD OF GOVERNORS

Officers of the Board

Mike Boyd, MBA	Toronto, ON
Mary Lou O'Reilly	Toronto, ON
Andrew Beckett, CPA, CA	Antigonish, NS

Members Ex-Officio

Kent MacDonald, Ph.D.	Antigonish, NS
John Peacock, BBA, CPA, CA	Montreal, QC
Most Reverend Brian J. Dunn, D.D., M.Div., MA, J.C.L., J.C.D., Ph.D.	Antigonish, NS
Kevin Wamsley, Ph.D.	Antigonish, NS

Appointed Members

Larry Andrea, B.Sc., BBA	Hillside Boularderie, NS
Joe Apaloo, Ph.D.	Antigonish, NS
John Caplice, BBA, CA	Toronto, ON
Emma Crilly	Calgary, AB
Fr. Duaine Devereaux	Sydney, NS
Deborah Gillis, MA	Toronto, ON
James R. Gogan, CPA, CA, LL.B.	Sydney, NS
Danny Graham, LL.B.	Halifax, NS
Boguslaw Hass, MBA, M.Sc.	Warsaw, Poland
Glenn Horne, BBA, BA, MA	Antigonish, NS
Tom Langley, B.Com., M.S., F.C.G.A., F.C.P.A.	Antigonish, NS
Fr. Thomas A. MacNeil, BA, B.Th., S.T.B., M.P.S.	New Glasgow, NS
Tom Mahaffey, Ph.D.	Antigonish, NS
Paul McFarland, BA	Springfield, VA
Rebecca Mesay	Calgary, AB
Jennifer Mitton-Kukner, Ph.D.	Antigonish, NS
Kevin Morris, BA, LL.B., LL.M.(Cantab)	Toronto, ON
Maureen Moynagh, Ph.D.	Antigonish, NS
Kevin O'Brien, Ph.D.	Antigonish, NS
Michael O'Brien, MD, FRCPC	Antigonish, NS
Sydney Pagan, BA	Ottawa, ON
Chief P.J. Prosper	Afton, NS
Nikki Robar, CPA, CA, CBV	Halifax, NS
Marc Rodrigue, BAH, JD	Toronto, ON
Judy Steele, FCPA	Halifax, NS
Cecil VanBuskirk	Saint John, NB
Frank van Schaayk, BE	Naples, FL

Invited Member

Murray Kyte, BBA, M.Ed., LL.B.	Antigonish, NS
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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, Director of Student Services
Murray Kyte, BBA, M.Ed., LL.B.	Vice-President, Advancement
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
Mike Melchin, Ph.D.	Interim Dean of Science
Tara Buksaitis, BA, MLIS	Registrar & Director Enrolment Planning
Vacant	University Librarian
Tiffany MacLennan	Vice-President Academic, Students' Union

Officers of Senate

Adela Sandness, Ph.D.	Chair
William Sweet, D. Ph.	Vice-Chair
Robert Kennedy, Ph.D.	Past Chair
Barry Taylor, Ph.D.	Secretary
Bobbi Morrison, Ph.D.	Vice-Secretary

Elected Faculty Members

Term Expires June 2019
 Marion Alex, MN, RN
 Doug Al-Maini, Ph.D.
 Frank Comeau, Ph.D.
 Patricia Cormack, Ph.D.
 Santo Dodaro, Ph.D.
 Opal Leung, Ph.D.
 Peter McInnis, Ph.D.
 Anne Murray-Orr, Ph.D.
 Dan Robinson, Ph.D.
 Vijay Vishwakarma, Ph.D.

Term Expires June 2020
 Hugo Beltrami, Ph.D.
 Chris Gilham, Ph.D.
 Réjeanne Leblanc, Ph.D.
 Karine LeBris, Ph.D.
 Charlene Weaving, Ph.D.

Term Expires June 2021
 James Cormier, Ph.D.
 Sharon Gregory, Ph.D.
 Mark Fuller, Ph.D.
 Moira Galway, Ph.D.
 Patti Hansen-Ketchum, Ph.D.
 Jonathan Rosborough, Ph.D.
 Brandon Malloy, Ph.D.
 Shah Razul, Ph.D.
 Debra Dheppart-LeMoine, Ph.D.
 Jeffrey Spring, Ph.D.
 Kara Thompsom, Ph.D.
 Joanne Tompkins, Ph.D.

Other Member: Kathleen MacKenzie

Elected Student Members

Term Expires September 2019
 William Burgess
 Bryan Fedchun
 David Lewis
 Lucas Middleton
 Caelan Peters

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@sfx.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 along 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

If you have studied at an accredited college or university applicants must submit their transcript for evaluation. If course work has been completed at more than one institution, all academic work must be submitted.

Transfer Credits

From time of admission to beginning studies at StFX, students may not enrol in additional courses at any level that they have not declared on their application for admission. Students may not knowingly, or carelessly provide untrue or incomplete information. 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

Applicants who have not fulfilled the normal admission requirements and who have been out of school for at least three years may be considered for admission. Applicant may not have university or college level studies that would constitute a basis for admission. All previous academic work must be submitted, letters of reference from employers, and an outline of future plans. Each applicant is considered on an individual basis. Please note some programs require specific prerequisites for admission.

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 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, or refer to the website www.sfx.ca/admissions/requirements.

- 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 email music@sfx.ca. Only after acceptance to the university and completion of a successful audition are candidates fully enrolled in the music program. Successful candidates receive letters of acceptance from both the university and the music department.
- d) Students are initially admitted to the Bachelor of Arts (BA) with major undeclared:
 - i) Majors are offered in anthropology, aquatic resources, Catholic studies, development studies, Celtic studies, 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, international business, management and leadership, and marketing.
- 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 can choose to focus on various areas of concentration for the Bachelor of Arts and Science in Health or the Bachelor of Arts and Science in Climate and Environment Programs. These include biomedical or social determinants for the HLTH program and climate or environment for the CLEN 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.

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 Music	Students in the Bachelor of Music program are given the opportunity to focus on creativity and performance. They will develop more fundamental skills in improvisation and theory as the number of Music credits taken in this program is higher than those taken in the BA with Major in Music.	English and four university preparatory courses in grade 12. See 1.3 d. Admission depends on the student's performance during an audition, which may be submitted on a CD or tape. See 1.3 c.
Bachelor of Arts in Public Policy & Governance	Students will study the world of public affairs and leadership. This new program involves introducing students to a broad field that integrates many different disciplines to answer the key questions: how do we solve the common problems we have as a society, and how do we organize ourselves to provide those solutions? This involves analysis of government and other public institutions, their processes for tackling policy problems, and how to analytically approach the design, implementation and assessment of public policy.	English and four university preparatory courses in grade 12. See 1.3d.

FACULTIES OF ARTS AND SCIENCE

Program (four-years)	Description	High School Requirements
Bachelor of Arts and Science in Climate & Environment	This program serves students who seek an interdisciplinary education with a unique strength in both environment and climate. The field of environment focuses on the physical and chemical composition, nature, and the societal relationship we maintain with our physical setting, while the field of climate focuses on how the Earth's energy balance affects our environment. Students in the BASc in Climate and Environment program will have the option of completing a Co-op Education program.	English; two of math, chemistry, biology or physics; and two other university preparatory courses in grade 12. See 1.3g.
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. Students in the BASc in Health program will have the option of completing a Co-op Education program.	English; two of math, chemistry, biology or physics; and two other university preparatory courses in grade 12. See 1.3g.

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, international business, management and leadership, and marketing. A joint honours in business administration and economics option is available. Students in this program will have the option of completing a Co-op Education program.	English, math and three other university preparatory courses in grade 12.

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. Students in the HNU program will have the option of completing a Co-op Education program.	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 1.6 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. Successful completion of CASPER prior to March 1. See 1.3 g.
Bachelor of Science with Diploma in Engineering	This option allows students to obtain both a Bachelor of Science and a Diploma in Engineering in four years. The combined option will provide students with the opportunity to add an Applied Sciences focus to their studies while completing their BSc. This combination will be beneficial to students who want to supplement their BSc in any of the above disciplines with skills offered through the Engineering Diploma. Graduates will be in the unique position to choose whether they would like to continue on to graduate school in the Sciences or Engineering, look for employment across a widened field of opportunities, or enroll in the engineering program at Dalhousie (or other potential partner institutions) to obtain their Bachelor of Engineering. Should graduates of this combined program choose to go on to complete the Engineering degree, they will then be unusually well prepared as professional engineers.	English; pre-calculus math; chemistry; one of physics or biology; and one other university preparatory course in grade 12. Limited enrolment.
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.

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 Music	see 1.3 c
Bachelor of Arts in Public Policy & Governance	see 1.3 c
Bachelor of Business Administration	4 mathematics
Bachelor of Science	4 mathematics and 4 sciences
Bachelor of Science in Human Nutrition	4 mathematics and 4 sciences
Bachelor of Science in Nursing (four years and two sessions)	4 mathematics and 4 sciences
Diploma in Engineering (two years)	4 mathematics and 4 sciences
Bachelor of Science with Diploma in Engineering	4 mathematics and 4 sciences
Bachelor of Science in Human Kinetics	4 sciences and/or mathematics
Bachelor of Arts & Science in Climate & Environment	4 sciences and/or mathematics
Bachelor of Arts & Science in Health	4 sciences 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 or graduate 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.

CASPer is a mandatory admissions requirement for the BSc in Nursing program. The test can only be taken once each year and is only valid for one academic cycle. Test scores are not released to students to protect the integrity of the test. The scores are used in combination with high school requirements and averages for admissibility into the BScN program. All students must successfully complete the test prior to the March 1 deadline in order to be considered for admission to Nursing.

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. Successful completion of CASPER.
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 (full-time, on campus) Or LPN to B.Sc. in Nursing Pathway (part-time, distance)	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 Services
- 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
- 2.3.10 Wellspring Centre
- 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 2018-2019 in Canadian dollars and are subject to change. An addendum to this Academic Calendar will show the fees for 2018-2019. 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	\$ 301.67 per credit
24 to 30 Credits	\$8570.00
Above 30 Credits	\$8570.00 plus \$274.33 per credit

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

Fewer than 24 credits	\$ 313.33 per credit
24 to 30 Credits	\$8900.00

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

2.1.2 Other Registration Fees

Up to 18 credits, a pro-rated students' union fee is assessed at \$5.50 per credit hour. For 18 or more credits, the fee is a flat rate of \$165.00.

Students registered in 18 or more credits are automatically enrolled 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)*
Dental Plan	\$175.00*
International students	\$1085.00 (single)*

*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.mystudentplan.ca. Select the StFX Students' Union in the drop down and follow the steps to complete the opt out process. Opt out's must be completed online between August 1 - September 9. Late opt out requests are not permitted.

International students attending StFX are automatically enrolled 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. For additional information on the health and dental plan visit www.mystudentplan.ca.

Up to 24 credits, a pro-rated technology fee is assessed at \$13.13 per credit. For 24 or more credits, the fee is a flat rate of \$394.00.

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 \$301.67 per credit. For 24 or more credits, the fee is a flat rate of \$8,570.00.

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 2018-2019 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	\$301.67	
Full-time Tuition		24.00	30.00		\$8570.00
Overload Tuition		30.01	99.00	\$274.33	
Part-time NURS		0.01	23.99	\$313.33	
Full-time NURS		24.00	30.00		\$8900.00
Coop Education					\$3300.00
M.Ed. Tuition		3.00	3.00		\$905.01
M.Ad.Ed. Tuition		3.00	6.00	\$312.00	
M.Sc., MA Tuition			36.00		\$5500.00
Ph.D. Tuition			42.00		\$10,455.00
Travel - B.Ed.		3.00	30.00		\$280.00
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	\$5.50	\$165.00
Health & Wellness Expansion fee		18.00	30.00	\$4.17	\$125.00
Facilities Renewal Fee		0.01 24.00	23.99 30.00	\$6.36	\$191.00
International Student Fee	International on VISA	0.01 24.00	23.99 30.00	\$301.67	\$8570.00
Recreational Facilities Fee		18.00	30.00		\$113.00
Information & Technology Fee		0.01 24.00	23.99 30.00	\$13.13	\$394.00
Health Care Plan	Canadian Citizenship	18.00	99.00		\$220.00
	International on VISA	18.00	99.00		\$910.00
Dental Plan		18.00	99.00		\$175.00

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 <http://www2.mystfx.ca/financial-services/refunds>

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.

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

Students can access their student fee account on mesAMIS with their student number and PIN. Periodic notification of the balance owing on the student account will be sent to the students StFX e-mail account. All fees are subject to change at any time. Students can pay through online banking by setting up St. Francis Xavier University as a payee and the account number is the student ID number. Payments can also be made by debit card in person or by cheque. Cheques should be made payable to St. Francis Xavier University. A portion of the fees is due and payable by September 15, 2019 and the balance on January 15, 2020. Student are expected to continue to monitor their student account after January 15 each year. Refunds on student accounts will be issued as a cheque and mailed to the student address on file.

Recipients of university scholarships may deduct one-half the value of their scholarship from fees required on September 15, 2019. The balance of the scholarship is applied to fees due on January 15, 2020. 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.

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 or receive an official transcript.

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, 2019 and in the second term if payment is delayed beyond January 15, 2020. 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 students	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 on the residence services website. 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 the 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 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 purchase meals. Visit the residence website.

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, August 31, 2019 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 5, 2020 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 2, 2019 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 5, 2020 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

New Entry Students

Where the resident notifies the University prior to June 1, that he/she does not intend to take a room in residence, the residence deposit will be returned. If the resident notifies the university that he/she does not intend to take a room in residence after June 1, he/she will forfeit their \$400 residence deposit. If the resident notifies the University after August 15 that he/she does not intend to take their assigned room in residence, then the resident is responsible for 15% of the room fee for the full academic year.

Returning Students

Once the returning resident accepts his/her room assignment, he/she is bound to the residence contract. Breaking a contract after accepting a room assignment will result in a \$400.00 room forfeiture fee. If the resident does not notify the University

prior to August 15 that they do not intend to return to residence, then the resident is responsible for 15% of the room fee for the full academic year.

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 2018-2019 academic year except in the following cases:

- if the resident formally withdraws from the University (academic withdrawal) 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 formally withdraws in the first term after November 1 they will be charged room and meal plan fees for the first term; if the resident formally 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 formally withdraws in the second term after February 1, the resident will be charged with room and meal plan fees to the end of the academic year according to the current calendar of events. Residents are required to vacate their residence within 24 hours of academic withdrawal; or
- if the resident is released from this contract due to compassionate circumstances, it is 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 contract 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 Club sports include badminton, men's baseball, cheerleading, curling, dance, equestrian, women's field hockey, men's lacrosse, rowing, men's rugby, swimming and ultimate Frisbee.

StFX has a long and distinguished history in intercollegiate varsity 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 conference and USPORTS national organization. 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.

2.3.2 Student Career Services

The Student Career Services (SCS) offers three primary services: career coaching, career information and employment services. Career coaching services are provided on an individual and group basis. The SCS can incorporate the strong interest inventory in students' career decision-making process and further educational opportunities.

Throughout the academic year, the SCS 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 Health and Counselling Centre

The Health and Counselling Centre provides a student-centered approach to

primary health care, with a focus on supporting student wellness and resilience across all areas of their health. Our interdisciplinary team is comprised of family physicians, registered nurses, clinical therapists and counsellors, and we also provide consultation opportunities with specialist physicians, Student Life staff and other care providers from the StFX and wider Antigonish communities. The Health and Counselling Centre provides a range of health services, addressing the physical, sexual, mental health needs of our students. We also offer individual and group counselling, along with campus-wide wellness initiatives. Students may book an appointment with our intake nurse by calling 902-867-2263, or by dropping by the Health and Counselling Centre, located on the 3rd Floor of Bloomfield Centre (Room 305). For more information, please visit our website: <http://www2.mystfx.ca/health-and-counselling/>

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 Gender and Sexual Diversity, Aboriginal, 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://www2.mystfx.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 here.

2.3.7 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 Gender and Sexual Diversity, Aboriginal and Students of African Descent and mature student advisors. More information is available at http://sites.stfx.ca/student_life/

2.3.8 Tramble Rooms Centre for Accessible Learning

StFX welcomes students with diagnosed, permanent disabilities and offers a student-centered program of support. Supports can include: course selection and registration assistance; assistive technology support and training; physical accessibility arrangements; testing accommodation, tutoring, note taking assistance, academic strategists and advocacy training.

The Tramble Centre is located at the Angus L. Macdonald Library, Room 108. Contact us at (902) 867-5349 or visit the website at <http://www2.mystfx.ca/accessible-learning/>

2.3.9 Wellspring Centre

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

2.3.10 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:

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 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.

EAP: English for Academic Purposes

A bridging program for English language, for students planning to take a bachelor's degree at StFX, who have been conditionally accepted into an academic program but do not meet the English language requirements. The courses consist of 25 hours per week of classroom instruction and some outings to local sites and cultural events. Students must pass a test equivalent to our standard for admission before moving into a diploma or degree program at StFX.

EAP is not an English-as-a-second-language (ESL) course; rather, the EAP 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. 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 <https://sites.stfx.ca/equity/index.html> 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:

Dr. Louis J. Allain Scholarship
Daniel W. & Marjorie E. Almon Scholarship
Alumni Scholarship Endowment
Ambrose Allen Bursary
The Lord Ambrose Celtic Travel Bursary
Christopher Amirault Award

Anderson Environmental Award
 George Anderson Business Award
 George Anderson Leadership X-Ring Award
 Antigonish Diocese CWL Bursary
 Art History Prize
 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
 Florence Kate Burroughs Nursing Scholarship
 CJFX Scholarship
 Dominic Joseph Campbell O'Halloran Bursary
 Rev. J.V. Campbell Bursary
 Michael A. "Diker" Campbell Scholarship
 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
 Jeannine Deveau Educational Equity Bursary
 Jeannine Deveau Educational Equity Scholarship
 L.A. DeWolfe Memorial Scholarship
 Diploma in Ministry Bursary
 Dr. John Dobson Memorial Award in Adult Education
 Paul Dole Memorial Bursary
 Rev. John Dougher Bursary
 Alexander Doyle Memorial Scholarship
 Rev. D.A. Doyle Scholarship
 Dorothy Doyle Bursary
 DSM Bright Futures Bursary
 The Sir James Dunn Foundation Internship Scholarship
 Trudy Eagan Women in Business Award
 Engineers Nova Scotia -Future Engineer Entrance 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
 L.T. Gallant Bursary
 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

Arthur and Sandra Irving Scholarship
 Dr. A.A. Johnson History Award
 Joyce Family Foundation Bursaries
 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
 Elmer & Pauline King Atlantic Canada 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
 Dr. Vernon and Mrs. Ann 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
 Gerard MacKinnon Memorial Bursary
 Hugh MacKinnon Scholarship
 Dr. Ron MacKinnon Enterprise Systems 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
 The McGilly 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
 Evelyn and Denis Morris Scholarship
 Morrissey Sisters Endowment Fund
 Joan (MacDonald) and Fraser Muir Bursary
 Benedict M. Mulroney Scholarship
 Mila Mulroney Scholarship for African Nova Scotians
 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
 Vincent Nasso Bursary
 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
 Allan Quigley Adult Education Access Award
 Rev. Donald M. Rankin Scholarship
 RBC Leadership Award
 Ken Reashor Bursary
 Dr. Abraham Risk Award
 Joy (MacIsaac) and Diego Romero Scholarship
 Helen & Cyril Ross Bursary
 Bruce and Dorothy Rossetti Scholarship
 Father Gerald Rousell Bursaries
 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
 Schwartz Business Order of Merit Entrance Awards
 Schwartz Business Scholars of Distinction
 Schwartz College Transfer Entrance Scholarships
 Schwartz Heather Reisman Women in Business Scholars
 Schwartz National Scholars
 Schwartz School of Business International Scholars
 T.J. Sears Family Scholarship
 Service Learning Bursary
 Dr. William Shaw Bursary in Earth Sciences
 Dr. Ann Sherman Scholarship
 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
 The Sobey Scholarship
 J. Jarvis Stewart Bursary
 Hon. John B. Stewart Scholarship for Political Science
 StFX Halifax Alumni Kehoe Bursary
 John L. Stoik Scholarship
 Students for Life Bursary
 Students' Union Bursary
 Sullivan Family Scholarship
 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
 Ted and Ann (MacDonald) Turcotte Bursary
 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
 August Wilkins Atlantic Engineering Competition Fund
 August Wilkins Scholarship in Engineering
 XEDC Entrepreneurship 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.

Scholarship eligibility is based on a student's first semester grade 12 final marks. Final scholarship averages are based on the five required courses for the program to which the student is applying. The deadline to apply for all entrance and major scholarships listed below is March 1. To be eligible for any guaranteed entrance scholarships you are required to submit the following:

- An application for admission to the University;
- A final first 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:

- An application for admission to the University
- A final first semester grade 12 high school transcript with an average of 85% or higher prior to March 1;
- 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 enrolled in 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. Effective 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. Effective September 2019, any new, incoming undergraduate students who do not meet the renewal terms stated above will have the opportunity to regain their entrance or major scholarship in their second year of study only. Second-year students who improve their overall average to 80% or higher will regain their scholarship for subsequent years of study.

\$32,000 StFX President's Scholarships

Recognizing those students who have achieved outstanding academic success. Renewable for four years at \$8,000 per year. All students enrolling directly from high school who demonstrate the qualities and values honoured by StFX, notably leadership and dedication in service to others as well as academic achievement, are eligible. Open to all Canadian residents.

\$28,000 International Baccalaureate (IB) Scholarships

Recognizing those students who have achieved outstanding academic success within the IB program. Renewable for four years at \$7,000 per year.

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

Awarded based on a nomination from the applicant's high school. Renewable for four years at \$6,000 per year. Applicants must have the highest scholastic standing, and demonstrated history of leadership ability. Philip W. Oland Scholarships are available to students from the Atlantic Provinces only while J.P. McCarthy Scholarships are open to entering students from across Canada.

\$24,000 StFX Canadian Scholarships

Canadian Scholarships are awarded annually to students from Canada who are entering St. Francis Xavier University. The winners have achieved superior academic standing while demonstrating leadership in their schools or communities. Scholarship valued at \$24,000 is awarded in equal amounts of \$6,000 annually throughout four years of study.

\$24,000 StFX International Scholarships

Recognizing international students enrolling directly from high school who demonstrate the qualities and values honoured by StFX, notably leadership and dedication in service to others as well as academic achievement are eligible. Scholarship valued at \$24,000 is awarded in equal amounts of \$6,000 annually throughout four years of study.

\$12,000 StFX Merit Scholarships

These scholarships are awarded to outstanding students in arts, science, or the Gerald Schwartz School of Business. 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. 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. 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 student ranked first in each scholarship group will qualify for the amount of \$500.
- A student ranked in top 5% in each scholarship group will qualify for the amount of \$2000.
- A student with average of 80% or higher will qualify for the amount of \$1000.
- 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

University bursaries are available under three programs: Entrance, Limited and General. Awards range in value from \$250 to \$4000 and are based on demonstrated need of the student and 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. The online application form for university bursaries is available through the financial aid website here. The Entrance bursary program runs from mid-February to April and the limited and general bursary programs run from September to March of each year, each bursary has a separate due date. Bursary applications open by month, late submissions cannot be accepted. 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. Miffen 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**
- 3.2 Courses Taken at another Institution**
- 3.3 StFX Degree or Diploma Requirements**
- 3.4 Re-Admission to University**
- 3.5 Directed Study & Selected Topics Courses**
- 3.6 Student Classification**
- 3.7 Class Attendance and Withdrawal**
- 3.8 Academic Integrity Policy**
- 3.9 Mid-term and Examinations**
- 3.10 Grading System for Undergraduate Programs**
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- 3.15 Academic Records**
- 3.16 Regulations for a Second StFX Degree**
- 3.17 Continuing and Distance Education**
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- 3.19 Dean's List**
- 3.20 Distinction and First Class Honours**
- 3.21 Correspondence from the Registrar's Office to the Student**
- 3.22 Obligations of Students**
- 3.23 Research Ethics**

3.1 REGISTRATION

Registering and Adding Courses

- a) Registration start times or time tickets are determined based on a student's year of study, program, and then on total credits earned. Registration start times for first-year students are assigned based on program and student ID number in ascending order. Please refer to section 3.6 for additional information on how a students' year level is determined.
- b) Students are responsible for the accuracy of their course registrations and for ensuring that the courses they select are appropriate to their degree programs.
- c) Students will be dropped from any second term courses if they have failed or dropped any required prerequisite course(s) in the first term.
- d) Students who are uncertain about their course selection are encouraged to seek assistance from academic advising or the department chair or program co-ordinators.
- e) The regular academic year 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.
- f) 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.
- g) In the Fall and Winter terms, students may add courses to their schedule within the first week of classes. No student will be permitted to register for courses after this date without permission of the Registrar and/or Dean.
- h) Credit will not be granted for any course in which a student is not formally enrolled.

Dropping Courses

- a) Students may drop a course, online in Banner, on or before the relevant deadline. Please refer to the calendar of events for deadline dates for dropping full- year, first-term and second-term courses.
- b) Courses dropped within the first week of classes will be removed from a student's transcript.
- c) After the first week of classes, a student will be permitted to drop courses as per the drop deadlines outlined in the calendar of events. A grade of DC, dropped course, will appear on the students' official transcript but is not used in the calculation of the average.
- d) Students who stop attending class, but do not drop the course, will receive a final grade based on the work completed to date with a zero grade for any

components not completed. This final grade will appear on students' transcripts and is used in the calculation of the average.

- e) Students who cannot complete a course due to medical or other extenuating circumstances must contact the Dean's Office and provide appropriate documentation.
- f) Students should 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.

Normal Course Load

- a) In most programs, the normal full course load is 30 credits during the regular academic year. Students are encouraged to maintain a balanced course load of 15 credits per term, whenever possible.
- b) Students enrolled in 60% of a normal full course load, or 18 credits, for the full academic year are considered to be full-time students.

Overloads

- a) Students, who wish to enrol in more than a full course load per term must apply to the Registrar for approval. Letter of Permission (LOP) courses are included and are counted as part of the overall course load.
- b) 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.
- c) Students will not be permitted to enrol in more than 36 credits in the regular academic year (September to April).
- d) For spring and summer terms, students may enrol in up to 6 credits in either term. Students who wish to enrol in additional credits, must apply to the Registrar and meet the 65 minimum grade average.
- e) 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 enrolling in more than the recommended 6 credits each term.
- f) First-year students will not be permitted to carry an overload.
- g) Students are responsible for any fees associated with taking additional courses above the normal course load. Refer to Section 2.1, Undergraduate Registration Fees, for additional information.

Repeating Courses

- a) 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; e.g., Credit will be granted for only one of HIST 232 or HIST 230. Refer to course descriptions for additional information.
- b) 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.
- c) The final grade for the second instance the course was taken will be reflected on the transcript under the year it was retaken and will be used in the calculation of the average for that year. If the grade in the second instance is lower, an adjustment will not be made to the grade in the first instance.

Course Restrictions

- a) Courses in business administration, education, engineering, human kinetics, human nutrition or nursing normally may be applied only to those programs respectively, unless the courses are taken to fulfil specific program requirements. Refer to the appropriate Faculty regulations for exceptions.
- b) 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 consist of 12 credits at the 100-level.
- c) A student may complete only one pair from a department, and may not complete a pair in the major or minor subject.
- d) A pair may not be completed in any of the professional or applied program disciplines: AQUA, BSAD, ENGR, HKIN, HNU or NURS.

Auditing Courses

- a) A student may audit any course with approval from the course instructor.
- b) A student given permission to audit a course 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.

- c) Students wanting to take the course and receive credit will be given priority over audit students.
- d) The fee for auditing a course is normally one-half of the normal course fee.
- e) A decision to audit must be made within the first week of the term in which the course begins. Students who elect to audit a course may not, at a later date request to receive credit for the course. Audited courses cannot be dropped after the first week of the term in which the course begins.

3.2 COURSES TAKEN AT ANOTHER INSTITUTION

Transfer Credit

- a) Transfer credit may be granted for courses for which credit has been earned at an accredited university, if based on the subject and learning outcomes, the courses can be used to meet the student's program requirements at StFX.
- b) Students who receive a direct StFX course equivalency for courses taken at other institutions and choose to repeat the course at StFX will forfeit their transfer credit as students will not be permitted to receive credit for the same course twice.
- c) Minimum grade and average requirements, as specified in the faculty regulations, apply to all transfer courses.
- d) Official transcripts from all post-secondary institutions are required at time of admission. Failure to disclose attendance at another institution could result in academic dismissal.
- e) Restrictions may apply to the transfer of credit for business administration courses at the 300 and 400 level.
- f) Normally, transfer credit will not be granted for courses taken 10 years or more before the date of application.
- g) Transfer credits may be granted for distance courses in recognized academic disciplines taken at Canadian universities.
- h) Transfer credit will not be granted for distance courses if the StFX equivalent has a laboratory component.
- i) Unless expressly permitted by the Deans, distance courses may only be used as electives or to meet requirements for pairs.
- j) 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 undergraduate degree.

Courses Taken on Letter of Permission

- a) To enrol in any course at another university, students must first obtain a letter of permission from the appropriate Dean **prior** to registering and completing the courses. The LOP form is available on mesAMIS.
- b) Students who complete courses at another institution without having an approved letter of permission in place will not be eligible to receive credit for those courses.
- c) Courses taken on letter of permission are counted towards a students' course load and overload regulations are applicable; refer to section 3.1e for additional information.
- d) Grades obtained for courses taken on a letter of permission are not used in the calculation of averages or to determine First Class Honours or Distinction.
- e) Students in good academic standing or on academic probation are eligible to enrol in spring or summer courses at another university.
- f) Students who have been suspended or dismissed are not eligible to receive credit for course work completed elsewhere while the suspension or dismissal was in effect.

3.3 STFX DEGREE OR DIPLOMA REQUIREMENTS

In order to obtain a first degree or diploma from StFX, students must normally complete:

- a) At least half of the credit hours required for the degree or diploma at StFX
- b) At least 2/3 of the subject credit hours required at the 300/400 level for major, advanced major, honours or joint honours programs at StFX

3.4 RE-ADMISSION TO UNIVERSITY

- a) A student who has not been registered at StFX for a 12-month period or longer, or withdraws from university, must re-apply for admission.

- b) A student who is re-admitted is bound by any changes made in the curriculum and regulations after their first registration.
- c) Students are required to complete their degree within 10 years of their first registration.
- d) Courses taken for credit 10 years before acceptance into a degree program will be assessed by the appropriate Dean.
- 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. Refer to section 2.3.11.
- f) 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

Directed Study 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.
- b) Directed study courses are normally restricted to no more than two students.
- c) Normally, a faculty member may offer no more than two directed study courses per year.
- d) A directed study course may earn no more than six credits.
- e) 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.
- f) Students interested in a directed study course should consult with the department chair and the appropriate faculty member. 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.

Selected Topics Courses

- a) Subject to approval of the appropriate Dean, departments may offer selected topics courses in their discipline.
- b) 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.
- c) 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.
- d) Course numbers for special topic courses will be assigned by the Registrar's Office.

3.6 STUDENT CLASSIFICATION

- a) Students are classified as first year, sophomore, junior, or senior depending on the number of credits that have been earned.
- b) Advancement in classification is granted when a student earns 30 credits in the preceding classification.
- c) 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
Third Year	54
Fourth Year	84; 93 in nursing in previous curriculum

3.7 CLASS ATTENDANCE AND WITHDRAWAL

- a) Students are expected to attend all classes and laboratory periods.
- b) If a student is going to be absent for more than one class, the student is responsible for contacting each professor or instructor.
- c) In the case of a sudden emergency requiring a student to be absent for more than five days, the student is required to contact the Dean's office.

- d) Faculty are required to report to the Dean all unexplained absences in excess of three hours over at least two classes in any term.
 - e) 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.
 - f) Students wishing to withdraw from the university must give formal notice to the appropriate Dean in person or through mesAMIS.
 - g) Students who withdraw before the end of the term will not receive credit for courses with a later end date.
 - h) Formal notice of withdrawal is required for refunds of tuition and residence charges. Refer to section 2.1.3 for additional information.
 - i) 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).
- iv) 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.

3.8 ACADEMIC INTEGRITY

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.

Any member of the University Community may act as a complainant or reports another's academic dishonesty. The academic integrity policies and procedures document, available at <http://www2.mystfx.ca/registrar-office/academic-integrity> provides guidelines to follow in reporting an offence.

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 but not limited to:

- 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, 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

Examples of cheating include but are not limited to:

- 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

c) Falsification

Examples of falsification include but are not limited to:

- 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 include but are not limited to:

- 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://www2.mystfx.ca/registrar-office/academic-integrity>

3.9 MID-TERMS AND EXAMINATIONS

- a) October mid-term grades, accounting for at least 20% of a final grade, must be entered in Banner Self-service for all courses; February mid-term grades are to be entered in Moodle. See calendar of events for deadlines.
- b) Dates for mid-terms quizzes in October and February are determined by the professor.
- c) Once the examination schedule is posted as per the calendar of events, it is considered final.
- d) December and April examinations are written during the formal examination periods as indicated in the calendar of events. Designated times are 9:00am, 2:00pm and 7:00pm.
- e) 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.
- f) Take-home examinations may not be distributed before 1:00pm on the last day of classes for the term.
- g) 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.
- h) 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.

- i) Normally, no student will be required to write more than two examinations in 25 hours.
- j) 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. Some programs have specific passing grade requirements; see specific advancement and graduation requirements by degree charts in sections 4, 5, or 6. The highest grade awarded and calculated in an average is 99.
- 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) Courses graded as Pass or Fail are not included in a student's average calculation, regardless of credit value.
- d) The grade and average requirements for major, advanced major and honours degrees are stated in chapter 4 for arts degrees, chapter 5 for business degrees and chapter 7 for science degrees. 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.

- e) 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.
- f) 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.
- g) 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

- a) Academic standing is assessed once, at the end of the academic year based on a minimum of two final grades over the academic year. The exception is nursing which are assessed at the end of each term; see section 9.28
- b) All students, including those who withdraw from the University, will be assessed.
- c) Academic assessment is based on a minimum of two final grades over the academic year.
- d) To be considered in good 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. Refer to chart.

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

- e) Students who fail to meet one or both of these requirements will incur an academic penalty as listed in the following chart.

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

- f) Students who require fewer than 30 credits to complete their degree 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.
- g) 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.
- h) Academic penalties incurred for a full academic year are applied at the end of the following spring term. Notification of academic assessment will be sent to students via email to their StFX email account. A copy of the assessment will also be mailed to the home address on file.
- i) Students who are suspended or dismissed and who are enrolled in courses when the penalty is applied may complete their in-progress courses. However, students will be withdrawn from any courses that they are registered in for future terms.
- j) Students who are suspended from the university will be invited to return to their studies in the spring term following the term of their suspension.
- k) Students who have been dismissed will not be eligible for further study at the university unless they successfully appeal the dismissal. See section 3.12, Appeal of an Academic Penalty, for additional information.
- l) No credit will be granted for work completed elsewhere while a suspension or dismissal was in effect.

3.12 APPEAL OF AN ACADEMIC PENALTY

- a) Academic penalties of suspension or dismissal may be appealed to the Committee on Studies of the appropriate faculty.
- b) Appeals of suspension must be received by June 15 of the calendar year in which the suspension was imposed.
- c) Appeals of dismissal must be received by June 15 of the previous calendar year in which the student wishes to return to studies.
- d) The decisions of the Committee on Studies are final.
- e) Students who successfully appeal a suspension or dismissal will be eligible to return to their studies, on probation, for the next full academic year following the appeal. Students will be required to enroll in APEX.
- f) 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.
- g) For information on the progression requirements and academic penalties for the Bachelor of Education; see section 6.4.

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 to the appropriate Dean. The letter must clearly state the reason for the appeal.
- c) There is a fee of \$10 for each grade appealed. This fee will be refunded if the appeal results in a change of grade.
- d) 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.
- e) Upon receiving a grade appeal, the Dean will request a review from the Faculty and report the results to the student, or the student may request the Dean to arrange an interview between the student and the Faculty.

- f) If the student is dissatisfied with the results, the student can request that the Dean set up an appeal committee. To initiate this proceeding, the student must appeal in writing within 10 days of receiving notification of the results of the review.
- g) There is a fee of \$25 if an appeal committee is established. This fee is refunded if the committee decides in the student's favour.
- h) The appeal committee will be comprised of three Faculty from the department, one chosen by the student, one chosen by the course instructor, and a third chosen by the first two members. Both the student and the professor may present their respective cases in writing to the appeal committee.
- i) The decision of the appeal committee is final.

3.14 CONVOCATION

- a) StFX confers degrees and/or diplomas at two convocations per year; Spring (May) and Fall (December). Refer to the calendar of events for specific dates.
- b) All students who expect to receive their degree or diploma must submit an application to graduate through Banner Self-service. Refer to the calendar of events for application deadlines.
- c) 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.
- d) 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.
- e) 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.
- f) StFX diplomas are printed in English.
- g) Graduates who are unable to attend convocation will have their degrees sent to their home address on file by courier or Expresspost.
- h) Students graduating with an undergraduate degree may be awarded the designation Distinction or First Class Honours. Refer to Section 3.20, Distinction and First Class Honours, for additional information.
- i) 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.
- j) 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 copies of their official StFX transcript.
- c) No partial transcripts will be issued.
- d) The Registrar will not normally provide students or third parties with copies of other documents on file, e.g., transcripts from other institutions.

Disclosure to University Officials

- a) Information on students may be disclosed without their consent to faculty, university officers, or committees at the discretion of the Registrar.
- b) Students' personal and academic information is stored securely and is to be 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) Notification of Disclosure of Personal Information to the Maritime Provinces Higher Education Commission (MPHEC)

The MPHEC collects student identification information (student's name, student ID number), student contact information (address and telephone number), student demographic characteristics, and enrolment information from StFX. Enrolment and demographic information is used by MPHEC in the preparation of basic statistics, as well as to understand student pathways through to graduation, and the factors that affect these pathways. The information assists governments and institutions in decision-making and in enhancing the post-secondary learning environment.

Personally-identifying information is used only for limited purposes:

 - i) To create record linkages between data from different institutions in order to track student pathways among institutions. Once records are linked, personal information is deleted from the research data file.
 - ii) To communicate with INSTITUTION and Statistics Canada during the data validation process
 - iii) Compile a student/graduate contact list for an MPHEC survey

The legal authority for these activities is provided by a data sharing agreement between StFX and the MPHEC, as well as the Maritime Provinces Higher Education Commission Act. The Act requires that all data received by the Commission is kept confidential, and ensures the protection of personal information. More information about the MPHEC may be found at www.mph.ec.ca. A copy of its Standard for Maintaining Confidentiality is available here: <http://www.mph.ec.ca/general/confidentiality.aspx>

Questions may be addressed to:
 Director, Research and Data Analysis
 Maritime Provinces Higher Education Commission
 82 Westmorland St. Suite 401
 P.O. Box 6000
 Fredericton NB E3B 5H1
 Phone: (506) 453-2844
 Fax: (506) 453-2106
 Email: mphec@mphec.ca

Notification of Disclosure of Personal Information to Statistics Canada

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 personally-identifying information submitted to MPHEC or Statistics Canada will notify StFX by contacting the Registrar's Office.

- 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

- a) 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.
- b) 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

- a) Requests for transcripts must be made in writing by students and accompanied by the required fee. An original student signature is required on the request.
- b) Requests for transcripts by phone will not be accepted.
- c) Requests are to be made on the appropriate form obtainable from the Office of the Registrar or online at http://sites.stfx.ca/registrar_office/index.html
- d) Transcript requests will be processed in the order in which they are received.
- e) Normal processing time is 3-5 business days, but additional processing time may be required during peak times in January and May.
- f) Same-day service is available for an additional fee.
- g) Transcripts include the following information, where appropriate
 - i) The student's program
 - ii) 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.
 - iii) The rank and year-end average if the student is enrolled in a full-time undergraduate program. The average is calculated by weighing each grade by the credit value; see section 3.10. The decile is a student's ranking (10 high, 1 low) in a course with at least 15 registrants.
 - iv) Transfer credits granted; grades for transfer credits are not shown
 - v) Degrees, diplomas and certificates awarded and dates conferred
 - vi) Academic penalties, including notations of academic dishonesty
 - vii) Distinctions, including placement on the Dean's List
 - viii) Theses titles
- h) Transcripts will be issued only if all financial obligations to the university have been met.
- i) Transcripts are considered official only when printed on secured paper bearing the signature imprint of the Registrar and either faxed, mailed/couriered directly from the Office of the Registrar to an institution or agency, or provided to the student in a sealed envelope. Transcripts cannot be sent electronically.
- j) Additional information is available on the website at http://sites.stfx.ca/registrar_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. University preparation courses are available in the areas of mathematics and academic writing. 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.

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. For additional information, refer to section 4.5.

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.

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. For universities where English is not the general language of instruction, there are usually some courses are taught in English that might suit StFX students. Students interested in participating in an exchange or study abroad opportunity are encouraged to consult with the Office of Internationalization.

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 Reutigen, Germany
 ESC Amiens Business School
 ESDES, Université Catholique de Lyon, France
 ESSCA School of Management, France, Hungary, China
 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 Mongkut's University of Technology-SIT, Thailand
 Korea University, Seoul, Korea
 Leeds Trinity University, England
 NS-New England Partnership, USA
 Pontificia Universidad Catolica del Peru, Peru
 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'Université 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 to complete their degree.

To be eligible to participate, students must:

- a) be enrolled 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.

The deadline to apply for exchange and study abroad opportunities is January 15th. Second year students applying by this 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, Office of Internationalization, by email 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 who 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 (i.e., exchange and study abroad opportunities) 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 a minimum of 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.

Accelerated and Distance Nursing Programs

- 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 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:
 - semesters 3 and 4, (LPN pathway semester 4 only)
 - semesters 5 and 6, and
 - semesters 7 and 8.

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.

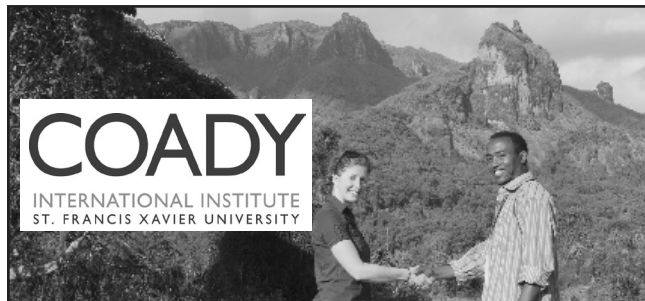
3.22 OBLIGATIONS OF STUDENTS

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:

- the StFX Academic Calendar available at http://sites.stfx.ca/registrar_office/academic_calendar or from the Registrar's Office
- the StFX Community Code of Conduct, available at http://sites.stfx.ca/student_life/student_conduct or from the Student Life office

- the Academic Integrity Policy available at http://www2.mystfx.ca/registrar_office/academic-integrity

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



Since 1928, St. Francis Xavier University has invested in community development leadership through the Extension Department and Coady International Institute. Together they are a part of the University's commitment to social responsibility on both a local and global level.

StFX Extension's mission is to promote and advance the economic self-reliance and social well-being of the people of Atlantic Canada through economic cooperation and education. This includes the addition of the Innovation and Enterprise Centre (serving Antigonish and Guysborough counties) and the Centre for Employment Innovation (province-wide with a national network of partners). Both centres work to help foster a thriving province through employment and enterprise activities rooted in social innovation and community engagement.

Building on the distinct historical experience of the Antigonish Movement formed 100 years ago, StFX established Coady International Institute in 1959. Named for Rev. Dr. Moses M. Coady, the Institute broadens the University's commitment to community leadership development and social responsibility on the global level.

Over the past six decades, Coady has developed an interconnected program of learning, knowledge, innovation, and partnership. More than 7,000 graduates from 140 countries have benefitted from programs grounded in citizen-led, asset-based community development, translating learnings in their communities contributing to positive outcomes and sustainable results.

Committed to creating "a full and abundant life for all" through economic cooperation and education that enhances the self-reliance and social well-being of the people, Coady offers educational programming for emerging and established community leaders with a passion for social change. With a program geared toward the 21st century, Coady focuses on building resilient communities, strengthening local economies, and promoting accountable democracies, and offers education programming for underrepresented communities such as women, youth, and Indigenous peoples. Programs are hosted both on-campus at StFX University and off-campus in communities around the globe.

All programs introduce resources and tools that support social change. Through the Oceanpath Fellowship, Coady provides community-focused experiential learning opportunities for select Canadian university graduates (Queen's, McGill, UOttawa and StFX) to become active and effective change-makers, bringing new ideas and working closely with communities in Canada and around the world. There is also a community development stream offered jointly with StFX's Department of Adult Education in the Master of Adult Education program.

StFX students benefit from Marie Michael Library, which houses one of the world's finest collections on international development and adult education. On an annual basis, a Coady Chair in Social Justice resides on campus with an interdisciplinary approach to bridging highly relevant local and global concerns involving StFX students, staff, Coady participants, and Antigonish community members.

We encourage you to learn more about StFX's and Coady's commitment to social justice, social responsibility, innovation, equity, and inclusion at coady.stfx.ca

4. FACULTY OF ARTS REGULATIONS

4.1 General Regulations

- 4.1.1 Degrees Offered
- 4.1.2 Subjects Available
- 4.1.3 Degree 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

- 4.2.1 Climate and Environment
- 4.2.2 Health

4.3 Humanities Colloquium

4.4 Social Justice Colloquium

4.1 GENERAL REGULATIONS

4.1.1 Degrees Offered

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

Under the arts heading there are seven degrees:

- Bachelor of Arts with Major: in one of 19 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 14 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 Honours

The music degrees are

- Bachelor of Music
- Bachelor of Music with Honours

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

Bachelor of Arts and Science in Climate & Environment with Major, see section 4.2.

Bachelor of Arts and Science in Climate & Environment with Honours, see section 4.2.

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)

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

4.1.2 Subjects Available		BA Major	BA Joint Major	BA Adv Major	BA Joint Adv Major	BA Honours	BA Honours Subsidiary *	BA AQUA
M1 = Major 1; M2= Major 2; Mi = Minor; P = Pair; E = Elective; S = Subsidiary.								
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 9.12	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 9.16	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 9.19	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 9.14	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	Mi, P, E	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	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	—
CLEN	Climate and Environment, see 9.11	Mi, P, E	P, E	Mi, P, E	P, E	P, E	P, E	—
ESCI	Earth Sciences, see 9.15 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 9.18 and note 2	E	E	E	E	E	E	—
HLTH	Health, see 9.20, see note 6	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	—

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 HLTH courses as a pair or 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 Patterns (see chart)

Listed below are the degrees 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://www2.mystfx.ca/dean-of-arts/student-resources>

4.1.5 Advancement & Graduation Requirements by Degree (see chart)

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.

4.1.3 Degree Patterns Req = Required; Elec = Electives								
Bachelor of Arts	Major 1	Major 2	Minor	Pair	Electives			
BA Major	36 credits	—	24 credits	3 x 12 credits	24 credits	Each of these six degrees requires a minimum of 36 credits at the 300- or 400-level.		
BA Joint Major	36	36 credits	—	2 x 12	24, See note 2			
BA Advanced Major	36	—	24	3 x 12	24			
BA Joint Advanced Major	36, see note 4	36	—	2 x 12	24, See note 2			
BA Honours	60	—	—	2 x 12	36			
BA Honours with Subsidiary (See note 3)	min 48	min 24	—	1 x 12	24-36, See note 3			
Bachelor of Arts and Science	Core	Concentration 1	Concentration 2	Humanities	Electives			
BASc	24	48	24	12	12			
BASc Honours	24	54	24	12	6			
Human Kinetics	HKIN Req	HKIN Elec	Statistics	Arts A	Arts B	Arts/Sci Elec	Approved	Elective
BA HKIN Major Kinesiology	39	18	3	24	12	12	6	6
BA HKIN Major Pre-Education	51	9	—	24, See note 1	12	12	6	6
BA HKIN Advanced Major or Honours Kinesiology	42	15	3	24	12	12	6	6
BA HKIN Advanced Major or Honours Pre-Education	57	—	3	24, See note 1	12	12	6	6
Music	MUSI Req	Pair	Arts/Sci Elec	Electives				
Bachelor of Music	78	2 x 12	—	18				
Bachelor of Music with Honours	90	2 x 12	—	6				

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.

4.1.5 Advancement & Graduation Requirements by Degree			
Degree	End of Second Year	Advancement End of Third to Fourth Year	Graduation and Fourth-Year Requirements
BA Major, BA Joint Major	—	—	average 55
BA Advanced Major	average 65 in each of first two years; grade of 65 in each major	average 70; average 70 in the major courses	average 70; average 70 in the major 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 Music	—	—	average 55
Bachelor of Music 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
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
BASc	—	—	average 55
BASc Honours	See chart 7.1.5	See chart 7.1.5	See chart 7.1.5

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.

4.1.6 Co-operative Education Program in Arts

A form of work-integrated learning, Co-op Education is a model of education that integrates academic study with related and supervised co-op work experience (12-16 months) with an employer partner in industry, government and not-for-profit across Canada. This optional academic program is for BA in computer science or mathematics students, BASc in Health, BASc in Climate & Environment. The CSCI Co-op Program is accredited by the Co-operative Education & Work-Integrated Learning Canada (CEWIL Canada). COOP 405 can be used as a major subject elective or as an open elective. See section 9.13 for further information.

4.2 BACHELOR OF ARTS AND SCIENCE

The Bachelor of Arts and Science (BASc) is designed to expose students to both Arts and Science knowledge that inform a particular topic. Since many contemporary topics and issues are better understood through thorough engagement with both scientific and humanistic contributions, the degree is structured so that students engage with as many relevant disciplinary contributions as possible. Students completing Bachelor of Arts and Science programs will complete interdisciplinary core courses pertaining to their subject of study as well as science, arts, and humanities requirements.

Currently, StFX offers a Bachelor of Arts and Science in Health and in Climate and Environment. Both programs are direct-entry.

This degree program is not intended as a compromise for students who cannot decide between an arts and science degree. This degree is rather for students with specific topical interests that are better served by interdisciplinary study.

4.2.1 Climate and Environment

The program was carefully designed to provide students with maximum exposure to knowledge that will contribute directly to their understanding of climate and environmental topics while maintaining a liberal arts approach that encourages commitment to broad critical and scientific inquiry, logical rigour, and creative problem-solving. Students will complete courses across the faculties of arts and science to gain a broad yet inclusive education in both climate and environment. This approach reflects the complexity of addressing climate and environment issues currently facing our planet. Global initiatives in tackling human and environmental issues highlight the need for an interdisciplinary approach, recognizing that solutions will only be found through integrated scientific, socio-political, and economic inquiry.

4.2.2 Health

The program aims to provide students with a contemporary education in health by drawing on knowledge from the natural sciences, social sciences, and humanities to engage students in nuanced and considered discussions about how we think about health, how we approach health, how we create health, what biases contribute to our understanding of health, and how health is interwoven into all aspects of our individual and collective lives. Students will gain a better understanding of the ways in which human health is determined and defined, by emphasizing what biology, chemistry, the social sciences, history, and other disciplinary fields of study contribute to an integrative understanding of health. Students will complete concentrations in biomedical, and social determinants and health equity, as well as a humanities requirement.

4.3 HUMANITIES COLLOQUIUM

The Humanities Colloquium (HC) is an interdisciplinary way of studying ENGL 100, HIST 101/102 and PHIL 100 in the first year. The courses are taught in a historically co-ordinated way with a focus on the great books of Western Civilization. These 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 courses.

The humanities colloquium concentration requires 36 credits:

- ENGL 100, HIST 101 and 102, PHIL 100;
- 12 additional credits that build on first year: 6 credits in ART history; 6 RELS credits from 212, 254, 311, 312 and 365 or CATH
- 6 additional credits in any language taught at StFX, such as Arabic, Celtic Studies, French, German, Greek, Latin, Mi'kmaq, or Spanish (students are not required to take all 6 credits in the same language).

Courses taken for credit in the HC may be used to fulfil other university

course requirements. Please see the website at <http://www2.mystfx.ca/humanities-colloquium/> for additional information.

4.4 SOCIAL JUSTICE COLLOQUIUM

The Social Justice Colloquium (SJC) is a first-year option for Bachelor of Arts students. Participants are enrolled 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://www2.mystfx.ca/sjc/>

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, Advanced Major, and Honours in accounting, entrepreneurship, enterprise systems, finance, international business, management and leadership, or marketing

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

5.1.2 Degree Requirements

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.

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

- Arts and Science Electives
 - 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 enrolled 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)

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.

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

A form of work-integrated learning, Co-op Education is a model of education that integrates academic study with related and supervised co-op work experience (12-16 months) with an employer partner in industry, government and not-for-

profit across Canada. The BBA Co-op Program is accredited by the Co-operative Education & Work-Integrated Learning Canada (CEWIL Canada). COOP 405 (3 credits) can be used as BBA elective or as an open elective. See section 9.13 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.

5.1.5 Advancement and Graduation Requirements by Degree

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

- b) Interview
Based on the above criteria, applicants will be short-listed for the next stage of the process in which interviews are normally required. Interviews are about 30-40 minutes in length and include core questions asked of all applicants applying to the B.Ed. program as well as specific questions relating to the elementary or secondary stream, as applicable. Secondary stream applicants are asked about the major and minor subject fields for which they are applying. Interview questions focus on a general understanding of teaching, teaching content and processes, personal and professional qualities, an understanding of diversity and inclusive practices, and communication skills.
- c) Decision
The applicant's file review and interview are equally weighted. Composite scores from the two parts of the application process form the basis for offers in each stream of the program, and within subject fields in the secondary stream.
- 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, 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, 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:

- Courses illustrating knowledge of disciplinary content, including but not limited to, human anatomy/physiology, motor learning and control, biomechanics, and psychology of physical activity.
- 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.
- Courses in health education and growth and development.
- 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.

- Students who fail one academic course in one term will normally be placed on academic probation and may be withheld from practicum.
- Students who fail more than one academic course in a term will normally be suspended.
- Students who fail practicum (i.e. a student who receives two unsatisfactory reports in any single practicum term) will normally be suspended.
- 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 enrolled 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 certificate program is designed to fulfill a need identified by teachers across Nova Scotia in response to Physical Education curriculum changes. The Certificate in Outdoor Education is recognized for a licensing upgrade in Nova Scotia. The certificate consists of a sequence of eleven courses which focus on the skills and pedagogy required to offer outdoor pursuits to students Primary to grade 12. This certificate is offered to cohorts of in-service teachers on a part-time basis.

7. FACULTY OF SCIENCE REGULATIONS

7.1 General Regulations

- Degrees and Diploma Offered
- Subjects Available
- Degree Patterns
- Declaration of Major, Advanced Major, or Honours
- Advancement and Graduation Requirements by Degree
- Bachelor of Science with Joint Advanced Major
- Bachelor of Science with Joint Honours
- Co-operative Education Program in Science

7.2 Engineering

- Bachelor of Science with a Diploma in Engineering

7.3 Bachelor of Arts and Science

- Climate and Environment
- Health

7.4 Possible Pathways in the Sciences

- Architectural Studies
- Pre-Medical Studies
- Pre-Dental Studies
- Pre-Veterinary Studies
- Graduate Studies
- 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 requires 90 credits; the accelerated option for LPNs requires 69 credits (after the pathway courses) and the option for RNs requires 63 credits. The B.Sc. Human Nutrition with IDI degrees require 138 credits. The Diploma in Engineering requires 69 credits. Courses for each degree option and diploma must follow the credit 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, economics, mathematics, physics, psychology) and in the health sciences (human kinetics, human nutrition, nursing) and the diploma in engineering.

Within the Bachelor of Science, there are several degree options:

Bachelor of Science with Major: in one of seven majors listed below in chart 7.1.2. An optional minor is available in an arts or science subject. A major in aquatic resources combined with a major in biology, Earth sciences, or mathematics is available.

Bachelor of Science with Advanced Major: in one of seven majors listed below in chart 7.1.2; requires high academic achievement. An optional minor is available in an arts or science subject. An option with business administration courses is also available.

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 Honours: offered in one of eight subjects listed below; requires superior academic achievement. An optional minor is available in an arts or science subject.

Bachelor of Science with Joint Honours: combines the study of two science subjects; see chart 7.1.7 for combinations

Within the Bachelor of Science in Human Kinetics, 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.

Within the Bachelor of Science in Human Nutrition, there are six degrees:

Bachelor of Science in Human Nutrition

Bachelor of Science in Human Nutrition with Advanced Major

Bachelor of Science in Human Nutrition with Honours

Bachelor of Science in Human Nutrition with IDI

Bachelor of Science in Human Nutrition with Advanced Major with IDI

Bachelor of Science in Human Nutrition with Honours with IDI

Within the Bachelor of Science in Nursing, there are three degrees and two certificates:

Bachelor of Science in Nursing: Four-year option for students direct from high school; accelerated option for internal applicants and transfer students; accelerated option for LPNs; and a distance option for registered nurses; see sections 1.3 and 1.6

Bachelor of Science in Nursing with Advanced Major

Bachelor of Science in Nursing with Honours

Certificate in Gerontological Nursing

Certificate in Continuing Care

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

Bachelor of Arts and Science in Climate and Environment, see section 7.3.

Bachelor of Arts and Science in Climate and Environment with Honours, see section 7.3.

Bachelor of Arts and Science in Health, see section 7.3.

Bachelor of Arts and Science in Health with Honours, see section 7.3.

The Faculty of Science offers 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)

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)

Listed in the chart on the next page are the degree options and the diploma in the Faculty of Science, with the credit patterns required for each. The available arts X and arts Y subjects are anthropology, art, Catholic studies, Celtic studies, classical studies, climate and environment, development studies, economics, English, French, German, history, music, philosophy, political science, psychology, public policy and governance, religious studies, sociology, Spanish, and women's and gender studies.

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://www2.mystfx.ca/dean-of-science/>

7.1.5 Advancement and Graduation Requirements by Degree (see chart)

All students must fulfill the credit pattern as specified in the chart, 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 a research report, senior paper, or honours thesis in science A.

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.

7.1.2 Subjects Available 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. 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
CHEM	Chemistry	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, C, E	A, B, C, E
ESCI	Earth Sciences	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, 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
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
CLEN	Climate and Environment	B, C, E	B, C, E	E	B, C, E	E
HLTH	Health	E	E	E	E	E
HKIN	Human Kinetics	—	—	A, B, E	—	—

* Note The Aquatic Resources program is available with biology, Earth sciences or mathematics.

7.1.3 Credit Patterns for Degree Options and Diploma 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	36 credits	12 credits	6 credits	12 credits	6 credits	—	18	30 credits	—
B.Sc. Major with arts minor, see notes 7 and 10	36	12	6	24	6	—	18	18	—
B.Sc. Major with science minor, see notes 8 and 10	36	24	6	12	6	—	6	30	—
B.Sc. Advanced Major	42	12	6	12	6	—	18	24	—
B.Sc. Advanced Major with BSAD, see notes 1 and 11	36	12	6	12	6	BSAD 30 ECON 6	9 plus CSCI 3	—	—
B.Sc. Advanced Major with arts minor, see notes 7 and 11	42	12	6	24	6	—	18	12	—
B.Sc. Advanced Major with science minor, see notes 8 and 11	42	24	6	12	6	—	6	24	—
B.Sc. Joint Advanced Major	42	36	6	12	6	—	12	6	—
B.Sc. Honours	60	12	6	12	6	—	18	6	—
B.Sc. Honours with minor in arts, see note 12	60	12	6	24	—	—	12	6	—
B.Sc. Honours with minor in science, see note 12	60	24	6	12	6	—	6	6	—
B.Sc. Joint Honours	Total of 84 in A & B		6	12	6	—	12	6	—
Bachelor of Arts and Science	Core	Concentration 1	Concentration 2	Humanities	Elec	—	—	—	—
BASc	24	48	24	12	12	—	—	—	—
BASc Honours	24	54	24	12	6	—	—	—	—
Human Kinetics	HKIN Req	HKIN Elec	Statistics	Science A	Science B	Arts X	Arts Y	Approved Elec	Elec
B.Sc. HKIN Major Kinesiology, see note 4	36	21	3	24	6	12	6	6	6
B.Sc. HKIN Major Pre-Education	48	12	—	24, see Note 5	6	12	6	6	6
B.Sc. HKIN Advanced Major or Honours Kinesiology, see note 4	39	18	3	24	6	12	6	6	6
B.Sc. HKIN Advanced Major or Honours Pre-Education	54	3	3	24, see Note 5	6	12	6	6	6
Human Nutrition (see note 6)	HNU Req	HNU Elec	BIOL	BSAD	CHEM	STAT	Humanities	Social Science	Elec
B.Sc. HNU	33	24	12	3	12	3	12 (or 6)	6 (or 12)	15
B.Sc. HNU Advanced Major	33 plus 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	BIOL	ENGL	STAT	CHEM	HNU	PHIL/RELS	PSYC	Elec
B.Sc. Nursing	84	9	3	3	3	3	3	3	9
B.Sc. Nursing Advanced Major	87	9	3	3	3	3	3	3	6
B.Sc. Nursing Honours	90	9	3	3	3	3	3	3	3
B.Sc. Nursing Accelerated	84	—	—	—	—	—	—	—	6
B.Sc. Nursing for LPNs	63	—	—	—	—	—	—	—	6
B.Sc. Nursing for RNs	42, see note 9	12	—	—	—	—	—	—	NURS 9
Engineering	ENGR Req	Discipline Elec	CHEM	PHYS	Arts Elec	—	—	—	—
Diploma in Engineering	42	9	6	6	6	—	—	—	—

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

Note 2 With permission of the chair of the department of the student's major, courses from other science departments may be used to satisfy major, advanced major or honours program 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 administration; 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 For students pursuing the nutrition minor, there are 15 credits fewer human kinetics electives and 15 credits of additional science requirements. For students pursuing the health sciences minor, the 30 credits of science A and B are a combination of courses from biology, chemistry and physics. See section 9.22.

Note 5 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 6 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 7 Available minors in arts are anthropology, art history, studio art, Catholic studies, Celtic studies, climate and environment, development studies, economics, English, French, history, music, philosophy, political science, psychology and governance, religious studies, sociology, Spanish, women's and gender studies.

Note 8 Available minors in science are biology, chemistry, climate and environment, computer science, Earth sciences, mathematics, and physics.

Note 9 Includes 12 credits of humanities requirement: NURS 300 and NURS 330.

Note 10 The degree awarded is Bachelor of Science with Major.

Note 11 The degree awarded is Bachelor of Science with Advanced Major.

Note 12 The degree awarded is Bachelor of Science with Honours.

7.1.5 Advancement and Graduation Requirements by Degree			
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 Administration, see note 1	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 all 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	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 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 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	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	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 in each of the first two years; average 75 in core and primary concentration courses completed during first two years; grade of 70 in each core and primary concentration course.	average 75; average 75 in core and primary concentration courses; grade of 70 in each core and primary concentration course	average 75; average 75 in core and primary concentration courses; grade of 70 in each core and primary concentration course
Diploma in Engineering	average 60 to advance to second year	—	average 60 over length of program

Note 1 The degree awarded is Bachelor of Science with Advanced Major.

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:

<i>with</i>	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	—

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:

<i>with</i>	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

A form of work-integrated learning, Co-op Education is a model of education that integrates academic study with related and supervised co-op work experience (12-16 months) with an employer partner in industry, government and not-for-profit across Canada. Students enrolled in biology, climate & environment, computer science, health, human nutrition, or mathematics are eligible to apply. The biology, computer science, and human nutrition co-op programs are accredited by the Co-operative Education & Work-Integrated Learning Canada (CEWIL Canada). COOP 405 (3 credits) can be used as a major subject elective or as an approved or open elective. See section 9.13 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 biology, chemistry, computer science, Earth sciences, mathematics and physics. Students can also complete a diploma in engineering concurrently with an advanced major. Contact academic advising for available options.

7.3 BACHELOR OF ARTS AND SCIENCE

The Bachelor of Arts and Science (BASc) is designed to expose students to both Arts and Science knowledge that inform a particular topic. Since many contemporary topics and issues are better understood through thorough engagement with both scientific and humanistic contributions, the degree is structured so that students engage with as many relevant disciplinary contributions as possible. Students completing Bachelor of Arts and Science programs will complete interdisciplinary core courses pertaining to their subject of study as well as science, arts, and humanities requirements.

Currently, StFX offers a Bachelor of Arts and Science in Health and in Climate and Environment. Both programs are direct-entry.

This degree program is not intended as a compromise for students who cannot decide between an arts and science degree. This degree is rather for students with specific topical interests that are better served by interdisciplinary study.

7.3.1 Climate and Environment

The program was carefully designed to provide students with maximum exposure to knowledge that will contribute directly to their understanding of climate and

environmental topics while maintaining a liberal arts approach that encourages commitment to broad critical and scientific inquiry, logical rigour, and creative problem-solving. Students will complete courses across the faculties of arts and science to gain a broad yet inclusive education in both climate and environment. This approach reflects the complexity of addressing climate and environment issues currently facing our planet. Global initiatives in tackling human and environmental issues highlight the need for an interdisciplinary approach, recognizing that solutions will only be found through integrated scientific, socio-political, and economic inquiry.

7.3.2 Health

The program aims to provide students with a contemporary education in health by drawing on knowledge from the natural sciences, social sciences, and humanities to engage students in nuanced and considered discussions about how we think about health, how we approach health, how we create health, what biases contribute to our understanding of health, and how health is interwoven into all aspects of our individual and collective lives. Students will gain a better understanding of the ways in which human health is determined and defined, by emphasizing what biology, chemistry, the social sciences, history, and other disciplinary fields of study contribute to an integrative understanding of health. Students will complete concentrations in biomedical, social determinants and health equity, as well as a humanities requirement.

7.4 POSSIBLE PATHWAYS IN THE SCIENCES

7.4.1 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.

7.4.2 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 revised 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.

7.4.3 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:

- One full-year academic class in each of biology, general chemistry, physics, organic chemistry. (Each of these courses must include laboratory instruction.)
- Two full-year academic courses (or four one-term courses) chosen from the humanities and/or social sciences.
- One full-year (or two one-term) writing course, English.
- One 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.

7.4.4 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. Additional information

is available at <http://www.upei.ca/programsandcourses/professional-programs/doctor-veterinary-medicine/dvm-academic-requirements>

7.4.5 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.

7.4.6 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

8.1.1 Admission Requirements and Procedures

Minimum admission requirements 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 their 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.

Applicants with an incomplete undergraduate degree who have significant practitioner experience in adult education/ community development, may be considered for admission if they provide evidence of:

- a) a teaching license equivalent to a Nova Scotia Initial Certificate or been employed in a teaching capacity for at least five years in a school of nursing or a post-secondary institution and/or experience working with adults in an educational setting for at least five years.
- b) or have completed 3 university courses and have experience working with adults in an educational setting for at least five years.

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 fulfil 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 normally February 15, with courses beginning in July of the same year. Students are responsible for checking with the admissions office to make sure their application is complete, as only completed applications will be considered.

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

- a) completion of a B.Ed. degree 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. degree will normally be considered when they have:

- a) 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 professional school or a post-secondary institution;
- b) 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 a 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 courses.

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

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

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 enrolled in the Interuniversity Ph.D. in Educational Studies are determined jointly by the partner institutions. Additional information is available at <http://www.nspeducation.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 master's level degree from a recognized university in education or in a related field of study (a cognate discipline);
- 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;
- Evidence of scholarly preparation to conduct research, normally including graduate level courses in quantitative and/or qualitative research methods and design;
- Three letters of reference, normally including two academic and one professional;
- A recent curriculum vitae indicating current initiatives in education and any academic, scholarly work to date;
- A letter of intent indicating a proposed area of study from among the six interrelated themes of educational studies;
- 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

- Applicants apply for their institution of choice (Acadia, MSVU or StFX) through the doctoral program office by November 15 for July 1 entry;
- The IDAC will review all applications and, by majority agreement, recommend acceptance of applicants to the participating institutions;
- 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.
- In addition to specific doctoral program requirements and regulations, StFX

students are bound by the regulations and procedures pertaining to graduate studies at StFX

- 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 9.17.3 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:

- 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 of Arts, Masters of Science and the Ph.D. in Educational Studies.
- 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 of Adult Education and the Masters in Education are the only per-credit fee programs 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.

** See section 8.5.7.

***Regulations for students enrolled in the Inter-university Ph.D. in Educational Studies are determined jointly with the partner institutions. Please consult <http://www.nspeducation.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 M.Sc. 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 Program 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 undergraduate course for a 12-month continuation period
M.Ed.	Tuition paid at course enrolment
Ph.D. in Educational Studies	As determined by the Interuniversity 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 M.Ad.Ed. 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:

- They are geographically available to campus.
- They visit the campus regularly.
- They are not engaged in full-time employment on or off campus.
- 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 StFX email 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. Visiting research students are enrolled at other universities and visit StFX to further their research. See Guide to Graduate Studies for procedures.

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 enrolled.

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. These 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

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. 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. 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://www2.mystfx.ca/research-ethics-board/>

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.

9. DEPARTMENTS 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 Climate and Environment
- 9.12 Computer Science
- 9.13 Co-operative Education
- 9.14 Development Studies
- 9.15 Earth Sciences
- 9.16 Economics
- 9.17 Education
- 9.18 Engineering
- 9.19 English
- 9.20 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.
A. Perry, Ph.D.
R. Neustaeter, 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: https://sites.stfx.ca/adult_education_graduate_studies/index.html or in section 8.2.

Master of Adult Education Courses

505 Introduction to the Field, Research and Practice

This is an 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 reading and writing 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 505. 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 enrolled 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 in 2019-2020 and alternate years.

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.

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 2019-2020 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 or permission of the instructor. Three credits. Offered in 2019-2020 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. Next offered 2020-2021.

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.

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. Offered 2019-2020 and in alternate years.

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 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. Offered 2019-2020 and in alternate years.

371 Archaeological Field Methods

This course teaches students the basic archaeological field methods of site survey and excavation through participation in an actual archaeological field project either locally or in another part of Canada or abroad. The course will examine a range of archaeological techniques and methodological approaches. It will also introduce students to the ethical issues they need to consider when conducting archaeological field research in Canada and abroad. Prerequisite: ANTH 243 or permission of the instructor. Three credits. Not offered 2019-2020.

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 2019-2020.

400 Honours Thesis Research

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

425 Power and Change

Power and change can be volatile processes. This course allows students to explore them from an anthropological point of view. The focus will be on food and power. It will address questions such as: How do gender, class, race, culture or other categories of difference affect who cooks and who eats, as well as what they eat? How has food become central to "gastro-diplomacy"? What are the politics of different kinds of food, locally produced food, food aid? How is food managed in times of crisis? Cross-listed as WMGS 425. Prerequisites: 12 credits ANTH, or HNU 365, or permission of instructor. Three credits.

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 permission of the instructor. Three credits. Next offered 2020-2021.

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. Offered 2019-2020 and in 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

D. Risk, Ph.D., ISAR Co-ordinator

L. Patterson, M.Sc., ISAR Program Assistant

Advising Faculty

D. Garbary, Ph.D.

L.J. McMillan, Ph.D.

L. Harling Stalker, Ph.D.

R. Lukeman, Ph.D.

D. Risk, Ph.D.

Y. Grenier, Ph.D.

P. Withey, Ph.D.

Department

Biology

Anthropology

Sociology

Mathematics, Statistics & Computer Science

Earth Sciences

Political Science

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, food production and procurement, healthy oceans, 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 two majors, the first 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 core ISAR major program of AQUA 100, 201, 202 (200), 325, and 400, 450; ESCI 171; BIOL 112; ECON 101, 102; and BSAD 101;
- 36 credits in the second major discipline, or 48 credits for public policy and social research majors, including at least 18 credits of AR-designated courses from your second major;
- 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 101, 102 are 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 101, 102 are 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.

AQUA 100, 201, 202, 325, 400 and 450 are restricted to students enrolled in the BA or BSc in Aquatic resources. AQUA courses cannot be taken as electives by non-aquatic resources students, and they cannot be used to make a pair or for arts X 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 and/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 an academic advisor or their work experience provider. 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, 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.

		Credits
Anthropology		
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		
BIOL 201	Animal Biology	3
BIOL 202	Plant Biology	3
BIOL 203	Introductory Ecology	3
BIOL 221	Issues in Resource Management	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	Sociology		Credits
BIOL 407	Integrated Resource Management	3	SOCI 202	Research Principles & Practices	3
BIOL 468	Restoration Ecology	3	SOCI 243	Consumer Society	3
BIOL 472	Freshwater Ecology	3	SOCI 247	Environmental Social Sciences I: Problems & Paradigms	3
Computer Science		Credits	SOCI 248	Environmental Social Sciences II: Power & Change	3
CSCI 135	Computer Application Technology	3	SOCI 301	Classical Social Theory	3
CSCI 215	Social Issues in the Information Age	3	SOCI 302	Topics in Contemporary Theory	3
Development Studies		Credits	SOCI 307	Qualitative Research Methods	3
DEVS 201	International Development: The Global South	3	SOCI 321	Sociology of Atlantic Canada	3
DEVS 202	International Development: Canada	3	SOCI 335	Sociology of Canada's Indigenous Peoples	3
DEVS 203	Climate Change and People	3	SOCI 341	Global Agriculture	3
Earth Sciences		Credits	SOCI 364	Food and Society	3
ESCI 266	Hydrology	3	SOCI 366	Coastal Communities	3
ESCI 272	Understanding Climate Change	3	SOCI 380	Urban Sociology	3
ESCI 273	Health and the Environment	3	SOCI 433	Advanced Problems in Environment & Society	3
ESCI 274	Health Impacts of Global Environmental Change	3	Statistics		Credits
ESCI 305	Geochemistry	3	STAT 101	Introductory Statistics	3
ESCI 373	Remote Sensing	3	STAT 231	Statistics for Students in the Sciences	3
ESCI 374	Geographic Information Systems	3	STAT 311	Survey Sampling Design	3
ESCI 376	Environmental Earth Science Field Course	3	STAT 331	Statistical Methods	3
ESCI 386	Oceanography	3	STAT 333	Introductory Probability Theory	3
ESCI 406	Environmental Geochemistry	3	STAT 334	Mathematical Statistics	3
ESCI 465	Hydrogeology	3	STAT 435	Regression Analysis	3
ESCI 472	Ocean-Atmosphere Interactions	3			
Economics		Credits	9.4 ART		
ECON 201	Intermediate Microeconomic Theory I	3	S. Gregory, Ph.D.		
ECON 202	Intermediate Macroeconomics I	3	<i>Part Time</i>		
ECON 211	Local and Community Development Economics	3	K. Brown, BFA		
ECON 241	Canadian Economic Prospects and Challenges	3	K. Depper, MFA		
ECON 281	Environmental Economics	3	J. Fecteau, BA		
ECON 301	Intermediate Microeconomic Theory II	3	M. Gibson, MFA		
ECON 302	Intermediate Macroeconomics II	3	L. Gillam, MFA		
ECON 305	Economic Development I	3	A. MacLean, BFA		
ECON 306	Economic Development II	3	A. McFarlane, BFA		
ECON 381	Natural Resource Economics	3	M. Nicholson, B.Ed.Sc.		
Mathematics		Credits	I. Pygott		
MATH 253	Matrix Algebra	3	W. Rogers, B.Ed.		
MATH 254	Linear Algebra	3	B. Sparks, BFA, MA		
MATH 287	Natural Resource Modelling	3	O. Tetu		
MATH 367	Differential Equations	3	A. Tragakis, BFA		
MATH 387	Mathematical Modelling	3	R. Young, M.Ad.Ed.		
Philosophy		Credits	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 2019-2020 course offerings.		
PHIL 213	Philosophy of Science	3	Minor in Studio Art		
PHIL 231	Human Nature I: Consciousness & Epistemology	3	ART 100 or 101 and 102, 141 and 142 and 12 additional credits in studio courses. It is recommended that students take ART 141 and 142 before their senior year.		
PHIL 251	Critical Thinking	3	Minor in Art History		
PHIL 333	Environmental Ethics	3	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/ANTH/CELT 321, ART/CATH 331/332.		
Political Science		Credits	Students with advanced drawing experience and a portfolio can apply to enrol in advanced drawing and painting courses without the prerequisites of ART 101, 102.		
PSCI 221	Canadian Politics I: Structure & Institutions	3	101 Introduction to Drawing I		
PSCI 222	Canadian Politics II: The Political Process	3	This course will introduce students to the art of drawing. Students will become familiar with conventional drawing materials including graphite, charcoal, conté, ink, and pastel. A disciplined daily working practice and routine will develop throughout the course, offering students transferable skills to all their academic pursuits. This course aims to encourage students to engage in further artistic study and life-long learning. ART 102 is strongly recommended as a complementary course. Credit will be granted for only one of ART 101 or ART 100. Three credits.		
PSCI 241	Business and Government	3	102 Introduction to Drawing II		
PSCI 251	Foundations of Global Politics	3	This course will continue students' development in drawing based on the foundation of Introduction to Drawing I. Students will explore the use of conventional drawing materials and techniques while learning basic colour theory, advanced study of value and subtractive drawing, figure drawing, and abstract representation. An end-		
PSCI 252	Contemporary Global Politics	3			
PSCI 291	Violence, Conflict and Politics	3			
PSCI 321	Federalism	3			
PSCI 322	Atlantic Canada	3			
PSCI 324	Provincial Politics	3			
PSCI 325	Indigenous Politics in Canada	3			
PSCI 335	Human Rights & International Justice	3			
PSCI 341	Canadian Public Administration	3			
PSCI 342	Canadian Public Policy	3			
PSCI 343	Law and Politics	3			
PSCI 351	Canadian Foreign Policy	3			
PSCI 353	International Organizations	3			
PSCI 354	Global Political Economy	3			
PSCI 355	Global Issues	3			
PSCI 389	Science Policy	3			
Religious Studies		Credits			
RELS 221	Religion & the Environmental Crisis	3			

of-term self-directed artwork assignment is a summation of the course's learning outcomes. Credit will be granted for only one of ART 102 or ART 100. Prerequisite: ART 101, or portfolio demonstrating drawing skills. Three credits.

115 Introduction to 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 101, 102 (100) recommended. Three credits.

141 Art & Society I: From Caves to Cathedrals

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 Art & Society II: From Renaissance to Revolution

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 practise in learning colour relationships in unified and contrasting colour schemes. Prerequisite: ART 101/102 (100) recommended. Three credits.

202 Introduction to 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 instructor. Prerequisite: ART 101, 102 (100) or permission of the instructor based on the student's resume of theatre experience or letter of interest. Three credits.

204 Introduction to Painting I

This introductory course will teach students the fundamental principles of representational painting – artworks created through the careful observation from life. Emphasis will be placed on learning techniques of studio painting and brushwork in conjunction with a thorough understanding of the formal qualities of colour: hue, value, and tone. ART 205 is strongly recommended as a complementary course. Credit will be granted for only one of ART 204 or ART 200 or ART 299 ST: Intro to Painting. Prerequisite: ART 101, 102 (100). Three credits.

205 Introduction to Painting II

This course is designed for students to further their technical and conceptual skills of representational painting acquired in ART 204. Subjects of increasing complexity are explored, including an investigation into landscape painting, the figure and independently researched topics. Prerequisite: ART 204, or portfolio demonstrating painting skills. Credit will be granted for only one of ART 205 or ART 200 or ART 299 ST: Intro to Painting. 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 101, 102 (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 101, 102 (100), 115 or portfolio demonstrating drawing and design skills. Three credits.

222 Weaving Studio

Tapestry weaving technique is practised 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. 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.

233 Introduction to Printmaking

Students will learn two standard techniques of fine-art printmaking: etching and linocut. Students will gain knowledge of printmaking, its materials and tools by means of instructional demonstrations, hands-on printmaking projects balancing technical knowledge with artistic concept and vision, and the study and in-class presentation of other printmakers' work. A public art event will take place at the end of the course: students will demonstrate learned printmaking techniques in a public location of their choice, on- or off-campus. Credit will be granted for only one of ART 233, ART 231 or ART 298 ST: Printmaking. Three credits.

240 Pastels

This studio course introduces pastels as a drawing 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 101, 102 (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 101, 102 (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. 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. Three credits.

271 Introduction to Digital Photography

This course is designed for students interested in learning to effectively use digital photography as a means for self-expression, artistic medium, or cultural comment. The course 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. A digital camera with manual functions is required. Credit will be granted for only one of ART 271 or ART 297 ST: Digital Photography. Three credits.

297 Selected Topics

The topic for 2019-2020 is Introductory Animation. In this course, students will learn the basics of animation. Projects include simple 2D animation (flip-book and hand drawn animation) and stop-motion. There is a self-directed final project in which students will expand on acquired technical and theoretical knowledge of animation fundamentals. Animation comes in many styles, so a high level of drawing skill is not a requirement for this course. A laptop and digital camera is necessary. Open-access free animation software will be used. No prerequisite. Three credits.

298 Selected Topics

The topic for 2019-2020 is Introduction to Architectural Design. This course will teach students the fundamentals of architectural design. Students will learn the basic elements of architectural graphics, perspective, construction techniques, and knowledge of spatial requirements. Students will then apply this learning to produce a set of working drawings for a small building of their own design. Students will be encouraged to explore their personal interests and identity while working towards this final project. No prerequisite. 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 Advanced Painting

A continuation of ART 204/205 with emphasis on composition, technique and materials with special attention to individual creativity and development. Prerequisite: ART 205 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, jewellery, 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 2018-2019.

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 101, 102 (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 101, 101 (100) or 346 or BIOL 202 or portfolio demonstrating drawing or painting skills. Three credits.

351 Anatomy for the Artist: Drawing

This course provides intensive study of human anatomy with the purpose aimed towards figure drawing. Students will focus on the skeletal and muscular systems, studying both bone specimens and live models. Using graphite and charcoal, students will gain the knowledge to accurately draw the human figure and place their work within the historical context of figurative art. Prerequisite: ART 101, 102 (100) or portfolio submission. 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 101, 102 (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.

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. 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.
T.M. Rodela, Ph.D.
R.A. Scrosati, Ph.D.
B.R. Taylor, Ph.D.
R.C. Wyeth, Ph.D.

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

Senior Research Professor and Professor Emeritus
P. J. Williams, Ph.D.

Biology is the science of living organisms and their interactions in the world around us. 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.

First year biology students normally register for BIOL 111, 112; CHEM 101/102 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

- The biology core program is BIOL 111, 112, and four of the following courses: 201, 202, 203, 204 and 315.
- Students wishing to complete a pair in biology should take BIOL 111, 112, and any two second year biology courses. BIOL 201, 202, 203, 204 are normally taken in the second year.
- 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.
- BIOL 105, 115, 215, 220 and 221 cannot be used as science A in biology major, advanced major or honours programs.
- CHEM 101/102 or 120 is a prerequisite for BIOL 201, 202, 203 and 204.
- 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.
- 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. Biology majors' students select their courses in consultation with the department chair. Students in the major program must take BIOL 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. BIOL 391 is recommended but not a required non-credit course taken in third year.

Advanced Major and Honours Programs

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.

Concentrations

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 student's 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 below. Consult the chair for any courses not listed.

Health Sciences: BIOL 304, 315, 317, 320, 331, 335, 343, 374, 395, 416, 417, 419, 452, 453, 454, 484

Ecology: BIOL 302, 308, 311, 315, 331, 342, 343, 345, 360, 407, 468, 472, 474, 484

Cell and Molecular: BIOL 302, 304, 315, 317, 320, 331, 335, 395, 411, 416, 417, 419, 452

Animal: BIOL 302, 304, 307, 308, 311, 315, 317, 320, 335, 342, 343, 360, 395, 411, 416, 417, 419, 452, 453, 454, 484

Plant: BIOL 302, 307, 308, 311, 317, 360, 472, 474

Aquatic: BIOL 307, 311, 342, 343, 345, 360, 468, 472, 474

Advanced Major Program

Students must take BIOL 111, 112, and four of the following courses: 201, 202, 203, 204, 315; and 391, 491; CHEM 101, 102 or 121, 122, 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 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 101, 102 or 121, 122, 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, 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.

BSc Advanced Major in Biology with Business Administration

Science A	BIOL 111, 112, 12 credits from BIOL 201, 202, 203, 204, 315; and BIOL 391, 491; 18 additional BIOL credits must include at least 12 credits at the 300 (may include 315) or 400 level (at least 3 credits must be BIOL at the 400 level, other than 499)
BSAD/ECON	BSAD 101; 102, 471; 12 credits from BSAD 221, 223, 231, 241, 261, 281; 9 additional BSAD credits; ECON 101, 102
Science B	MATH 126, 127; BIOL/STAT 331; 3 additional MATH, STAT credits
Science C	CHEM 101, 102 or 121, 122
Arts X	12 credits
Arts Y	6 credits
Approved electives	CSCI 135; 9 additional credits

Co-operative Education Program in Biology

This optional academic program allows 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 technical and professional experience in field and lab work, research, policy and education to reinforce classroom-based instruction and to increase students' networks and employability. The Biology Co-op Program is accredited by the Co-operative Education & Work-Integrated Learning Canada (CEWIL Canada). COOP 405 (3-credits) can be used as BIOL elective or as an open or approved elective. For further information on work term sequencing options and professional development training topics see section 9.13.

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 students in the distance nursing program. Cannot be used as science A for biology 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. Cannot be used as science A for biology students. Three credits and tutorial.

151 Fundamentals of Human Anatomy & 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. Credit will be granted for only one of BIOL 151, BIOL 251 or HKIN 151. Restricted to first-year nursing students. Three credits and lab.

152 Fundamentals of Human Anatomy & 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. Credit will be granted for only one of BIOL 152, BIOL 252 or HKIN 152. Restricted to first-year nursing students. Prerequisite: BIOL 151. Three credits and lab.

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. Cannot be used as science A for biology students. Prerequisites: BIOL 111 and CHEM 101/102 (100) or 120. Three credits and lab/tutorial.

220 Biological Perspective of Health and Environmental Issues

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. Acceptable for credit only in the Faculties of Arts and Business and as an open elective in the B.Sc. Nursing. Online course. 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. Prerequisite: 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. Credit will be granted for only one of BIOL 251, BIOL 151, HKIN 151. Restricted to BSc and BAsc Health students. 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. Credit will be granted for only one of BIOL 252, BIOL 152, HKIN 152. Restricted to BSc and BAsc Health students. 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 2019-2020.

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 Comparative 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 animals, including humans, respond to different demands imposed by their environment and activities will be discussed. 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, fieldwork, 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 BIOL 204 and 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.

320 Biology of Cancer

An introduction to the problem of cancer, emphasizing the cellular and molecular biology of carcinogenesis in humans. The multi-causal, multi-step nature of the process will be highlighted, including the role of viruses, oncogenes, carcinogens and ionizing radiations. Prerequisites: BIOL 201 or BIOL 251 and 252, and BIOL 204. Three credits and lab.

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 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 2019-2020; next offered 2020-2021.

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.

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

The topic for 2019-2020 is Comparative Endocrinology. Prerequisites: BIOL 251 and 252 or BIOL 304. Three credits. *Subject to Dean's approval.*

382 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. Recommended but not required for major 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 2019-2020; next offered 2020-2021.

415 Biogeography

A lecture and seminar course on the description and interpretation of past and present distributions of plants and animals. There will be integration of evolutionary, ecological and historical concepts, and both aquatic and terrestrial organisms will be considered. Prerequisite: BIOL 203 or permission of the instructor. Three credits and tutorial.

416 Immunology

This course provides an overview of human innate and acquired immune responses. Development of inflammation, vaccine protection, specific aspects of cancer immunology as 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.

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.

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. Offered 2019-2020 and in alternate years.

453 Advanced Behavioral 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 BIOL 453 or BIOL 450. Cross-listed as PSYC 431. Three credits. Not offered 2019-2020.

454 Advanced Behavioral 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 BIOL 454 or BIOL 450. Cross-listed as PSYC 432. Three credits. Offered 2019-2020 and in alternate years.

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 2019-2020 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 limnological 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 2019-2020; next offered 2020-2021.

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.

M. Cheney, MBA

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.

D. Mattie, BIS

J. Melong, MBA, CPA, CGA

B. Morrison, Ph.D.

B. Mukerji, Ph.D.

R. Mclver, B.Comm., 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

C. Boyd, LL.B.

B. Hatt, LL.B.

C. Gillies, LL.B.

R. Legere, MBA

C. Lin, MMAD

L. MacEachern, MBA

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. 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 9.16).

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 Chartered Professional in Human Resources (CPHR) designation, 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 professional experience within the fields of accounting, finance, marketing, management, enterprise systems and more, to reinforce classroom-based instruction and to increase students' networks and employability. The Business Co-op Program is accredited by the Co-operative Education & Work-Integrated Learning Canada (CEWIL Canada). COOP 405 can be used as a BSAD elective or as an open elective. For further information on work term sequencing options and professional development training topics see section 9.13.

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
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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, 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, 451, 452, 471; 9 IB credits from list below*; 15 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives

* International Business credits may be earned from this list of eligible courses: BSAD 349, 382, 433, 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 and Leadership credits may be earned from this list of eligible courses: BSAD 346, 362, 367, 382, 386, 387, 427, 435, 456, 462, 466, 467, 472, 473, 474.

** Students in the Management and Leadership Major along with a Minor in Sport Management will substitute BSAD 363 for another management elective.

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, 433, 434, 435, 436, 437, 439, 495.

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, 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, 451, 452, 471, 492; 12 IB credits from list below*; 9 credits BSAD electives; 12 credits arts/science electives**; 9 credits open electives

* International Business credits may be earned from this list of eligible courses: BSAD 349, 382, 433, 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 and Leadership credits may be earned from this list of eligible courses: BSAD 346, 362, 367, 382, 386, 387, 427, 435, 456, 462, 466, 467, 472, 474.

** Students in the Management and Leadership Major along with a Minor in Sport Management will substitute BSAD 363 for another management elective.

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, 433, 434, 435, 436, 437, 439, 495.

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, 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, 451, 452, 471, 494; 9 IB credits from list below*; 9 credits BSAD electives; 12 credits arts/science electives**; 9 credits open electives

* International Business credits may be earned from this list of eligible courses: BSAD 349, 382, 433 (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 and Leadership credits may be earned from this list of eligible courses: BSAD 346, 362, 367, 382, 386, 387, 427, 435, 456, 462, 466, 467, 472, 474.

** Students in the Management and Leadership Major along with a Minor in Sport Management will substitute BSAD 363 for another management elective.

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, 433, 434, 435, 436, 437, 439, 495.

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 and lab.

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 and lab.

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 provides an introduction to core marketing concepts, employs exercises and cases to develop students' analytical skills, and provides an opportunity to demonstrate these skills through development of a comprehensive marketing plan. 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 and threats to create and deliver value. The key components of an overall marketing strategy are segmentation, target market selection, positioning, product-service, pricing, distribution, and advertising/promotion. Students will develop marketing strategies in a variety of settings, using cases and projects. 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 ethics approval, problem definition, data sources, research designs, 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 exercises and assignments 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.

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. Credit will be granted for only one of BSAD 363 or SMTG 322. 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.

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 BSAD 374, ESCI 471. Cross-listed as ESCI 374. Three credits and lab.

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. 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. 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 CSCI/INFO 275. Prerequisite: BSAD 281. 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. 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. 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.

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 2019-2020.

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 2019-2020.

432 Retailing

This course focuses on the strategic management of retail institutions using a marketing orientation. Topics include but are not limited to, the retail environment including recent trends, omnichannel considerations, location decisions, merchandise management, pricing, promotion and retail image. Exercises, cases and projects will be used to develop analytic proficiency and emphasize evidence-based solutions. Prerequisites: BSAD 331, 335. Three credits.

433 International Marketing

This course will focus on understanding the application of marketing principles across national borders. Topics to be covered in this course are principles and theories of marketing in International context; segmentation and targeting approaches for International markets, new product development for multiple foreign markets, International pricing, promotional and distribution strategies. Prerequisite: BSAD 357 or 331. 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.

436 Brand Management

This course is designed to teach students about brand strategy and brand management. It will cover the brand strategy development process and help students to understand the possible ways to position or reposition a brand. It will address ways that a brand can be integrated across all consumer touch points. It will also cover key brand management concepts such as brand health tracking, the role of the brand manager and the unique considerations in corporate and product brand marketing. Credit will be granted for only one of BSAD 436 and BSAD 498 offered from 2016-2018. Prerequisites: BSAD 331, 335. 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 to come to life in the right channel, for the right consumer, at the right time. Prerequisite: BSAD 331. Three credits.

439 Customer Relationship Management and Loyalty Marketing

Customer relationships are the fundamental element of today's competitive strategy that is central to marketing activities. This course adopts both a consumer and manager perspective on the strategic implications of customer relationships. This course utilizes a mix of lectures, readings, cases, and projects to explore relationship marketing theory and practices. This course will provide students with the opportunity to discern and understand the role of customer relationships as a core component of marketing strategy and consumer experiences. Prerequisites: BSAD 331, 335. 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 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.

451 Cases in International Business

This course enables students to explore topics addressed in the introductory course BSAD 357 in more detail and requires students to apply the knowledge in a cross-functional manner for decision-making and problem solving. Students are required to systematically work in teams and analyze cross-functional problems from an international business perspective. Course methods: cases; simulations; exercises. Prerequisite: BSAD 357. Three credits.

452 Comparative International Strategy

The course examines topics in international management such as varieties of markets; importing and exporting; licensing and franchising; turnkey operations; strategic alliances and joint ventures; multiregional and global business strategies. The course also includes a comparative analysis of different market systems and national business cultures. Course methods may include lectures, guest speakers, cases, presentations and traditional examinations. Prerequisites: BSAD 357, 471 completed or concurrent. 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 Employee and Labour Relations

This course examines the history, current structure, and future of industrial relations in Canada, including trade unions and management, collective bargaining, and contract administration, plus topics in workplace health and safety and more. 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 2019-2020.

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.

472 Environmental Sustainability for Organizations

This course explores the relationship between organizations and the natural environment, how organizations can be both negative and positive actors, both causing environmental degradation and driving sustainability, and how corporations and other types of organizations (NGOs etc) respond to issues of climate change and environmental degradation. Managing change effectively is essential to the long-term survival of an organization, and smart organizations adapt to changing demands and responsibilities. Cross-listed as CLEN 302. Prerequisite: BSAD 358 or permission of the instructor. 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, guest speakers, 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 Intelligence and 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 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 2019-2020 is Visual Communications. We live in a visual world. Effective communications include economy of language and powerful visuals, including impact graphics to effectively convey key information. As information overload increasingly becomes a challenge for professionals, the ability to clearly and powerfully convey information, in the simplest terms, is becoming a key success factor. Students in this class will gain strategies for organizing complex information in simple terms and learn approaches for visually presenting information in common business contexts. Prerequisites: BSAD 331, 335. Three credits.

BBA with Minor in Sport Management

BBA students may earn an arts minor in sport management, consisting of 24 credits of students' arts/science and open electives. Course requirements and the normal course progression are as follows:

Year 1	SMGT 101
Year 2	HKIN 264, 352
Year 3	SMGT 322, 327; 3 credits SMGT designated courses
Year 4	SMGT 423; 3 credits SMGT designated courses

101 Introduction to Sport Management

An introduction to sport management. Primary focus is on sport industry, including professional sport entertainment, amateur, for-profit & non-profit sport participation, sporting goods, and sport services. Students will examine applications of managerial concepts and processes, and look at the ways in which sport organizations interact with each other, and with corporations, the government and non-governmental organizations. Micro aspects of management applied to sport, including human resources, sport marketing, sponsorship, finance, event management, and sport law. Credit will be granted for only one of SMGT 101 and HKIN 241. Restricted to students in BBA and HKIN. May be used in a minor in sport management or as an elective in BBA or HKIN. Three credits.

322 Human Resource Management in Sport Organizations

This course covers the theory and practice of building, developing and optimizing a competitive workforce within the context of sport organizations, teaching students the personnel related knowledge leveraged in the management and leadership of such organizations. Credit will be granted for only one of SMGT 322 and BSAD 363. Restricted to students in the sport management minor program. Prerequisites: SMGT 101; BSAD 261. Three credits.

327 Sport Management Ethics and Law

This course investigates moral issues in sport and judgments about right and wrong behavior amongst all stakeholders in sport. Examination of ethical theories, principles and applications, with case study analyses, and personal and professional ethical issues in sport management. Focus on the three major areas of the law that have a direct impact on the management of sport: tort liability and risk management; contract law, employment law, and constitutional law. Restricted to students in the sport management minor program. Prerequisite: SMGT 101. Three credits.

423 Sport Marketing and Event Management

This course introduces the concepts, theories, and marketing strategies utilized in the context of the sport industry. Topics include, but are not limited to the marketing planning process, components of the marketing mix, branding, event planning, operational logistics, media marketing and sponsorship. Restricted to students in the sport management minor program. Prerequisites: SMGT 101; BSAD 231. Three credits. Not offered 2019-2020.

Sport Management Designated Courses for BBA

Departmental prerequisites will apply.

Economics		Credits
ECON 291	Economics of Leisure, Recreation and Sports	3
Human Kinetics		Credits
HKIN 136	Foundations of Exercise Psychology	3
HKIN 332	Gender and Sport	3
HKIN 253	Philosophy of Sport	3
HKIN 443	Olympics	3
HKIN 455	Games, Life and Leadership	3
HKIN 431	Sports and Identity	3
Sociology		Credits
SOCI 387	Hockey and Canadian Culture	3

9.7 CATHOLIC STUDIES

G. Lalonde, Ph.D., Co-ordinator

Advising Faculty

S. Baldner, Ph.D.
J. Cormier, Ph.D.
S. Gregory, Ph.D.
L. Groarke, Ph.D.
J. Khoury, Ph.D.
A. Kolen, Ph.D.
K. MacAulay, Ph.D.
B. MacKenzie, MA
B. Murphy, Ph.D.
M. Sastri, MA
S. Stewart, Ph.D.
W. Sweet, Ph.D., D.Ph.

Department

Philosophy
Chemistry
Art
Philosophy
English
Human Kinetics
Business Administration
History
Earth Sciences
Philosophy
English
Philosophy

Catholicism stands essentially for a universal order in which every truth of the natural or social order can find a place.

- Christopher Dawson

Catholic studies is an interdisciplinary program in the 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. Not offered 2019-2020.

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. Offered 2019-2020.

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. Offered 2019-2020.

261 Angels & Demons

This course will trace the evolution of the Catholic doctrine of angels, or 'angelology.' As a parallel to angelology, we will also study the nature and role of demons in Catholicism. By the end of the course, we will examine what the contemporary Church teaches about the role of angels in everyday life, about demons, and exorcism. Consideration of the testimony of other faiths – particularly Judaism and Islam – will also help us to cultivate a complete understanding of angels in Catholicism. 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 six 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
Catholic 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		Credits
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		Credits
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 primarily 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; 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.

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 2019-2020.

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 2019-2020.

200 Second-Year Scottish Gaelic

Includes selected readings of riddles, proverbs, poetry, and folktales as well as conversation and composition. Prerequisite: CELT 100 or permission of the instructor. Successful completion of high school Gaelic may be considered as a prerequisite for CELT 200, consult the department chair. Six credits.

219 Celtic Music

An historical and musical survey of traditional music from Scotland, Ireland, and Cape Breton, including Gaelic song, bagpipe, fiddle, and harp music, with reference to modern "Celtic" music. Cross-listed as MUSI 219. Three credits. Not offered 2019-2020.

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 2019-2020.

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 2019-2020.

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.

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. Offered 2019-2020.

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 2019-2020.

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 2019-2020.

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 2019-2020.

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 2019-2020.

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 2019-2020.

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. Not offered 2019-2020.

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. Offered 2019-2020.

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 2019-2020.

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 2019-2020.

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.

Professor Emeritus

E. J. McAlduff, Ph.D.

Senior Research Professor

T. Smith-Palmer, Ph.D.

Chemistry deals with matter at the molecular and atomic levels, seeking to explain structures, properties, and reactions, and to develop syntheses of new substances and new uses for known substances. The study of chemistry prepares graduates for advanced work in biology, engineering, geology, medicine, and other professions; for careers in industry, government agencies, science journalism, and teaching. StFX chemistry graduates can be found carrying out tasks as varied as art conservation, pharmaceutical research, and industrial product development.

Faculty members are actively engaged in pure and applied chemistry research, and opportunities exist for students to participate. Chemistry laboratories are equipped with a wide range of modern instrumentation, including spectroscopic equipment 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 221, 222, 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 (101, 102 or 121, 122); 3 credits analytical (265); 3 credits inorganic (245); 6 credits organic (221, 222); 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 121 or 126; MATH 107 or 122 or 127)
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 121, 122. 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 (101, 102 or 121, 122); 9 credits analytical (265, 361, 362); 6 credits inorganic (245, 341); 6 credits organic (221, 222); 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 in another science (science B or C must be MATH and include MATH 106 or 121 or 126; MATH 107 or 122 or 127)
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 121, 122, 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 (101, 102 or 121, 122); 9 credits analytical (265, 361, 362); 9 credits inorganic (245, 341, 342); 12 credits organic (221, 222, 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 121 or 126; MATH 107 or 122 or 127)
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 121, 122, 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 101/102 (100) or 121/122 (120) as prerequisites.

101 General Chemistry I

Fundamental principles of chemistry, including the nature of atoms, ions and molecules, stoichiometry, and basic thermo-chemistry. Chemistry of aqueous solutions including oxidation-reduction reactions, equilibrium and acid/base chemistry with a focus on buffer solutions. The application of chemical principles in areas of interest to students in the life sciences, human nutrition and human kinetics are emphasized. Credit will be granted for only one of CHEM 101, CHEM 100, CHEM 120, CHEM 121, CHEM 150 or CHEM 151. Three credits and lab/tutorial.

102 General Chemistry II

Chemical kinetics, thermochemistry, and the electronic structure and properties of atoms and ions and bonding models used to determine molecular geometry. Basic concepts of organic chemistry, materials and environmental chemistry. Intended for students in the life sciences, human nutrition and human kinetics. Credit will be given for only one of CHEM 102, CHEM 100, CHEM 120, CHEM 122, CHEM 150 or CHEM 151. Prerequisite: CHEM 101. Three credits and lab/tutorial.

121 Principles of Chemistry I

Fundamental properties of matter and their correlation with modern principles of chemistry. Topics include: atoms, molecules, and ions; chemical formulae and equations; reaction types and stoichiometry; the gaseous state; energy changes in chemical systems; electronic structure of atoms; models of chemical bonding; and change of state. Credit will be granted for only one of CHEM 121, CHEM 101, CHEM 121, CHEM 150 or CHEM 151. Three credits and lab/tutorial.

122 Principles of Chemistry II

Topics covered in include a description of the solution state and intermolecular forces in solutions; rates of reaction, reaction mechanisms, equilibrium, acid-base reactions, electrolytes and voltaic cells, nuclear chemistry, and an overview of organic chemistry. Credit will be granted for only one of CHEM 122, CHEM 100, CHEM 102, CHEM 120, CHEM 150 or CHEM 151. Prerequisite: CHEM 121. Three credits and lab/tutorial.

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 lab.

221 Introductory Organic Chemistry I

The properties, reactions and synthesis of hydrocarbons, alkyl halides and alcohols; relationships between the structures of organic compounds and their physical and chemical properties; reaction mechanisms, and stereochemistry. Credit will be granted for only one of CHEM 221, CHEM 220 or CHEM 225. Prerequisites: CHEM 101, 102 or CHEM 121, 122. Three credits and lab.

222 Introductory Organic Chemistry II

Continuation of CHEM 221, including the properties, reactions and synthesis of ethers, aromatics and carbonyl compounds; spectroscopy with an emphasis on nuclear magnetic resonance. Credit will be granted for only one of CHEM 222, CHEM 220 or CHEM 225. 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. Prerequisites: CHEM 101, 102 (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 101, 102 (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 101, 102 (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. Prerequisites: CHEM 101, 102 (100) or 120. Three credits and lab.

321 Intermediate Organic Chemistry

A continuation of CHEM 220, this course covers: addition and condensation polymerization; di-valent carbon compounds; pericyclic reactions; Woodward Hoffmann rules; mass spectrometry of organic compounds; organic chemistry of sulfur, phosphorous, and silicon compounds; mechanisms of nucleophilic substitutions. Prerequisite: CHEM 220. Three credits and lab. Not offered 2018-2019.

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 121, 122 (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 metal 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 radiochemistry. 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 121, 122 (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. Not offered 2018-2019.

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.

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 Selected Topics

The topic for 2018-2019 is Industrial Organic and Inorganic chemistry. An introduction to the manufacture and use of common organic and inorganic materials. Sources, manufacturing processes and applications will be discussed. Prerequisites: CHEM 220 (completed or concurrent), CHEM 231. 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
D. Al-Maini, 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.

111 Introductory Latin I

For students with no knowledge of Latin, this course introduces students to Latin grammar and vocabulary. Recommended for students interested in classical languages, literature, philosophy, history, and religious studies. Credit will be granted for only one of CLAS 111 and CLAS 110. Three credits.

112 Introductory Latin II

This course is the sequel to CLAS 111, providing the second third of Latin grammar and vocabulary. Recommended for students interested in classical languages, literature, philosophy, history, and religious studies. Credit will be granted for only one of CLAS 112 and CLAS 110. Three 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.

215 Introductory Latin III

This course is the sequel to CLAS 112, providing the final third of Latin grammar and vocabulary. At the completion of this course, students will be ready to read classical Latin texts. Recommended for students interested in classical languages, literature, philosophy, history, and religious studies. Credit will be granted for only one of CLAS 215, CLAS 230, and CLAS 399 offered in 2014-2015. Prerequisites: CLAS 111, 112. Three credits. Not offered 2019-2020.

216 Classical Latin Texts

In this course, students who have learned Latin grammar and vocabulary, begin to read classical Latin texts. Authors such as Cicero, Caesar, Catullus, and Ovid will be read. Recommended for students interested in classical languages, literature, philosophy, history, and religious studies. Credit will be granted for only one of CLAS 216 and CLAS 230. Prerequisite: CLAS 211. Three credits. Not offered 2019-2020.

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 2019-2020.

9.11 CLIMATE AND ENVIRONMENT

L. Kellman, Ph.D., Co-ordinator

Advising Faculty

H. Beltrami, Ph.D.
C. Cash, Ph.D.
A. MacDougall, Ph.D.
D. Risk, Ph.D.
P. Withey, Ph.D.

Department

Canada Research Chair in Climate Dynamics
Coady International Institute
Climate and Environment
Earth Sciences
Economics

The Bachelor of Arts and Science in Climate and Environment is a new interdisciplinary offering that seeks to support student development and intellectual capacity in problem-solving and academic discourse pertaining to climate and environment. The complexity of environmental issues facing societies across the planet as a result of the growth of technology, globalization of economies, and rapid increases in population and per capita consumption requires an integrative approach provided by the BASc structure.

While there is an obvious link and some overlap between the two fields of study, they are distinct, both in terms of their focus, and their methodological approaches. The field of environment focuses on the physical and chemical composition, nature, and the societal relationship we maintain with our physical setting, while the field of climate focuses on how the Earth's energy balance affects our environment. The BASc in climate and environment will appeal to students whose interest in the environment is partially or wholly motivated by their awareness of climate issues.

Students are required to meet with their program coordinator or an academic advisor every year to assess their academic progress.

Bachelor of Arts and Science in Climate and Environment

Core courses are CLEN 101, 102, 201, 202, 301, 302, 401, 402.

- 24 credits of core courses: CLEN 101, 102, 201, 202, 301, 302, 401, 402.
- BIOL 112; ECON 101; SOCI 101, 102; CSCI 161 or MATH 106; one of PGOV 101, PSCI 101, PSCI 102; CHEM 101, 102 or PHYS 101, 102 or PHYS 101 and MATH 107. These 24 credits are included in the climate concentration and the Environment concentration in any combination, subject to the 100-level restrictions noted in (i) below.
- BIOL 203, to be included in the environment concentration (whether primary or secondary)
- ECON 281; ESCI 265; SOCI 202. These courses included in the climate concentration and/or the environment in any combination.
- 48 credits in primary concentration: some credits from requirement (b); 6 credits from (c) or (d), as appropriate; remaining credits from designated courses.
- 24 credits in secondary concentration: some credits from requirement (b); 6 credits from (c) or (d), as appropriate; remaining credits from designated courses.

- g) 12 credits from humanities designated courses.
- h) 12 credits of open electives.
- i) 100-level restriction: in the primary concentration, a maximum of 18 credits at the 100-level; in the secondary concentration, a maximum of 12 credits at the 100-level.
- j) 300- and/or 400-level requirement: a combined minimum of 12 credits of 300- and/or 400-level courses in the primary and secondary concentrations.
- k) In addition to the 12 credits of humanities, a minimum of 24 credits of arts courses. The arts courses in requirements (b), (c), and (d) fulfill 18 of these required credits.
- l) A minimum of 24 credits of science courses. The science courses in requirement (b) fulfill 12 of these required credits. 12 credits must be courses with laboratory components at the 200-level or above; the science courses in requirements (c) and (d) fulfill 6 of these credits.

Bachelor of Arts and Science in Climate and Environment in Honours

The requirements are the same as those for the program above, with the following exceptions:

- a) HLTH 490 is required in the primary concentration, for a total of 54 credits.
- b) There are 6 credits of open electives.
- c) The honours program requires a combined minimum of 18 credits of 300- and/or 400-level courses (including HLTH 490) in the primary and secondary concentrations.

Climate as the Primary Concentration (CLIM)

- Year 1: CLEN 101, 102; BIOL 112; CSCI 161 or MATH 106; ECON 101; SOCI 101, 102; one of PGOV 101, PSCI 101, 102; CHEM 101, 102 or PHYS 101, 102 or PHYS 101/MATH 107;
- Year 2: CLEN 201, 202; 6 credits environment to include BIOL 203; ECON 281; 15 credits climate including ESCI 265 and SOCI 202; 3 credits humanities
- Year 3: CLEN 301, 302; 12 credits climate; 6 credits humanities; 3 credits environment; 3 credits open electives
- Year 4: CLEN 401, 402; 9 credits climate; 3 credits environment; 3 credits humanities; 9 credits open electives

Physics is highly recommended with climate concentration.

Honours with Climate Concentration (CLIM)

- Years 1 & 2: same as program above
- Year 3: CLEN 301, 302, 15 credits climate; 6 credits humanities; 3 credits open electives
- Year 4: CLEN 401, 402, 490; 6 credits climate, 6 credits environment; 3 credits humanities; 3 credits electives

Physics is highly recommended with climate concentration.

Environment as the Primary Concentration (ENVS)

- Year 1: CLEN 101, 102; BIOL 112; ECON 101; SOCI 101, 102; CSCI 161 or MATH 106; one of PGOV 101, PSCI 101, 102; CHEM 101, 102, or PHYS 101, 102, or PHYS 101/MATH 107
- Year 2: CLEN 201, 202; 3 credits humanities; 15 credits environment including BIOL 203, ECON 281; 6 credits climate to include ESCI 265; SOCI 202
- Year 3: CLEN 301, 302; 12 credits environment; 6 credits humanities; 3 credits climate; 3 credits open electives
- Year 4: CLEN 401, 402; 9 credits environment; 3 credits climate; 3 credits humanities; 9 credits open electives

Honours with Environment Concentration (ENVS)

- Years 1 & 2: same as program above
- Year 3: CLEN 301, 302, 15 credits environment; 6 credits humanities; 3 credits open electives
- Year 4: CLEN 401, 402, 490; 6 credits environment; 6 credits climate; 3 credits humanities; 3 credits open electives

Minor (for BA, BSc, BBA, HKIN programs)

- a) CLEN 101, 102, 201
- b) one of CLEN 202, 301, 302, 303, 304
- c) additional 12 credits of CLEN core and/or designated courses

Co-operative Education Program in Climate and Environment

This optional academic program allows BAsC in Climate & Environment 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 field and lab

work, research, policy and education to reinforce classroom-based instruction and to increase students' networks and employability. COOP 405 can be used as a primary or secondary concentration elective, or an open elective. For further information on work term sequencing options and professional development training topics see section 9.13.

101 Introduction to the Climate System

This course introduces the climate system. It provides students with an overview of the Earth energy balance and the mechanisms for energy transfer among climate subsystems. Specifically, it focuses on understanding the physical processes determining Earth's climates and how the current Earth energy imbalance affects the dynamics of the climate system (climate change). The course is intended for students who are new to the study of climate. Three credits and lab.

102 Introduction to Environmental Systems

This course introduces students to the global environmental systems and processes necessary to address scientifically complex and diverse issues associated with environmental change. Through the study of interconnected global biogeochemical, atmospheric, landscape scale, and hydrological processes, students will learn about the science that underpins many environmental issues associated with resource availability and contamination. Case studies will be used to illustrate concepts, and students will develop an understanding of the fundamentals of environmental measurement, and an introduction to major groups of environmental contaminants. Credit will be granted for only one of CLEN 102, ENSC 115 or ESCI 271. Three credits and lab.

201 Climate Change and People: Issues, Interventions, Citizen-led Actions, and Solutions

Conducted from a global perspective, this course is intended for students who wish to broaden their understanding of the present and future impacts of climate change on societies, including the social justice elements of the issues. The course also focuses on the interventions that are being made to combat the impacts of climate change - from global policies to community-level actions. Students will be equipped to articulate the world-wide impacts of climate change, how it impacts people at a community level, and how citizen led action can lead to positive change. Cross-listed as DEVS 203. Prerequisite: CLEN 101, or permission of the coordinator. Three credits.

202 Understanding Climate Change

An understanding of the impacts of climate change has become crucial for areas of governance, business, engineering and diverse fields of science. This course will provide students with a qualitative understanding of climate processes and climate models as well as an understanding of uncertainty in future climate change and limitations to model simulations. In addition, the impacts of climate change to many aspects of human societies will be explored. Cross-listed as ESCI 272. Prerequisite: CLEN 101 or ESCI 172. Three credits and lab.

301 Introduction to Science Policy and Science-Based Public Policy Decision-Making

This course introduces concepts, approaches, and trends associated with science policy and science-based policy decision making in Canada. Students will be introduced to key concepts and structures in Canadian public administration, the evolution of key policy actors and organizations that have contributed to science policy decisions in Canada with a focus on the federal level of government, learn the development of science policy in Canada, as well as understand Canadian approaches to science-based policy decisions with a focus on environment-related examples and case studies. Credit will be granted for only one of CLEN 301 and PSCI 389 offered from 2016-2018. Cross-listed as PGOV 307. Prerequisite: PGOV 101 or 3 credits PSCI; ECON 101, or permission of the coordinator. Three credits.

302 Environmental Sustainability for Organizations

Managing change effectively is essential to the long-term survival of an organization, and smart organizations will strategically adapt to changing demands and responsibilities. This course looks at organizational strategy through the 'lens' of sustainability. It explores how corporations and other types of organizations are re-aligning and in some cases re-inventing their corporate strategies to move toward more sustainable business models. This includes initiatives undertaken within the firm, as well as initiatives pursued outside the firm (such as through partnerships). Several frameworks are offered for assessing the degree to which principles of sustainability are embraced within an organization's strategies. In addition, tools for formulating and implementing a sustainability strategic plan are presented. Cross-listed as BSAD 472. Prerequisite: third year CLEN standing. Three credits.

303 Climate Dynamics

An exploration of the fundamental properties of the Earth systems that generate planetary climate. The course explores the intricate links between the hydrosphere, atmosphere, cryosphere and biosphere. It includes an introduction to the fundamental theories of the properties and dynamics of ocean and atmosphere

systems. Earth system models are examined with emphasis on simple intuition-building mathematical models as well as discussion of large computer models. Prerequisites: CLEN 101 or ESCI 172, MATH 106, PHYS 101 or 121, ESCI 265 or 246 or permission of the coordinator. Three credits and lab.

304 Regional Weather and Climate

An introduction to the micro-meteorological and land surface processes which generate micro, local and regional scale climate and weather. Topics include: surface energy and mass balance, atmospheric stability and exchange, turbulence, climates of non-vegetated surfaces and soils, the control of vegetation on local climate, land surface models and air pollution. Prerequisites: CLEN 101 or ESCI 172, PHYS 101 or 121, ESCI 246 or 265 or 224 or permission of the coordinator. Three credits and lab.

401 Strategies for Addressing Climate and Environmental Issues

This course provides students with the tools and strategies necessary to solve problems in climate and environment. Through case studies students will learn about best practices for addressing interdisciplinary problems in climate and environment. Students will then apply these principles to develop and workshop a proposal. Restricted to fourth-year students in the BAsC Climate and Environment program. Three credits.

402 Addressing Climate and Environmental Issues – Senior Practicum

This capstone course is designed to empower students with interdisciplinary and skills to deploy ideas. In this course, interdisciplinary groups of students will work to launch initiatives and take a project from conception to an outcome. The students will work closely with faculty advisors, and in some cases other outside experts, to define goals, methods, outcomes, and indicators of success. Restricted to fourth-year students in the BAsC Climate and Environment program. Prerequisite: CLEN 401. Three credits.

403 Advanced Topics in Climate Dynamics

An advanced examination of current topics in climate science intended to acquaint students with the state-of-the-art in climate science and modelling. Topics include: the stability of meridional overturning circulation, permafrost carbon cycle feedbacks to climate change, climate ice-sheet interactions and sea-level rise, abrupt climate change, and climate intervention. The laboratory component will include practical exercises intended to introduce the students to handling, analyzing and displaying large data sets from global and regional climate model simulations. Prerequisite: CLEN 303 or 304. Three credits and lab.

490 Honours Thesis

Students undertake an independent research project related to climate or environment, under the supervision of a faculty member associated with the CLEN program. Students will have the opportunity to gain hands-on experience in conducting original research. Students will also develop skills in written and oral communication by submitting a scholarly paper, and defending their Thesis by presenting the results of their research in a public presentation. Restricted to students in BAsC Climate and Environment honours program. Six credits.

FOUNDATION COURSES

Students complete 24 credits of foundation courses as per the progression outlined above. It is recommended that students complete these 24 credits during their first 30 credit hours in the program. Students may complete more than the required 24 credits of foundation courses so long as they do not violate any of the degree regulations listed above.

BIOL 112	Diversity of Life
CHEM 101	General Chemistry I
CHEM 102	General Chemistry II
CSCI 161	Introduction to Programming
ECON 101	Introductory Microeconomics
ECON 102	Introductory Macroeconomics
MATH 106/126	Calculus I
MATH 107/127	Calculus II
PGOV 101	Modern Challenges in Public Policy and Governance
PSCI 101	Introduction to Power and Politics
PSCI 102	Introduction to Comparative and Global Politics
PHYS 101	Physics for the Life and Health Sciences I
or	
PHYS 121	Physics for the Physical Sciences and Engineering I
PHYS 102	Physics for the Life and Health Sciences I
or	
PHYS 122	Physics for the Physical Sciences and Engineering I
SOCI 101	Foundations of Sociology
SOCI 102	Key Issues in Contemporary Sociology

CLIMATE CONCENTRATION

Departmental prerequisites will apply.

Co-operative Education

COOP 405 Work Term and Integrated Learning

Dynamics

CLEN 303 Climate Dynamics

CLEN 304 Regional Weather and Climate

CLEN 403 Advanced Topics in Climate Dynamics

ESCI 472 Ocean-Atmosphere Interactions

Modelling

MATH 253 Matrix Algebra

MATH 287 Natural Resource Modelling

MATH 367 Differential Equations

Quantitative Measurements

ESCI 265 Data Analysis in Earth and Environmental Sciences

ESCI 374 Geographic Information Systems

ESCI 376 Environmental Earth Science Field Course

PHYS/ESCI 278 Introduction to Atmospheric Physics

Water Resources

AQUA 201 Rivers, Lakes and Freshwater Governance

AQUA 202 The Ocean's Commons and Society

ESCI 266 Hydrology

ESCI 386 Oceanography

Socio-Political Perspectives

PSCI 325 Indigenous Politics

SOCI 202 Social Research Methods

SOCI 307 Qualitative Research Methods

Demography and Overconsumption

HNU 405 Food Availability

SOCI 243 Consumerism

SOCI 364 Food and Society

Resource Management and Policy

BIOL 407 Integrated Resource Management

ECON 281 Environmental Economics

SOCI 248 Environmental Social Science II: Power and Change

ENVIRONMENT CONCENTRATION

Departmental prerequisites will apply.

Co-operative Education

COOP 405 Work Term and Integrated Learning

Chemistry, Monitoring and Contaminants

CHEM 265 Basic Analytical and Environmental Chemistry

ESCI 305 Geochemistry

ESCI 406 Environmental Biogeochemistry

Communities, Ecologies, and Ecosystems

BIOL 203 Ecology

BIOL 311 Coastal Marine Ecology

BIOL 345 Communities and Ecosystems

BIOL 360 Global Change Biology

BIOL 468 Restoration Ecology

BIOL 472 Freshwater Ecology

Geosciences

ESCI 171 Understanding the Earth

ESCI 215 Sedimentology

ESCI 216 Earth History

ESCI 265 Data Analysis in Earth and Environmental Sciences

ESCI 365 Geomorphology

ESCI 373 Remote Sensing

ESCI 465 Hydrogeology

Socio-Political Perspectives

DEVS 321 People and Development

PSCI 325 Indigenous Politics

SOCI 202 Social Research Methods

SOCI 307 Qualitative Research Methods

Demography and Overconsumption

HNU 405 Food Availability

SOCI 243	Consumerism
SOCI 364	Food and Society
Resource Management and Policy	
BIOL 407	Integrated Resource Management
ECON 281	Environmental Economics
MATH 287	Natural Resource Modeling
SOCI 248	Environmental Social Science II: Power and Change

Issues in Environment and Sustainability

BIOL 221	Issues in Resource Management
ESCI 273	Health and the Environment
ESCI 274	Health Impacts of Climate Change
IDS 305/306	Service Learning
PHIL 333	Environmental Ethics
SOCI 247	Environmental Social Science I: Problems and Paradigms
SOCI 433	Advanced Problems in Environment and Society

HUMANITIES

ENGL 100	Introduction to Literature and Critical Writing
ENGL 111	Literature and Academic Writing I
ENGL 112	Literature and Academic Writing II
HIST 111	Introduction to Global History 1300-1795
HIST 112	Introduction to Global History from 1789
PHIL 213	Philosophy of Science
PHIL 251	Critical Thinking
PHIL 331	Introduction to Ethics
PHIL 333	Environmental Ethics
RELS 111	Compassionate Global Citizenship: World Religions I
RELS 112	Compassionate Global Citizenship: World Religions II
RELS 221	Religion and the Environmental Crisis

Any Modern Languages course

Any Celtic Studies course

9.12 COMPUTER SCIENCE

I. Gondra, Ph.D.
 J. Hughes, Ph.D.
 J. Levman, Ph.D.
 M. Lin, 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 and 107 or 127. BA students may replace MATH 106 or 126, 107 or 127 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, 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.

Degrees Offered

BA with Major, Advanced Major, Honours

BA with Joint Major, Joint Advanced Major, Honours with Subsidiary

B.Sc. with Major, Advanced Major (including an option with Business Administration), Honours

B.Sc. with Joint Advanced Major, Joint Honours; see sections 7.1.6 and 7.1.7 for options

B.Sc. with Major or Advanced Major concurrently with a Diploma in Engineering

Students interested in any of these programs should consult with the relevant department chairs.

General requirements for these degrees are in chapters 4 and 7.

Department Regulations

The following pairs or groups are considered so similar that a student may only receive credit for 1 in each group: MATH 106, 111, 126, 121; MATH 107, 112, 127, 122; STAT 101, 201, 231, 224; MATH 221, 367; MATH 222, 267; MATH 223, 253; CSCI 125, 161, ENGR 147; CSCI 275, BSAD 384

Minor in Computer Science

Students pursuing a minor degree in computer science must take 24 credits in CSCI.

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.

Major in Computer Science (Analytics Concentration)

In addition to the core requirements, students must take CSCI 223; MATH 253 or 223; STAT 101 or 231 and an additional 6 credits chosen from CSCI.

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; STAT 101 or 231.

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, 107 or 127 (B.Sc. or BA) or MATH 101, 102 (BA)

Year 2 CSCI 255, 263, 275, 277; MATH 253; STAT 101 or 231

Year 3 CSCI 368, 375; additional CSCI courses

Year 4 CSCI 485, 491; additional CSCI courses

Advanced Major in Computer Science (Analytics Concentration)

In addition to the core requirements, students must take CSCI 223, 263; STAT 101 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; STAT 101 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 with Business Administration

Science A	CSCI 161, 162, 255, 263, 275, 277, 368, 375, 485, 491; 3 credits of CSCI at 300/400 level; 6 additional CSCI credits
BSAD	BSAD 101, 102, 471; 12 credits from BSAD 221, 223, 231, 241, 261, 281; 9 additional BSAD credits
Science B	MATH 106/126, 107/127, 253; STAT 231
Science C	6 credit
Arts X	12 credits humanities or social science (could be ECON)
Arts Y	6 credits (could be ECON)
Approved electives	CSCI 135; 9 credits from MATH/STAT, CSCI, BIOL, CHEM, ESCI, PHYS
Open electives	6 credits (must be ECON if not in arts X or arts Y)

The degree awarded is a Bachelor of Science with Advanced Major.

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, 107 or 127 (B.Sc. or BA) or MATH 101, 102 (BA)
Year 2	CSCI 255, 263, 275, 277; MATH 253; STAT101 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

Honours in Computer Science (Analytics Concentration)

In addition to the core requirements, students must take CSCI 215, 223, 263, 455, 495, 493; STAT101 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, 107 or 127 (B.Sc. or BA) or MATH 101, 102 (BA)
Year 2	CSCI 215, 255, 263, 223 or 275, 277; MATH 223 or 253; STAT101 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 BSc 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 and to increase students' networks and employability. The Computer Science Co-op Program is accredited by the Co-operative Education & Work-Integrated Learning Canada (CEWIL Canada). COOP 405 can be used as a CSCI elective or as an open or approved elective. For further information on work term sequencing options and professional development training topics see section 9.13.

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/mcscs/graduate/>

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. Cross-listed as ENGR 147. 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 or ENGR 147. 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 department chair. Three credits. Offered 2019-2020 and in alternate years.

255 Advanced Data Structures

This course provides a deep investigation of foundational data structures and algorithms. Criteria for selecting appropriate data structures and algorithms for a given problem are presented. General problem solving is emphasized throughout the course. Specific topics include stacks, queues, lists, trees, searching, sorting, traversals, recursion, graphs, hashing, and complexity analysis. 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 and practice associated with the design and implementation of databases. Topics include database models (relational model in detail), design, normalization, transactions, SQL, and a DBMS (Oracle). Credit will be granted for only one of CSCI 275, BSAD 384 or INFO 275. Prerequisite: CSCI 162. Three credits and a two-hour lab.

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 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. Prerequisite: MATH 105 or 106/126 or CSCI 161. Three credits. Offered 2019-2020 and in alternate years.

340 Evolutionary Computation

Evolutionary computation is a family of powerful optimization algorithms often used to find solutions to computationally intractable problems. The study of these algorithms and their application to problems is a large research area within computer science. Course topics include combinatorial optimization, genetic algorithms, particle swarm optimization, search space analysis, multi-objective optimization, and neuroevolution. Research practices and technical writing will be emphasized for course assignments/projects. Three credits. Offered 2019-2020 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 2019-2020; next offered 2020-2021.

350 Biomedical Computation

Technological development has transformed modern biomedical data analysis. The large amounts of biomedical data currently acquired has the potential to have real world positive impacts, however, the underlying nature of the data presents major challenges for computational biomedical analysis techniques. This course focuses on advanced technologies applied to biomedical computation, a rapidly growing field with tremendous potential for having a beneficial impact on patient care and public health. Three credits. Not offered 2019-2020; next offered 2020-2021.

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.

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 2019-2020 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 2019-2020 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.

371 Selected Topics

This course explores current topics in computer science, such as big data, distributed computing, bioinformatics and machine learning. Three credits.

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 2019-2020 and in 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 2019-2020; next offered 2020-2021.

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/mcs/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 2019-2020; next offered 2020-2021.

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.

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 2019-2020; next offered 2020-2021.

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, 263, 277. Three credits.

GRADUATE COURSES

Credit will be granted for only one of an undergraduate or graduate level course.

		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
546	Biomedical Computation	3
547	Evolutionary Computation	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

9.13 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. Co-operative education is an option for students enrolled in biology, business, climate & environment, computer science, health, human nutrition and mathematics. Students enrolled in a BA must commit to a major in computer science or mathematics to continue in the co-op education program. Students enrolled in BSc must commit to a major in biology, computer science, or mathematics to 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. Participation in the cooperative education program is voluntary, obtaining a cooperative education work assignment is competitive, and students are not guaranteed a cooperative education work placement.

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 the published deadline in early October. Admission to the program is based on academic requirements and also the student's ability to be flexible regarding work term options. A minimum overall first year average of 65% is required for students joining the program in their second year. A minimum overall second-year average of 70% is required for students who join in second or third year. To remain in the co-op education program, students must be actively engaged, must be registered in a minimum of 12 credits per term while completing co-op requirements, and maintain a 70% average. The co-op education program begins and ends on an academic term. After completing the minimum of 12 months of co-op work experience, students are required complete a minimum of 12 credits (including COOP 405) at StFX.

Students enrolled in the program complete their professional development training within the first academic semester of joining the co-op education program. The professional development training assists with students' success within the program and their work terms. Students are notified of the professional development training schedule when they apply to the co-op program. Students must adjust their calendars in order to ensure they are available to complete the training when it has been scheduled. Students must successfully complete mandatory professional development training to be eligible for co-op work terms.

Students have the option to complete their co-op work terms as an alternating or internship model. The alternating model consists of 4-month plus 8-month or 8-month plus 4-month. The 12-16 month work term is considered a co-op internship and must be with one employer. Work terms must occur in at least two of the three "academic semesters" and must be preceded and followed by an academic term(s). "Academic semesters" are January to April, May to August, and September to December. The co-op office 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 of the work term from the co-op office may result in the work term not counting toward the program. Successful completion of work term is required to continue in the Co-op program.

Students may withdraw from the co-operative education program by completing the online withdrawal form found on the co-operative education program Moodle page. 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 withdraw from the program while on work term must notify the co-op office of their intention to withdraw. The co-op office will review the student's employment contract as some roles require the student to be enrolled in a co-op program. The co-op office will notify the student if they must complete their work term and necessary assignments before the formal withdrawal from the co-op program will be processed.

Students who successfully complete all co-op requirements and all academic requirements for their degrees will receive a certificate of completion with their degree parchment. Also, a co-operative education designation will be displayed in the degree awarded section of their official transcripts.

The co-operative education programs in biology, business, computer science, human nutrition are accredited by the Co-operative Education & Work-Integrated Learning Canada (CEWIL Canada). Climate & environment, health and mathematics co-op programs also follow the same guidelines as our accredited programs.

110 Discovering Career Development for a Changing and Complex World

This seminar lays the foundation of career development. Students discover the skills they need for future employability. Through developing career management

strategies, students will establish a set of habits that will enable them to achieve their career goals and develop career resiliency. Topics covered in this seminar include, career development, self-assessment, reflection, and mission statements. Students will also be introduced to the electronic portfolio development process and the important role it can play in the career development process. No credit.

120 Achieving your Professional Presence from Vision to Action

In this seminar students will build upon and connect the foundational material addressed in COOP 110. Students will be presented with models for, identifying and assessing their knowledge, skill and abilities, setting goals, developing an effective cover letter, resume, and social media presence and networking. Students will discover and apply effective job search strategies that will assist with building a competitive application that stands out from the crowd. Prerequisite: COOP 110. No credit.

130 Enhancing Your Engagement in the Workplace

Landing a job can be very challenging in the competitive labour market. Typically, the resume gets you in the door, but the interview is where you close the deal. COOP 130 offers students an overview of interviews, (models/questions/techniques) and assists students with developing interview strategies that will lead to employment success. Also, students are introduced to relevant workplace topics that will assist with better or promote positive transitions into the workplace. Prerequisites: COOP 110, 120. 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. While on work term, the co-op program staff and the student's supervisor will monitor and evaluate the student's progress. 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. Three credits used to satisfy major subject elective or open or approved elective requirements in the BA and BSc degrees, and to satisfy BSAD elective or open elective requirements in the BBA degrees. In the BSc degrees, this course can be used to satisfy primary or secondary concentration designated elective or open elective requirements. Prerequisites: COOP 110, 120, 130, 401, 402 and 403. Three credits.

9.14 DEVELOPMENT STUDIES

J. Langdon, Ph.D., Co-ordinator

Advising Faculty

S. Dodaro, Ph.D.

N. Maltby, Ph.D.

Z. Ozkok, Ph.D.

J. Spring, Ph.D.

W. Tokarz, Ph.D.

S. Vincent, Ph.D.

R. Wyeth, Ph.D.

Department

Economics

Business Administration

Economics

Political Science

Modern Languages

Anthropology

Biology

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 seminar course, students 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. Prerequisites: 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 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**203 Climate Change and People: Issues, Interventions, Citizen-led Actions, and Solutions**

Conducted from a global perspective, this course is intended for students who wish to broaden their understanding of the present and future impacts of climate change on societies, including the social justice elements of the issues. The course also focuses on the interventions that are being made to combat the impacts of climate change – from global policies to community-level actions. Students will be equipped to articulate the world-wide impacts of climate change, how it impacts people at a community level, and how citizen led action can lead to positive change. Cross-listed as CLEN 201. Prerequisite: CLEN 101, or permission of the instructor. 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 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 or DEVS 201 and 202. 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. Cross-listed as HIST 257. 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 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 Global Political Economy

This course examines the politics of international economic relations. Topics include transnational corporations and the globalization of production, the multilateral trade system and regionalism, the global monetary and financial system, and economic development in the global South. Cross-listed as PSCI 354. Prerequisites: PSCI 101/102 (100) or DEVS 201, 202; PSCI 251/252 recommended. Three credits.

355 Global Issues

This course examines the state's supremacy and its capacity to manage such global issues as: transnational flows of goods, services, money, and ideas; the phenomenon of failed states in the post-Cold War period; global environmental issues; weapons proliferation; terrorism and other forms of transnational crime; and the rise of transnational social activist groups. Cross-listed as PSCI 355. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (251/252 recommended) or DEVS 201, 202. 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	PSCI 316	Dictatorships	3
AQUA 201	Rivers, Lakes and Freshwater Governance	3	PSCI 322	Atlantic Canada	3
AQUA 202	The Ocean's Commons and Society	3	PSCI 325	Indigenous Politics in Canada	3
Biology		Credits	PSCI 335	Human Rights & International Justice	3
BIOL 221	Issues in Resource Management	3	PSCI 344	Citizenship and Identity	3
BIOL 345	Communities and Ecosystems	3	PSCI 345	Women and Politics	3
BIOL 407	Integrated Resource Management	3	PSCI 353	International Organizations	3
Business Administration		Credits	PSCI 354*	Global Political Economy	3
BSAD 352*	Social Entrepreneurship	3	PSCI 355*	Global Issues	3
BSAD 357	International Business	3	PSCI 358	International Security	3
BSAD 358	Business Ethics	3	PSCI 363	Politics of East Asia	3
Catholic Studies		Credits	PSCI 371*	Political Economy of Development	3
CATH 341	Catholic Social Thought	3	PSCI 372	Iran and the Muslim World	3
Earth Sciences		Credits	PSCI 391	Democratization & Development in Latin America	3
ESCI 272	Global Change and Climate System	3	PSCI 395	Mexican Politics	3
ESCI 273	Health and the Environment	3	Nursing		Credits
ESCI 274	Health Impacts of Global Environmental Change	3	NURS 364	Social Justice and Health	3
Economics		Credits	Sociology		Credits
ECON 211*	Local & Community Development Economics	3	SOCI 212	Social Dissent	3
ECON 241	Canadian Economic Prospects and Challenges	3	SOCI 217	Race, Class, Gender, Sex	3
ECON 281	Environmental Economics	3	SOCI 242	Technology & Society	3
ECON 305*	Economic Development I	3	SOCI 243	Consumer Society	3
ECON 306*	Economic Development II	3	SOCI 247	Environmental Social Science I: Problems & Paradigms	3
ECON 361	Human Resources and Labour Economics	3	SOCI 248	Environmental Social Science II: Power and Change	3
ECON 365	International Trade	3	SOCI 254	Social Class as Lived Experience	3
ECON 366	International Payments and Finance	3	SOCI 310	Gender	6
ECON 381	Natural Resource Economics	3	SOCI 322*	Antigonish Movement as Change & Development	3
English		Credits	SOCI 328	Social Inequality	3
ENGL 245	Postcolonial Literature	3	SOCI 335	Canada's Indigenous Peoples	3
ENGL 347	Literature of Africa and the African Diaspora	3	SOCI 356	Intercultural Relations: Contexts & Controversies	3
History		Credits	SOCI 360	Social Policy	6
HIST 228	History of Maritime Provinces, Pre-Confederation	3	SOCI 364	Food and Society	3
HIST 229	History of Maritime Provinces, Post-Confederation	3	SOCI 366	Coastal Communities	3
HIST 233	French Imperialism	3	SOCI 424	Women and Work	3
HIST 255	History of Colonial Latin America	3	SOCI 433	Advanced Problems in Environment and Society	3
HIST 256	History of Modern Latin America	3	Women's and Gender Studies		Credits
HIST 257	Canada and the Global South	3	WMGS 217	Race, Class, Gender, Sex	3
HIST 283	Making Britain Great	3	WMGS 310	Gender	6
HIST 303	The Working Class in Early Canadian Society	3	WMGS 345	Women and Politics	3
HIST 304	The Working Class in Modern Canada	3	WMGS 364	Social Justice and Health	3
HIST 317	Canadian Women and Gender History: From Colony to Nation	3	WMGS 424	Women and Work	3
HIST 318	Canadian Women's and Gender History: Modernity	3	Notes:	*Cross-listed as DEVS courses.	
HIST 322	Canadian Immigration, Race & Ethnicity to 1896	3		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).	
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			
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 241	Business and Government	3			
PSCI 251	Foundations of Global Politics	3			
PSCI 252	Contemporary Global Politics	3			
PSCI 291	Violence, Conflict and Politics	3			
PSCI 315	Democratization	3			

9.15 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 major, advanced major and honours 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.

Students wishing to pursue a career in Earth sciences or a related field, who wish to register as a Professional Geoscientist (P. Geo) should follow the Professional Geoscience program streams listed below. Students seeking educational requirements for Registration as Professional Geoscientists or Environmental Geoscientists should ensure they have consulted the appropriate professional body to identify the knowledge requirements. Students intending to pursue these streams are required to meet with an academic advisor in the first term of year one and once a year in subsequent years.

Geoscience Concentration

Candidates must follow the degree regulations and program patterns outlined in chapter 7 and complete:

Foundations: ESCI 171, 172; MATH 106 or 126, 107 or 127;
CHEM 101, 102 or 121, 122; 6 credits of first year PHYS
and/or BIOL

Fundamentals: ESCI 201, 202, 215, 216, 245, 285, 301, 305, 375

Additional ESCI courses to meet degree requirements.

Professional Geoscience Stream

Candidates must follow the degree regulations and program patterns outlined in chapter 7 and complete:

Foundations: ESCI 171, 172; MATH 106 or 126, 107 or 127; CHEM 101, 102 or 121, 122; PHYS 101, 102 or PHYS 121, 122; 9 additional credits in BIOL, CHEM, PHYS, MATH, STATS, computer programming (must spread these credits over 3 subject areas to meet PGeo requirements)

Fundamentals: ESCI 201, 202, 215, 245, 301, 302, 305, 365, 372, 373, 375, 446

Other Geoscience Courses: 18 credits of ESCI 216, 265, 266, 272, 285, 374, 386, 406, 426, 435, 465, 472, 476, 493, 499

Environmental Earth Science Concentration

Candidates must follow the following degree regulations and program patterns outlined in chapter 7 and complete:

Foundations: ESCI 171, 172; MATH 106 or 126, 107 or 127; CHEM 101, 102 or 121, 122; 6 credits of first year PHYS and/or BIOL

Fundamentals: ESCI 201, 215, 265, 266, 376, 406, 472; CLEN 202/ESCI 272
Additional ESCI or designated courses (CLEN 303, 304) to meet degree requirements

Professional Environmental Geoscience Stream

Candidates must follow the following degree regulations and program patterns outlined in chapter 7 and complete:

Foundations: ESCI 171, 172; MATH 106 or 126, 107 or 127; CHEM 101, 102 or 121, 122; 6 credits of first year PHYS and/or BIOL;
9 additional credits in BIOL, CHEM, PHYS, MATH, STAT, computer programming course (must spread these credits over 3 subject areas to meet PGeo requirements)

Fundamentals: ESCI 201, 202, 215, 245, 266, 305, 365, 372, 373, 375 or 376

Other Geoscience courses: 24 credits of ESCI 265, 272, 278, 285, 301, 302, 374, 386, 406, 426, 435, 446, 465, 472, 476, 493, 499

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 101, 102 or 121, 122, 221, 222, 231, 232, 245, 265; MATH 106 or 126, 107 or 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, 266, CLEN 202/ESCI 272, 375 or 376, 305, 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, CLEN 202 or ESCI 272, 285, 386; 27 credits BIOL; CHEM 101, 102 or 121, 122, 225, 255; MATH 106 or 126, 107 or 127; CSCI 135; 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 171, 172, 201, 215, 216, 266, 305, 365; 12 additional ESCI credits
Science B	12 credits: MATH 106 or 126, 107 or 127; any 6 additional credits MATH or STAT
Science C	CHEM 101, 102 or 121, 122
BSAD	BSAD 101, 102, 471; 12 credits from 221, 223, 231, 241, 261, 281; 9 credits BSAD electives
CSCI	CSCI 135
ECON	ECON 101, 102
Arts X	12 credits
Arts Y	6 credits
Approved electives	9 credits BIOL, CHEM, CSCI, ESCI, MATH or PHYS

Earth Sciences and Chemistry

ESCI 171, 172, 201, 202, 215, 216, 375 or 376, 301, 302 or 435, 305, 406; CHEM 101, 102 or 121, 122, 221, 222, 231, 232, 245, 265, 341, 342, 361, 362; MATH 106 or 126, 107 or 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, 265, 375 or 376, CLEN 202/ ESCI 272, 475 (for additional credits, consult the Earth sciences department chair); 36 credits MATH; CHEM 101, 102 or 121, 122; 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, 265, CLEN 202/ESCI 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 101, 102 or 121, 122, 231 and 232 or 245 and 265; MATH 106 or 126, 107 or 127, 253, 267, 367; additional ESCI, arts and elective courses as outlined in section 7.1; interdisciplinary thesis and seminar.

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 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 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; CHEM 101, 102 or 121, 122, concurrent with permission. 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. Prerequisite: ESCI 171. Three credits and lab.

216 Earth History

An overview of the evolution of planet Earth from its origin some 4.6 billion years ago to the present. Students will examine changes in the distribution and character of continents and ocean basins, mountain ranges, continental glaciers and other features of the Earth's surface in light of plate tectonic theory, while studying the evolution of plant and animal life as revealed by fossils. Prerequisite: ESCI 171. 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.

265 Data Analysis in Earth and Environmental Sciences

An assortment of data analysis methods used by the Earth and environmental scientists, in both industry and research. This course will introduce students to mathematical tools that form the foundation of data analysis and to techniques for data analysis using modern scripting languages. The course provides an introduction to matrices and arrays, data conditioning, analysis and statistics, visualization, and elementary numerical methods. Credit will be granted for only one of ESCI 265 or ESCI 246. Prerequisite: ESCI 172 or CLEN 102; or permission. Three credits and lab.

266 Hydrology

A study of the water cycle on land, this course covers the processes controlling: stream flow, soil water, groundwater flow, glaciers and ice sheets, 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. Credit will be granted for only one of ESCI 266 or ESCI 366. Prerequisites: ESCI 171, 172 or AQUA 100, or CLEN 101, 102. Three credits and lab.

272 Understanding Climate Change

An understanding of the impacts of climate change has become crucial for areas of governance, business, engineering and diverse fields of science. This course will provide students with a qualitative understanding of climate processes and climate models, as well as an understanding of uncertainty in future climate change and limitations to model simulations. In addition, the impacts of climate change to many aspects of human societies will be explored. Cross-listed as CLEN 202. Prerequisite: ESCI 172 or CLEN 101 or 102. 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 Climate 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 global pollutants, atmospheric composition, climate sensitive diseases, 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 101, 102 or 121, 122, and one of PHYS 100, 101/102, 120, 121/122. Three credits. Offered 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. Offered in alternate years.

305 Geochemistry

Covers of the processes of geochemistry, including equilibrium, saturation, precipitation, crystallization, partitioning, fractionation, dissolution, buffering, pH, and redox processes as these relate to the geochemistry of water, the atmosphere, and the solid Earth. Application of thermodynamic principles to geochemistry. Prerequisites: CHEM 101/102(100) or 120; ESCI 171; ESCI 172 or AQUA 100. Three credits and lab. Offered in alternate years.

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.

372 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. Credit will be granted for only one of ESCI 372 and ESCI 475. Prerequisites: ESCI 171, MATH 106/107 or 126/127; PHYS 101, 102 or 121, 122 or permission. Three credits and lab. Offered in alternate years.

373 Remote Sensing

This course introduces students to the principles of remote sensing, to measure Earth properties using airborne or satellite sensors. Remote sensing applications are diverse, and include weather forecasting, vegetation mapping, and mineral exploration. Topics include: physical properties of gases, aerosols, and Earth

surfaces; imagery types; passive multi- and hyper-spectral techniques; and active techniques including LiDaR. Prerequisites: ESCI 171,172 or CLEN 101,102 or ESCI 171, AQUA 101, and ESCI 246 or 265. First-year physics is recommended. Three credits and lab. Offered in alternate years.

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 BSAD 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 held at the beginning of third year. Prerequisites: ESCI 202, 215, 216, 245 or permission of the department chair. 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 172 or CLEN 102; ESCI 272/CLEN 202. 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. Three credits and lab. Offered in alternate years.

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: CLEN 102 or ESCI 172, ESCI 266 or permission. Three credits and lab. Offered in alternate years.

415 Special Topics in Earth Sciences

This course will cover selected current topics in Earth sciences. 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 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 246, 266, 305 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, 272 or CLEN 202; one of PHYS 100, 101/102, 121/122 or 120; MATH 106/126, 107/127. Three credits and lab. Offered in alternate years.

476 Advanced Geological Field Methods

A seven-day field camp in an important geological area, followed by structural and petrographic analysis, seminars and report writing during the term. Prerequisites: ESCI 245, 375. Three credits and lab. Offered in alternate years.

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.

9.16 ECONOMICS

D. Alessandrini, Ph.D.
S. Dodaro, Ph.D.
T. W. Leo, Ph.D.
B. Malloy, Ph.D.
Z. Ozkok, Ph.D.
J. Rosborough, Ph.D.
F. Summerfield, Ph.D.
G. Tkacz, Ph.D.
P. Withey, 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

- ECON 101, 102, 201, 202;
- 12 credits ECON

Students who take a minor in economics typically combine the minor with major in English, history, philosophy, political science, or sociology, or with the BBA degree.

BA Major Program

See chapter 4 for information on the degree pattern, declarations of major, advanced major and honours, advancement and graduation requirements.

- ECON 101, 102, 201, 202;
- 24 credits ECON with 12 at the 300 or 400 level;
- 3 credits MATH or STAT;

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

BA Advanced Major Program

- ECON 101, 102, 201, 202, 301, 302, 493;
- 6 credits of MATH or STAT; 3 credits must be calculus;
- 15 credits ECON with 6 at the 300 or 400 level.
- Registration in at least one 300- or 400-level ECON course in the winter term of the final year. A senior paper must be written in this course. At least 25% of the grade calculated for the winter term of the course must derive from this paper.

Other subjects and electives should be chosen in consultation with the department chair. Students interested in graduate work in economics are advised to apply for the honours program or take equivalent courses in the mathematical or quantitative area.

BA Major or Advanced Major in Economics with Minor in Business Administration

Candidates for a major or advanced major in economics may take a minor in business administration by fulfilling the normal requirements for the major or the advanced major degree and completing 24 credits in BSAD. The student will normally complete BSAD 101, 102; 12 credits from 221, 223, 231, 241, 261, 281 and six credits of BSAD electives.

BA Honours Program

- 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;
- a thesis supervised by a department member;
- 6 credits of calculus.

Students planning to pursue graduate work in economics are encouraged to take additional MATH courses.

BA Honours with a Subsidiary Subject

An honours degree in economics may be completed with a subsidiary subject. Candidates must follow the degree regulations established by the university and the requirements established by both departments; see *section 4.1 and the relevant department chairs*. Honours degrees with a subsidiary subject are offered in a wide range of disciplines.

The Department of Economics offers the following programs:

- BA Honours in Economics and 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:

- ECON 101, 102, 201, 202, 301, 302, 371, 372, 493, 494;
- 18 credits of ECON electives with at least 12 credits at the 300 or 400 level;
- a thesis supervised by a department member;
- 6 credits of calculus.

When economics is the subsidiary subject, students are required to complete:

- ECON 101, 102, 201, 202, 301, 302;
- normally 18 credits ECON electives with at least 6 credits at the 300 or 400 level;
- ECON electives may include ECON 493 with approval of the department chair;
- A course in quantitative methods (ECON 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:

- ECON 101, 102, 201, 202, 301, 302, 371, 372, 493;
- 15 credits ECON electives, including 6 at the 300 or 400 level;
- a minimum of 12 credits in MATH including STAT 231 and 6 credits of calculus.
- the 18 credits of approved electives are normally taken in math or science subjects;
- PHIL 213 is recommended.

B.Sc. Honours in Economics

See degree regulations in chapter 7. Degree requirements are:

- 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;
- a thesis supervised by a department member;
- a minimum of 12 credits in MATH, including 6 credits of calculus.
- the 18 credits of approved electives are normally taken in math or science subjects;
- 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. Prerequisites: ECON 101, 102. 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. Prerequisites: ECON 101, 102. 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. Prerequisites: ECON 101, 102. 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. Prerequisites: ECON 101, 102. 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. Prerequisites: ECON 101, 102. 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. Prerequisites: ECON 101, 102. 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, misspecified structures, multicollinearity, heteroskedasticity, 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.

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.

9.17 EDUCATION

A. Foran, Ph.D.
C. Gilham, Ph.D.
D. Graham, Ed.D.
L. Kearns, Ph.D.
L. Lunney Borden, Ph.D.
L. MacDonald, Ph.D.
K. MacLeod, Ph.D.
L. McKee, Ph.D.
J. Mitton-Kukner, Ph.D.
A. Murray Orr, Ph.D.
J. Orr, Ph.D.
D. Robinson, Ph.D.
I. Robinson, Ph.D.
R. Ryan, M.Ed.
E. Throop-Robinson, Ph.D.
J. Tompkins, Ed.D.
R. Thomas, Ph.D.
W. Walters, Ph.D.
R. White, Ph.D.
M. Williams, Ph.D.
D. Young, Ph.D.

Part Time

C. Boulter, Ph.D.
G. Hadley, M.Ed.
W. MacAskill, Ph.D.
S. MacDonald, M.Ed.
A. McNeil-Wilson, M.Ed.
M. Olson, Ph.D.
G. Patterson, M.Ed.
R. Wolf, M.Ed.

Senior Research Professor
M. Meyer, Ph.D.

See chapter 6 for B.Ed. regulations and chapter 8 for M.Ed. regulations. Candidates are required to complete all of the courses shown below for the elementary or secondary division.

9.17.1 Bachelor of Education**Program Dates 2019-2020**

Thursday, September 5	Year 1 orientation
Monday, September 9	B.Ed. registration
Tuesday, September 10	First day of classes, B.Ed. program
Friday, September 13	Last date to change first-term courses
Thursday, October 24	Fall pause
Wednesday, November 6	Last day of classes for B.Ed., first term
Thursday, November 7	Building bridges to practicum
Wednesday, November 13	First day of B.Ed. practicum
Friday, December 20	Last day of B.Ed. practicum
Monday, January 13	First day of classes, second term
Friday, January 17	Last date to change second term courses
Thursday, February 27	Winter pause
Wednesday, March 11	Last day of classes for B.Ed.
Thursday, March 12	B.Ed. Synthesis Day
March 16-20	B.Ed. mid-term recess
Monday, March 23	First day of B.Ed. practicum
Tuesday, April 28	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, 415, 434, 436, 463, 468, 481, 482; 9 credits EDUC electives with at least 3 from EDUC 418, 426, 442 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 and one-half weeks of supervised practicum. Three credits.

472 Internship II

Students are placed in schools for five and one-half 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 and one-half weeks of supervised practicum. Three credits.

482 Internship IV

Students are placed in schools for five and one-half 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.

415 Integration of Curriculum (E2)

This course provides an understanding of the content of the elementary school curriculum and of the potential for the integration of elementary subjects into language arts and mathematics, and the development of a rationale and strategies for teaching an integrated approach. 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

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**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.

418 Physical Education and Health for Elementary Teachers

This course is designed to provide pre-service elementary/middle school pre-service teachers with foundational knowledge and practical experiences related to health education and physical education in elementary/middle school communities. Additionally, this course will introduce concepts related to physical literacy, daily physical activity (DPA), cross-curricular planning, and Health Promoting Schools (HPS). 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.

441A Curriculum and Instruction in Business I

This is an introductory course in methodology for teaching business and related subjects in the public school curriculum. Attention will be given to the teaching of accounting techniques, business management, and technology. This is a required for student with a business teachable. Three credits.

441B Curriculum and Instruction in Business II

This is a second course of methodology for teaching business and related subjects in the public school curriculum. Attention will be given to the teaching of entrepreneurship, business law, economics, and business ethics. This is a required for student with a business teachable. 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 strategies that foster a life-long commitment to outdoor education, as a part of a physical education program in public school. They will experience a range of outdoor pursuits: paddling (canoe/kayak), navigation, Geocaching, hiking and backpacking, mountain biking, Nordic skiing, snowshoeing, archery, and camping (including winter camping). Each pursuit will include an overview of risk management and emergency procedures to support a skills progression that is challenging, fun, safe, and inclusive. 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.

448A Curriculum and Instruction in Family Studies I

Students will be introduced to the three strands of the family studies curriculum: foods and nutrition; textile arts; family dynamics. They will have the opportunity to acquire the knowledge, skills and attitudes necessary to teach a comprehensive family studies program with an emphasis on junior high. The course will be offered in facilities made available in a public school setting. Three credits.

448B Curriculum and Instruction in Family Studies II

Students will be introduced to the three strands of the family studies curriculum: foods and nutrition; textile arts; family dynamics. They will have the opportunity to acquire the knowledge, skills and attitudes necessary to teach a comprehensive family studies program with an emphasis on senior high. The course will be offered in facilities made available in a public school setting. 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.

In addition, to EDUC 401, 402, 403, 404A and 404B, students will also complete EDUC 468, 513, 518, 520C and 544.

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-kindergarten 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 fulfil 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.

9.17.2 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 following acceptance into the program. As 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, and 508. Normally, EDUC 506, 507, and 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 Thesis	12
Electives: in the thesis option	6
in the course-based option	18

Electives are to be selected from the graduate courses offered in education and should reflect the focus of study chosen by the student.

Curriculum and Instruction Stream	Credits
505 Introduction to Educational Research	3
506 Quantitative Research Methods in Education	3
or	
507 Qualitative Research Methods in Education	3
or	
508 Critical Research Literacy in Education	3
527 Principles of Learning	3
532 Curriculum Theory	3
534 Introduction to the Foundations of Education	3
536 Program Development	3
599 Thesis	12
Electives: in the thesis option	6
in the course-based option	18

Electives are to be selected from the graduate courses offered in education and should reflect the focus of study chosen by the student. No substitution or transfer of credit will normally be allowed in the core courses.

501 Program Evaluation and School Data Management

This course will explore the purposes, procedures, and strategies inherent in the design and implementation of effective program evaluations. Three credits.

505 Introduction to Educational Research

This introductory course covers reading and understanding educational research. Students will explore research issues and critically interpret the main types of research, including descriptive research, qualitative research, case studies, and empirical studies. Three credits.

506 Quantitative Research Methods in Education

An introduction to fundamental statistical concepts and methods, together with practical advice on their effective application to real-world problems. Students will explore the basic components of a research proposal. Prerequisite: EDUC 505. Three credits.

507 Qualitative Research Methods in Education

This course explores current qualitative methodologies used in educational contexts. Students will explore the components of a research proposal, and develop an understanding of methodologies such as phenomenology, ethnography, critical theory, narrative, and action research. Prerequisite: EDUC 505. Three credits.

508 Critical Research Literacy in Education

This course examines educational research issues and trends from the perspective of professional practice. Students will explore a variety of educational research publications in relation to their own educational context. Prerequisite: EDUC 505. Three credits.

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 evaluate 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.

9.17.3 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 administered 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.

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 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.

9.18 ENGINEERING

F. Comeau, Ph.D., P.Eng.
E.C. Oguejiofor, Ph.D., P.Eng., FEC

Part Time

P. Doiron, P.Eng.
Dunnewold, H., P.Eng.

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 121, 122; ENGR 121, 122, 128, 132, 136, 147; PHYS 121, 122; 6 credits of writing courses taken from one or a combination of ANTH, ART 141/142, ENGL, HIST, MUSI, PHIL, PSCI, RELS, or WMGS. 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 123, 211, 221, 222, 224, 232, 237, 242; 9 credits of the discipline-specific courses listed below: Chemical: ENGR 212, 227; CHEM 225 Civil: ENGR 212, 216, 235 Electrical: ENGR 238, 246; CSCI 162 Environmental: ENGR 212, 216, 235 Industrial: CSCI 162 and any two of ENGR 212, 216, 227, 231, 235, 238, 246; CHEM 225 Mechanical: ENGR 212, 231, 235 Mineral Resources: ENGR 212, 216, 235

For up to date information, please visit the department website: <http://www2.mystfx.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.

128 Engineering Design and Graphics

Introduces the engineering profession through graphics and design. The engineering graphics language is presented through free hand sketches, instrument and computer-aided drawings. Students develop and enhance visualization skills as well as the ability to produce and interpret simple drawings. Students complete a design project that includes drawings and a report. Credit will be granted for only one of ENGR 128, 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.

147 Engineering Computer Programming

An introduction to computer programming with a focus on engineering applications. The basic programming control structures, data structures, and modularization will be covered using the C or C++ language. Students will implement programs on a traditional IDE. In addition, the Arduino platform will be used to interface software with hardware. Three credits and three-hour lab. Credit will be granted for only one of ENGR 147, ENGR 144, ENGR 198 (2017-2018) or CSCI 161. Cross-listed as CSCI 161. Prerequisite: ENGR 132. Three credits and two-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 121/122(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 Chemical Engineering

Covers mass and energy balances for reacting and non-reacting chemical processes. Topics include the system of units; processes and process variables; mass balances for single-phase and multi-phase systems; Gibbs phase rule; Raoult's law; Henry's law; colligative properties; energy balances; combined mass and energy balances on reactive and non-reactive processes and on transient processes. Prerequisite: CHEM 121/122(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, 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.

9.19 ENGLISH

M. D'Arcy, Ph.D.
L. Estill, 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

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
341 Shakespeare and Marlowe
491 Selected Topics: Shakespeare and the Bible

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

243 The Protomodern American Novel
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
492 Selected Topics: Grit, Mindset, Determination

20th- and 21st-Century Literature

201 Science Fiction and Fantasy
211 Introduction to Film and Media Studies
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
379 American Literature

Canadian Literature

263 Canadian Literature I: 18th and 19th Centuries
264 Canadian Literature II: The 20th-Century and After
338 Canadian Drama
365 Canadian Fiction
366 Topics in Canadian Literature

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

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 enrolling in a 300- or 400-level course. All prospective majors should attend an advising session normally held in March.

Advanced Major Program

Advanced majors in English 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 enrolled 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 2019-2020.

207 World Masterpieces II: Medieval and Renaissance

"Imagination, Dream and Vision." An introduction to masterpieces in Western literature, in translation, focused on medieval and Renaissance/early modern Europe. Texts might include *The Dream of the Rood*, *The Wife of Bath's Tale*, excerpts from *The Faerie Queene*, *The Rime of the Ancient Mariner* and *The Eve of Saint Agnes*. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

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. Not offered 2019-2020.

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.

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. Not offered 2019-2020.

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. Not offered 2019-2020.

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.

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 2019-2020.

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 2019-2020.

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 Larkin, 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. Not offered 2019-2020.

243 The Protomodern American Novel

"Grit, Opportunity, (In) equality." American stories and novels from the 19th and 20th century raise questions about whether equality is an ideal in name only. Are all opportunities equal? Are playing fields level? Does effort matter? How do race, gender and class affect one's chances? How do stories help us understand these problems? Credit will be granted for only one of ENGL 243 and ENGL 344. Three credits. Not offered 2019-2020.

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 2019-2020.

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. Not offered 2019-2020.

254 Topics in 18th Century Literature

Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits. Not offered 2019-2020.

256 The British Novel, 1850-1900

A study of 19th-century novels from the Regency through the early Victorian period. Works may include novels by Jane Austen, Walter Scott, the Brontës, and William Makepeace Thackeray, as well as Charles Dickens's early novels. Prerequisites: ENGL 100 or 111/112. 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 2019-2020.

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. Not offered 2019-2020.

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.

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.

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.

295 Selected Topics

Prerequisite: ENGL 100 or 111/112, or 110, or equivalent. 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. Not offered 2019-2020.

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.

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. Not offered 2019-2020.

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 2019-2020.

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. Not offered 2019-2020.

319 Topics in Film Studies

Postwar European Cinema: Movements and Directors. 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.

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 2019-2020.

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 2019-2020.

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 2019-2020.

334 The Western

This course will survey the western, from its contemporary origins in newspapers and dime novels through to the revisionist texts of the 60s-80s, and then to current generic mash-ups (the horror western, the curry western). Texts could include novels (Wister's *The Virginian*), radio and TV (*The Lone Ranger*), film (*The Searchers*, *Pale Rider*), and graphic novels (*Preacher*). Prerequisite: 9 credits ENGL. Three credits.

337 Children's Literature: Genres and Themes

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. Not offered 2019-2020.

341 Shakespeare and Marlowe

A study of Shakespeare's work in comparison with his early contemporary dramatist and poet, Christopher Marlowe. Prerequisite: 9 credits English. 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. Not offered 2019-2020.

353 Tolkien and the Inklings

"Versus." This course will put "traditional" fantasy authors such as Tolkien and Lewis up against those authors who question or write against them, such as Philip Pullman, Madeline L'Engle, and George R. R. Martin. Prerequisites: 9 credits English. Three credits.

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 *The Female Husband*, and Sterne's *Tristram Shandy*. Prerequisite: 9 credits ENGL. Three credits. Not offered 2019-2020.

365 Canadian 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 only be granted for only one of ENGL 365 and 367. Prerequisite: 9 credits English. Three credits.

366 Topics in Canadian Literature

Prerequisite: 9 credits ENGL. Three credits. Not offered 2019-2020.

388 Heroic Literature of the Middle Ages

Knights and Comics. A study of medieval texts and their reception, especially graphic novels. Texts may include Malory's *Morte Darthur* and other Arthurian poems, crusade romances, Norse myth, Marvel's Thor books, Vertigo's *The Royals*, *Camelot 3000*, and others. Medieval texts will be read in the original language. Prerequisite: 9 credits ENGL. Three credits. Not offered 2019-2020.

389 Chaucer's Contemporaries

Prerequisite: 9 credits ENGL. Three credits. Not offered 2019-2020.

397 Selected Topics in Literature I

Prerequisite: 9 credits ENGL. Three credits.

398 Selected Topics in Literature II

Prerequisite: 9 credits ENGL. Three credits. Not offered 2019-2020.

Notes: Normally students enrolling 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 2019-2020 is Shakespeare and the Bible. This course will study the relationship between two of the most influential works in the history of writing: the Bible and Shakespeare's First Folio (selected plays). The course will assume that students may be familiar with either Shakespeare or the Bible, but not necessarily both. The course will explore biblical patterns and allusions in order to study their impact on Shakespeare's plays. Five to six plays of different genres will be studied.

Prerequisites: third-year standing and 15 credits ENGL. Three credits. *Subject to Dean's approval.*

492 Selected Topics II

The topic for 2019-2020 is Grit, Mindset, Determination. Is grit better understood as a character trait one possesses or a condition from which one tries to emerge? Can one will oneself to outcomes? Contemporary educational and psychological theorists argue that developing grit is essential to achieving one's potential. This seminar examines a set of American novels that explore the complications involved in making grit into a personal attribute. Prerequisites: third-year standing and 15 credits English. Three credits. *Subject to Dean's approval.*

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.

» **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.

HLTH 101, 102, 201, 202, 203, 301, 302, 401, and 402 are restricted to students enrolled in the BASc in Health program.

Bachelor of Arts and Science in Health

- 24 credits of core courses: HLTH 101, 102, 201, 202, 301, 302, 401, 402.
- BIOL 111, 112; CHEM 101, 102; PSYC 100; SOCI 101, 102. The 12 credits of BIOL and CHEM are included in the biomedical concentration; the 12 credits of PSYC and SOCI are included in the social determinants and health equity concentration.
- 48 credits in primary concentration: HLTH 203; STAT 101; 12 credits from requirement (b); 30 credits from designated courses.
- 24 credits in secondary concentration: 12 credits from requirement (b); 12 credits from designated courses.
- 12 credits from health humanities and health ethics designated courses, to include a minimum of 3 credits from health ethics options.
- 12 credits of open electives.
- 100-level restriction: in the primary concentration, a maximum of 18 credits at the 100-level (not including STAT 101); in the secondary concentration, a maximum of 12 credits at the 100-level, which are fulfilled by courses in requirement (b).
- 300- and/or 400-level requirement: a combined minimum of 12 credits of 300- and/or 400-level courses in the primary and secondary concentrations.
- In addition to the 12 credits of health humanities, a minimum of 24 credits of arts courses. The arts courses in requirement (b) fulfill 12 of these required credits.
- A minimum of 24 credits of science courses. The science courses in requirement (b) fulfill 12 of these required credits. 12 credits must be courses with laboratory components at the 200-level or above. Psychology falls within the Faculty of Arts, therefore, labs courses in psychology cannot fulfill this requirement.

Bachelor of Arts and Science with Honours in Health

The requirements are the same as those for the program above, with the following exceptions:

- HLTH 490 is required in the primary concentration, for a total of 54 credits.

- There are 6 credits of open electives.
- The honours program requires a combined minimum of 18 credits of 300- and/or 400-level courses (including HLTH 490) in the primary and secondary concentrations.

Biomedical as Primary Concentration (BIME)

Year 1	BIOL 111, 112; CHEM 101/102; 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)

Years 1 & 2	same as program 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

Social Determinants and Health Equity as Primary Concentration (SDHE)

Year 1	BIOL 111, 112; CHEM 101/102; 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)

Years 1 & 2	same as program 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. COOP 405 can be used as a primary or secondary concentration designated elective, or as an open elective. See section 9.13 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. Prerequisite: HLTH 101. 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.

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

Under the direction of a faculty member, students may pursue an individual program of study in an area of health not available in the course offerings. For eligibility, see section 3.5. Three credits.

BIOMEDICAL DESIGNATED COURSES

Departmental prerequisites will apply.

		Credits
Biology		
BIOL 204	Introduction to Genetics	3, lab
BIOL 251	Human Anatomy and Physiology I	3, lab
BIOL 252	Human Anatomy and Physiology II	3, lab
BIOL 315	Introductory Microbiology	3, lab
BIOL 317	Molecular Biology	3, lab
BIOL 220	Biology of Cancer	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		
BSAD 352	Social Entrepreneurship	3
BSAD 356	Entrepreneurship / New Venture Development	3
Co-operative Education		
COOP 405	Work Term and Integrated Learning	3
Chemistry		
CHEM 220	Organic Chemistry	6, lab
CHEM 225	Principles of Organic Chemistry	3, lab
CHEM 255	Introductory Biochemistry	3, lab
CHEM 355	Advanced Biochemistry	3, lab
CHEM 455	Medicinal Chemistry	3, lab
Computer Science		
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		
HKIN 136	Foundations of Sport and Exercise Psychology	3, lab
HKIN 215	Introduction to Motor Control and Learning	3, lab
HKIN 265	Exercise Physiology	3, lab
HKIN 395	Disability, Health and Community Rehabilitation	3
HKIN 416	Control of Human Movement	3, lab
HKIN 425	Child Growth and Development	3, lab
HKIN 466	Clinical Exercise Physiology	3
HKIN 492	Exercise Metabolism	3
Human Nutrition		
HNU 161	Food and Nutrition for Health in Society	3
HNU 261	Introduction to 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		
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		
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	Introduction to Clinical Psychology	3

*Psychology falls within the Faculty of Arts, therefore, labs courses in psychology cannot fulfill this 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
Co-operative Education		Credits
COOP 405	Work Term and Integrated Learning	3
Development Studies		Credits
DEVS 211	Local and Community Development Economics	3
DEVS 321	People and Development	3
Economics		Credits
ECON 101	Introductory Microeconomics	3
ECON 102	Introductory 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	Understanding Climate Change	3, lab
ESCI 273	Health and the Environment	3
ESCI 274	Health Impacts of Global Climate 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 Gender History: Modernity	3
HIST 332	The Medieval Body	3
HIST 360	Gender and Sexuality in Modern European Empires	3
HIST 398	Themes in the History of Sexuality	3
Human Kinetics		Credits
HKIN 226	Focus on Personal Health	3
HKIN 253	Sport Philosophy	3
HKIN 264	The Sociology of Sport	3
HKIN 332	Gender in Sport and Physical Activity	3
HKIN 354	Sport Morality	3
HKIN 426	Health Education	3
HKIN 433	Introduction to Policy for Health-Interdisciplinary Strategies	3
Human Nutrition		Credits
HNU 425	Nutrition in Aging	3
HNU 433	Introduction to Policy for Health-Interdisciplinary Strategies	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-Interdisciplinary Strategies	3
NURS 486	International Health and Development	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 335	Ethics in Health and Medicine	3
Political Science		Credits
PSCI 101	Introduction to Power and Politics	3
PSCI 102	Introduction to Comparative & Global Politics	3
PSCI 221	Canadian Politics I: Structures & Institutions	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
Public Policy and Governance		Credits
PGOV 101	Modern Challenges for Public Policy and Governance	3
PGOV 201	Public Policy	3
PGOV 301	Comparative Public Policy	3
Religious Studies		Credits
RELS 111	World Religions I: Compassionate Global Citizenship	3
RELS 112	World Religions II: Compassionate Global Citizenship	3
RELS 117	Ethical Principles for Health Care Providers	3
RELS 120	Religion, Spirituality, and Health	6
RELS 297	Selected Topics: - An Owner's Manual	3
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 217	Race and Identities	3
SOCI 221	Marriage and Family Life	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 254	Experiencing Social Class	3
SOCI 313	Conceptions of Disability	3
SOCI 314	Disability and Culture	3
SOCI 335	Sociology of Canada's Indigenous Peoples	3
SOCI 364	Food and Society	3
SOCI 417	Social Difference: Race, Ethnicity, Gender, Class, Sex, and Disability	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 217	Race, Class, Gender and Sex	3
WMGS 221	Sociology of Marriage and Family Life	3
WMGS 317	Canadian Women's and Gender History: From Colony to Nation	3
WMGS 318	Canadian Women's History: Modernity	3
WMGS 327	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 European Empires	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

HEALTH HUMANITIES DESIGNATED COURSES

Departmental prerequisites will apply.

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 European Empires	3
HIST 398	Themes in the History of Sexuality	3

Human Kinetics		Credits
HKIN 253	Sport Philosophy	3
HKIN 354	Sport Morality	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 294	Selected Topics: Mindfulness: How to Cope with Hard Things	3
RELS 297	Selected Topics: - An Owner's Manual	3
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 333	The Medieval Body	3
WMGS 370	Gender and Sexuality in Modern European Empires	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 335	Ethics in Health and Medicine	3
Religious Studies		Credits
RELS 117	Ethical Principles for Health Care Providers	3

9.21 HISTORY

N. Forestell, Ph.D.
 C. Frazer, Ph.D.
 S. Kalman, Ph.D.
 G. Lalonde, Ph.D.
 P. McInnis, Ph.D.
 R. Semple, Ph.D.
 L. Stanley-Blackwell, Ph.D.
 D. Trembinski, Ph.D.
 R. Zecker, Ph.D.

Senior Research Professor and Professor Emeritus
 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

- 6 credits from HIST 101, 102, 111, 112, 113, 115
- 18 additional credits above the 100 level
- Total: 24 history credits with at least 6 credits at the 300/400 level

Major Program

- 6 credits from HIST 101, 102, 111, 112, 113, 115
- 6 credits in Canadian history above the 100 level
- Total of 18 credits in a chosen concentration
- Total of 12 credits from areas outside the chosen concentration
- 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

- 6 credits from HIST 101, 102, 111, 112, 113, 115
- 6 credits in Canadian history above the 100 level
- HIST 445 (counts outside the chosen concentration)
- A senior seminar (counts in the chosen concentration; requires senior advanced major essay)
- Total of 18 credits in a chosen concentration
- Total of 12 credits from areas outside the chosen concentration
- 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

- 6 credits from HIST 101, 102, 111, 112, 113, 115
- 6 credits in Canadian history above the 100 level
- HIST 445 (counts outside the chosen concentration)
- A seminar (counts in the chosen concentration)
- Total of 33 credits in a chosen concentration (includes HIST 490)
- Total of 21 credits from areas outside the chosen concentration
- HIST 490 (Thesis, 6 credits) with a faculty member
- Total: 60 history credits with at least 24 credits at the 300/400 level.

Honours with a Subsidiary Subject

- 6 credits from HIST 101, 102, 111, 112, 113, 115
- 6 credits in Canadian history above the 100 level
- HIST 445 (counts outside the chosen concentration)
- A seminar (counts in the chosen concentration)
- Total of 27 credits in a chosen concentration (includes HIST 490)
- Total of 15 credits from areas outside the concentration
- HIST 490 (Thesis, 6 credits) with a faculty member
- 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. 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 early history of Western Civilization. Topics include: Classical Greece and the Roman Republic and Empire; Christianity; the Byzantine Empire; Islam; the Carolingian Empire; Feudalism and Manorialism; the Economic Revival; Medieval Society and Culture; the Growth of National Monarchies; the Age of Exploration and Discovery; the Renaissance and the Reformation. 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.

227 Canadian Business History

This course begins with the 1880s to investigate how Canada became one of the world's wealthiest nations. It explores the emergence of its financial markets, its entrepreneurial tradition, innovations in finance, management, and technology, the origins and growth of its regional, national and multinational corporations, its international trade relations and globalization. The course also examines the evolving relationship between commerce and society, and reviews economic shocks and disruptions generated by wars, depression, stock market bubbles and credit crashes. It concludes with an overall assessment of Canada's business development by considering the central arguments of the proponents and critics of capitalism in its Canadian form. Offered online only. 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.

236 Vikings! The Course

Vikings did more than plunder and pillage - they explored, farmed, and traded along vast travel networks that stretched from the east coast of Canada to the sophisticated cities of Constantinople and Baghdad in the East. Vikings! The Course will survey the spread of Norse influence and culture from their initial steps out of Scandinavia in the 8th century - attacking monasteries and cities - to the founding of Norse kingdoms in Normandy, Sicily and Novgorod. 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. Cross-listed as DEVS 257. 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 2018-2019 is Canadian Military History. This course will examine Canada's history of war and armed conflict from confederation to Afghanistan. Emphasis will be on the First and Second World Wars, peacekeeping, and the Cold War. Through this lens, the class will study not only Canada's role in global conflict, but how those conflicts changed and influenced the Canadian state and Canadian society to help create the nation that exists today. Three credits.

298 Selected Topics

The topic for 2018-2019 is History of the Canadian North. This course examines the history of the Canadian Arctic (defined as Canada north of 60°) from confederation to the present. Topics covered will include: development; security; sovereignty; international relations; and Inuit society. Particular focus will be placed on understanding the origins and evolution of certain issues which continue to make headlines in the 21st century, such as the status of the Northwest Passage, Arctic shipping, resource extraction, and jurisdictional disputes with foreign states. 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 Capitalism and Social Justice in Early Canada

This course traces the emergence of capitalism in early Canadian society. It examines the rise of this dynamic economic model for governments, entrepreneurs, and working people. The political and cultural aspects of the period between 1800-1919 will be analyzed from multiple perspectives including: gender, race, immigration, technological innovation, and workplace skills. Credit will be granted for only one of HIST 303 or HIST 309. Three credits.

304 Capitalism and Social Justice in Modern Canada

A continuation of HIST 303, this course broadens the analysis of modern capitalism and responses by working people to ongoing consequences of rapid economic and political change. Focusing on the challenges of world wars, depression, and globalization, between 1920- 21st Century, elements of state development, business innovation, and workers' responses will be discussed in detail. The course will conclude with an assessment of how Canada fits into a contemporary world of trade and labour. 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.

323 Canadian Immigration, Race, and Ethnicity from 1896

This course traces the history of Canadian immigration, settlement, ethnicity, race relations, and multiculturalism from 1896 to the present. 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 323 or HIST 310. Offered online only. Three credits.

324 Plagues and Peoples

Through in-depth case studies this course explores the impacts various epidemics had on historical cultures. Short-term medical responses will be examined along with longer-term economic, social, religious and cultural effects. Course content highlights how new scientific research has furthered understandings of historical diseases and how studying historical diseases can help prepare us for the next pandemic. Case studies may include cancer, plague, syphilis, smallpox, leprosy, cholera, influenza, HIV/AIDS and Ebola. 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's suffrage; radical pacifism; industrial unionism; anti-nuclear activism; McCarthyism; black civil rights; gay rights; and the conservative backlash of groups such as Moral Majority. 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.

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.

399 Selected Topics

The topic for 2018-2019 is From Museums to Video Games: Creating Public History in the 21st Century. This course examines the theory of public history while exploring the venues in which it is practiced: from historic sites and museums, to online exhibits and apps, to Hollywood films, Broadway plays, and video games. Through a combination of interactive lectures, discussions, and experimentation with the tools of public history, students investigate the tension between history and public memory, examine how public historians have addressed (or failed to address) difficult and controversial topics, and learn the skills required to create an effective and meaningful work of public history. Working together, students will employ these skills to complete a class public history project. 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:

- 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.
- 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

A. Casey, Ph.D.
 D. Kane, Ph.D.
 A. Kolen, Ph.D.
 M. Lam, Ph.D.
 S. Mackenzie, Ph.D.
 O. Nzindukiyimana, Ph.D.
 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 kinesiology or the pre-education, both of which are nationally accredited programs.

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, selected skill courses, arts/science electives, approved and open electives.

Depending on course selection, the major in kinesiology prepares students for a variety of professional and educational options: professional programs such as medicine, dentistry, physiotherapy, athletic therapy, occupational therapy, and massage therapy; direct employment in the health and fitness sector, including coaching, recreation therapy, fitness training; 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. 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 chapter 4 (BA) or chapter 7 (BSc).

The normal sequence for the human kinetics degrees are below.

Subject A is an arts minor in the BA HKIN.

Subject B is an arts pair in the BA HKIN.

Science A is a science minor in the BSc HKIN.

Science B is 6 credits of a second science in the BSc HKIN.

Arts X is an arts pair in the BSc HKIN.

Arts Y is 6 credits of a second arts subject in the BSc HKIN.

The HKIN sociocultural courses are 253, 264, 332, 352, 354, 431, 443, 455.

BA in Human Kinetics with Major in Kinesiology

Year 1	3 credits skills; HKIN 115, 136, 151, 152, 150 or 154; 6 credits arts subject A; 6 credits arts subject B
Year 2	3 credits skills; HKIN 215, 265; STAT 101; 6 credits HKIN electives; 6 credits arts subject A; 6 credits arts/science electives
Year 3	HKIN 376; one of HKIN 374, 396, 397; 3 credits HKIN sociocultural; 3 credits 300-level HKIN elective; 6 credits arts subject A; 6 credits art/science electives; 6 credits approved electives
Year 4	3 credits HKIN sociocultural; 3 credits 400-level HKIN elective; 6 credits HKIN electives; 6 credits arts subject A; 6 credits arts subject B; 6 credits open electives

BA in Human Kinetics with Major in Pre-Education

Year 1	3 credits skills; HKIN 115, 136, 151, 152, 150 or 154; 6 credits arts subject A; 6 credits arts subject B
Year 2	3 credits skills; HKIN 215, 265; 3 credits HKIN elective; 6 credits arts subject A; 6 credits arts subject B; 6 credits arts/science electives
Year 3	3 credits skills; HKIN 376, 385; 3 credits HKIN sociocultural; 6 credits arts subject A; 6 credits arts/science electives; 6 credits approved electives
Year 4	3 credits skills; HKIN 425, 426; 3 credits HKIN sociocultural; 3 credits 300-level HKIN elective; 3 credits 400-level HKIN elective; 6 credits arts subject A; 6 credits open electives

The 12 credits of skill courses must be HKIN 127, 137, 141, 227; one of HKIN 125, 139, 143, 147; one of HKIN 126, 146, 148, 202; one of HKIN 119, 121, 122, 123, 124, 128, 129, 131, 132, 133, 134, 135, 140, 142, 144, 149; one additional 200-level skill course.

BA in Human Kinetics with Major in Kinesiology and Minor in Sport Management

Year 1	3 credits skills; HKIN 115, 136, 151, 152; HKIN 150 or 154; SMGT 101; 6 credits arts subject B; 3 credits arts/science elective
Year 2	3 credits skills; HKIN 215, 264*, 265, 352*; STAT 101; BSAD 231, 261; 6 credits arts/science electives
Year 3	HKIN 376; one of HKIN 374, 396, 397; 3 credits 300-level HKIN elective; 3 credits HKIN elective; SMGT 322, 327; 3 credits SMGT designated course; 3 credits arts/science elective; 6 credits approved electives
Year 4	3 credits 400-level HKIN elective; 9 credits HKIN electives; SMGT 423; 3 credits SMGT designated course; 6 credits arts subject B; 6 credits open electives

*HKIN 264 and 352 fulfill the 6 credits of required sociocultural courses.

Sport Management Designated Courses for BA in Human Kinetics

Departmental prerequisites will apply.

Business Administration		Credits
BSAD 221	Introductory Financial Accounting	3
BSAD 223	Introductory Managerial Accounting	3
BSAD 281	Foundations of Business Information Technology	3
BSAD 333	Professional Sales: Building Relationships	3
BSAD 356	Entrepreneurship/New Venture Development	3
BSAD 384	Data Management and Analytics	3
Economics		Credits
ECON 291	Economics of Leisure, Recreation and Sports	3
Sociology		Credits
SOCI 387	Hockey and Canadian Culture	3

B.Sc. in Human Kinetics with Major in Kinesiology

Year 1	3 credits skills; HKIN 115, 136, 151, 152; 150 or 154; 6 credits science A; 6 credits science B (or arts X)
Year 2	3 credits skills; HKIN 215, 265; STAT 101; 6 credits HKIN electives; 6 credits science A, 6 credits arts X (or science B - see year 1)
Year 3	HKIN 376; one of HKIN 374, 396, 397; 3 credits 300-level HKIN elective; 3 credits HKIN elective; 6 credits science A; 6 credits arts Y; 6 credits approved electives
Year 4	3 credits HKIN sociocultural; 3 credits 400-level HKIN elective; 6 credits HKIN electives; 6 credits science A; 6 credits arts X; 6 credits 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	3 credits skills; HKIN 115, 136, 151, 152; 150 or 154; 6 credits science A; 6 credits science B (or arts X)
Year 2	3 credits skills; HKIN 215, 265; 3 credits HKIN elective; 6 credits science A; 6 credits arts X (or science B - see year 1); 6 credits arts Y
Year 3	3 credits skills; HKIN 376, 385; 3 credits 300-level HKIN elective; 6 credits science A; 6 credits arts X; 6 credits approved electives
Year 4	3 credits skills; HKIN 425, 426; 3 credits HKIN sociocultural; 3 credits 400-level HKIN elective; 3 credits HKIN elective; 6 credits science A; 6 credits open electives

If science A is biology then science B is normally chemistry.

The 12 credits of skill courses must be HKIN 127, 137, 141, 227; one of HKIN 125, 139, 143, 147; one of HKIN 126, 146, 148, 202; one of HKIN 119, 121, 122, 123, 124, 128, 129, 131, 132, 133, 134, 135, 140, 142, 144, 149; one additional 200-level skill course.

B.Sc. in Human Kinetics with Major in Kinesiology and Minor in Health Sciences

Year 1	3 credits skills; HKIN 115, 136, 151, 152, 150 or 154; CHEM 101, 102; 6 credits arts X (ENGL, PSYC, or SOCI)*
Year 2	3 credits skills; HKIN 215, 265; STAT 101; 6 credits HKIN electives; BIOL 111, 112; CHEM 221, 222
Year 3	HKIN 376; one of HKIN 374, 396, 397; 3 credits 300-level HKIN elective; 3 credits HKIN elective; CHEM 255; PHYS 101, 102; one of BIOL 201 or 204**; 6 credits arts Y (ENGL, PSYC, or SOCI)*

Year 4 3 credits HKIN sociocultural; 3 credits 400-level HKIN elective; 6 credits HKIN electives; 6 credits arts X; 6 credits approved electives; 6 credits open electives

*Either arts X or arts Y must be ENGL.

**Recommend that BIOL 204 be completed in year three if planning BIOL 315 as an approved or open elective in year four.

B.Sc. in Human Kinetics with Major in Kinesiology and Minor in Nutrition

Year 1 3 credits skills; HKIN 115, 136, 151, 152, 150 or 154; CHEM 101, 102; BIOL 111, 112 (or 6 credits arts X)

Year 2 3 credits skills; HKIN 215, 265; STAT 101; 6 credits arts X (or BIOL 111, 112 - see year 1); 6 credits arts Y; 6 credits approved electives

Year 3 HKIN 376; one of HKIN 374, 396, 397; 3 credits HKIN elective; CHEM 225, 255; HNU 145, 261, 262; 6 credits arts X

Year 4 3 credits HKIN sociocultural; 3 credits 400-level HKIN elective; BIOL 215; HNU 363; 12 credits HNU electives; 6 credits open electives

For completion of B.Sc. in HNU in 5th year, see required course pattern below.

BA & B.Sc. in Human Kinetics with Honours

Students in the kinesiology honours program must complete, in addition to the major requirements, HKIN 491 (non-credit seminar) and 493 (thesis). HKIN 493 replaces an HKIN elective. In addition to HKIN 493, 6 credits of HKIN electives must be at the 400 level. Honours students with the nutrition minor will have only one HKIN elective, which must be a 400-level course.

Students in the pre-education honours program must complete, in addition to the major requirements, STAT 101; one of HKIN 374, 396, 397; 491 (non-credit seminar); and 493 (thesis). These additional 9 credits replace HKIN electives. The 6 credits of required 400-level HKIN electives for the honours degree are fulfilled by HKIN 425 and 426. The remaining 3 credits of HKIN elective may be at any level.

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

If human kinetics is science B, the required 36 credits of HKIN courses are HKIN 115, 136, 151, 152, 215, 265, 376; 6 credits HKIN skills; one of HKIN 150 or 154; 3 credits HKIN sociocultural; 3 credits HKIN elective. If human kinetics is science A, the required 42 credits of HKIN courses are the same as those for science B, plus one of HKIN 374, 396, 397 and HKIN 493 (for an advanced major thesis). Science C must be 6 credits of calculus.

See chapter 7 for basic degree requirements, and section 9.5 for biology requirements.

B.Sc. in Human Kinetics with Diploma in Engineering (Major in Kinesiology and Minor in Math)

Year 1 3 credits skills; HKIN 115, 136, 150 or 154; PHYS 121, 122; ENGR 121, 122, 128, 132

Year 2 3 credits skills; HKIN 151, 152, 215; CHEM 121, 122; ENGR 136, 147; 6 credits arts X*

Year 3 HKIN 265, 376; one of HKIN 374, 396, 397; ENGR 123, 221, 222, 224, 237; 6 credits arts Y*

Year 4 3 credits 300-level HKIN elective; 3 credits HKIN elective; ENGR 211, 232, 242; 9 credits ENGR electives; 6 credits MATH electives

Year 5 3 credits HKIN sociocultural; 3 credits 400-level HKIN elective; 12 credits HKIN electives; 6 credits arts X*

*Six credits from arts X and arts Y must fulfill the writing requirement for the Diploma in Engineering.

B.Sc. in Human Nutrition degree in 5th year for B.Sc. Human Kinetics students with Minor in Nutrition

B.Sc. Human Kinetics students majoring in kinesiology and minoring in 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 374, 396 or 397 will fulfil the requirement of HNU 384 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 405, 475, 21 credits HNU electives; 3 credits open elective

Students must submit re-entry application through Admissions.

Note: HKIN skills, 115, 151, and 152 are restricted to human kinetics students. Other HKIN courses are open to students outside of the human kinetics program with permission of the professor and the department chair.

Skills

Skills courses have a credit value of 1.5. Grades will be pass/fail and are not included in the academic average. The maximum number of skills for the pre-education major is 15 credits and for the kinesiology major is 12 credits. Credit will be granted for only one of the same or a similar skill. (i.e., if one previously took Outdoor Soccer in 2017-2018, then credit cannot also be granted for HKIN 132 Soccer).

The following 100-level skills will introduce students to the basic skills:

119	Aquatic Activities (snorkeling, water polo, aquafit)
121	Badminton
122	Ball & Wall (handball, squash, racquetball)
123	Basketball
124	Batting & Fielding (baseball, softball, cricket)
125	Contemporary Dance
126	Fitness
127	Gymnastics
128	Football
129	Hockey
131	Rugby
132	Soccer
133	Volleyball
134	Golf
135	Ice Games (power skating, ringette, broomball)
137	Low and Organized Games
139	Movement Education
140	Net Games (pickle ball, tennis, team handball, Sepak)
141	Outdoor Education Camps (Sep 20-22), (Oct 25-27)
142	ParaSport (goal ball, wheelchair basketball, sitting volleyball)
143	Social Dance
144	Target Games (curling, bowling, bocce)
145	Track & Field
146	Weight Training
147	World Dance
148	Yoga
149	Invasion/Territory Games (ultimate frisbee, lacrosse, field hockey)

The following 200-level skills involve advanced instruction and coaching instructional strategies and analysis:

202	Instructional Group Fitness
203	Judging and Officiating
227	Advanced Instruction in Gymnastics; prerequisite: HKIN 127
228	Advanced Instruction in Football; prerequisite: HKIN 128
229	Advanced Instruction in Hockey; prerequisite: HKIN 129
231	Advanced Instruction in Rugby; prerequisite: HKIN 131
232	Advanced Instruction in Soccer; prerequisite: HKIN 132
233	Advanced Instruction in Volleyball; prerequisite: HKIN 133

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.

136 Foundations of Sport and Exercise Psychology

This course provides an introduction to the basic concepts and principles of sport and exercise psychology, and how they apply to teaching, coaching, and fitness instruction. Credit will be granted for only one of HKIN 136 or HKIN 236. Three credits and lab.

150 Introduction to Sport in the Humanities

This course serves as an introduction to the philosophical and sociocultural dimensions of sport. Topics include the nature of sport, rules and values in sport, and avenues for further study of sport in the humanities. Issues to be addressed include the conceptualization of sport, the significance of sport, knowledge in sport, excellence in sport, the beauty of sport, right and wrong in sport, and the morality of sport. Three credits. Credit will be granted for only one of HKIN 150 or HKIN 250. Three credits.

151 Applied Human Anatomy and Physiology I

The human body is able to operate by the intricate coordination of multiple systems. Each has a purpose, and is regulated at cellular, tissue, and organ levels. The focus

of this course is to understand the structure, function, and organization of major systems. Individual and combined functions will be outlined for the nervous, skeletal, and muscular systems. Students will explore these concepts in complementary laboratory activities. Credit will be granted for only one of HKIN 151 or BIOL 251. Three credits and lab.

152 Applied Human Anatomy and Physiology II

The human body is able to operate by the intricate coordination of multiple systems. Each has a purpose, and is regulated at cellular, tissue, and organ levels. The focus of this course is to understand the structure, function, and organization of major systems. Individual and combined functions will be outlined for the cardiorespiratory, endocrine, and digestive systems, among others. Students will explore these concepts in complementary laboratory activities. Credit will be granted for only one of HKIN 152 or BIOL 252. Prerequisite: HKIN 151. Three credits and lab.

154 Introduction to Ethics of Sport

This 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. Credit will be granted for only one of HKIN 154 or HKIN 254. Three credits.

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 or HKIN 151. Three credits and lab.

226 Focus on Personal Health

This multidisciplinary and self-reflective course addresses personal health of university students. Topics include healthier living and behaviour change, mental health and illness, communication, dietary intake, physical activity, sedentary behaviours, drugs, the environment and sexuality. Three credits.

234 Coach Leadership and Planning

This practical course seeks to introduce students to the practice of coaching through the development of five core competencies; problem solving, valuing, critical thinking, leading, and interacting. This course design allows students to earn a NCCP certification in 'Introduction to Competition'. Credit will be granted for only one of HKIN 234 or HKIN 334. Three credits.

253 Sport Philosophy

This course serves as a philosophical inquiry into the nature, meaning, and existential significance of sport. The advancement of a Utopian philosophy of existential fitness represents a central feature of the curriculum. Topics include the relationships between work, game and play, mind, body and spirit, and game playing and the ideal of existence. Ideas to be explored include being-in-the-zone, sporting intelligence, sport as a mental and spiritual health practice, and the game of life. Credit will be granted for only one of HKIN 253 or HKIN 353. 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.

264 The Sociology of Sport

This course provides students with a sociological interpretation of sport in contemporary Canadian society. By contextualizing sporting behaviours and activities, the course challenges dominant ideas about sport in society and positions sport as an institution that both liberates and limits possibilities. The course will demonstrate the connection between sport and issues of deviance, violence, gender, race, the economy, media, and politics. The role of sport in constructing specific values in Canadian society will be emphasised. Credit will be granted for only one of HKIN 264 or HKIN 331. Three credits.

265 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. Credit will be granted for only one of HKIN 265 or HKIN 365. Prerequisites: HKIN 151/152 or BIOL 251/252. Three credits and lab.

316 Motor Control in Special Populations

First and foremost, students will come to appreciate that perception and action are interdependent processes. They do not work independently, rather they interact and influence one another. Deficits in perceptual processing can manifest itself as atypical social and motor behaviour in special populations (e.g., Down syndrome, Parkinson's disease). Students are asked to refrain from making assumptions about the behaviours they observe but rather consider how unobservable brain processes come into play in these behaviours. An optional service learning placement will provide students with the opportunity to integrate meaningful community service and what they learn in the classroom. Prerequisite: HKIN 215. Three credits. Service Learning option.

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: HKIN 151 or BIOL 251; HKIN 222. Three credits.

332 Gender in Sport and Physical Activity

Explores the role of women, men, femininity, and masculinity in sport and physical activity 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.

345 Essential 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. Credit will be granted for only one of HKIN 345 or HKIN 446. Prerequisites: HKIN 151/152 or BIOL 251/252; HKIN 265 or 365. Three credits and lab.

347 Rehabilitation Techniques of Athletic Injuries

This course will provide upper level HKIN students with an interest in further pursuing rehabilitation therapy as a career, a guide to understanding, designing, implementing and supervising rehabilitation programs for sports related injuries. Credit will be granted for only one of HKIN 347 or HKIN 447. Prerequisites: HKIN 222, 321. Three credits.

352 Historical Foundations of Sport and Physical Activity in Canada

An overview of the history of sport in Canada. Using the forces of class, ethnicity, race and gender as an interpretative foundation, the class will examine the context and social conditions under which Canadians have created, refined, participated in and interpreted sports. Three credits.

354 Sport Morality

This course serves as a philosophical inquiry into the moral significance of sport. The advancement of a Utopian philosophy of moral excellence represents a central feature of the curriculum. Topics include the good of the games we currently play and moral truth in the game of life. Ideas to be explored include good sportsmanship, sport as a trial of the moral self, the virtuous struggle, moral egoism, moral idealism, and the moral ideal of humanity. Three credits.

357 Aging and Exercise

Aging is an innate feature of human biology, and among the greatest known risk factors for most human diseases. 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. Credit will be granted for only one of HKIN 357 or HKIN 398 (2017-2018). Prerequisites: HKIN 151/152 or BIOL 251/252; HKIN 265 or 365. Three credits.

374 Mixed Methods in Research

This course introduces students to mixed methods research design (qualitative and quantitative). The course will help answer such questions as why, what, how and where to mix research methods. Specifically, the course is designed to provide an understanding of a research purpose, research process, research approaches, research design, data collection methods, and research proposal development and report in human kinetics. Students also will have the opportunity understand ethical issues related to the conduct of research. Credit will be granted for only one

of HKIN 374, HKIN 371 (2016-2017, 2017-2018), HKIN 396 or HKIN 397. Three credits. Not offered 2019-2020.

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 advocacy, the philosophy and implementation of inclusion as well as the nature of various physical, intellectual, developmental and emotional disabilities. Students translate theoretical knowledge into practice forming collaborative partnerships with local schools, families and peers, designing individualized education plans and participating in the Motor Activities with X applied lab alongside people with disabilities. Credit will be granted for only one of HKIN 385 or HKIN 395. Three credits and lab.

386 Sports Biomechanics

This course will focus on understanding the key biomechanical principles in executing individual sporting skills. Students will spend about 30% of the regular class time in the sports biomechanics research lab learning to use selected equipment and collect data. Students will gain hands-on experiential learning in a research lab environment analysing sporting skills and developing recommendations for athletes and/or coaches. An emphasis will be placed on understanding the biomechanics of the golf swing. Credit will be granted for only one of HKIN 386 or HKIN 474. Prerequisites: HKIN 376. Three credits.

387 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. Exercise is one such stress, but coupling exercise with extreme temperatures, pressures, etc. can lead to catastrophic failure. It is the goal of this course to explore how the human physiological system operates in "non-normal conditions". Emphasis will be placed on interpretation and critical analysis of primary research relating environmental exercise physiology and performance. Credit will be granted for only one of HKIN 387 or HKIN 473 (2016-2017, 2017-2018). Prerequisites: HKIN 151/152 or BIOL 251/252; HKIN 265 or 365. Three credits.

395 Disability, Health and Community Rehabilitation

This applied course focuses on clinical research design in the field of disability, health and community rehabilitation. Emphasis is placed on implementation science and the social, behavioural and physical characteristics of diverse populations. Evidence-based service learning allows students to gain community and rehabilitation experience with vulnerable populations including autism, Down syndrome, intellectual disability, orthopedic impairment, mental health, deafness and unique medical cases. Credit granted for only one of HKIN 395 or HKIN 385. Three credits.

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 upper 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 upper year students; required for third-year honours students. Three credits.

416 Control of Human Movement

Movement is central to our nature. This course offers students a broad overview of the neural contributions to motor control. First, students will come to appreciate that humans, much like a computer, inputs, processes, stores, and outputs information. They will learn about how the brain has developed a sophisticated predictive ability, relying on internal models. The notion of two visual systems will be introduced; one responsible for perception, the other for action. Furthermore, how the discovery of the mirror neuron system has changed the study of motor control will also be explored. Lastly, the phenomenon of neuroplasticity, the idea that the brain can reorganize itself, will be considered. Prerequisite: HKIN 215. Three credits and lab. Not offered 2019-2020.

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: HKIN 151/152 or BIOL 251/252; HKIN 265 or 365. Three credits and lab. Service learning option.

426 Health Education

This course introduces the basic concepts and topics associated with 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.

431 Sport and Identity

This course explores the intersection of sport with social identities. Using seminars, lectures, readings, and films, students will explore how various social identities have been and continue to be shaped through the sport institution, are reinforced by sport participants, and affect the shape of sport itself. Through the lens of sport, students will also explore the historical foundation of social categories of identity, as well as the ways they intersect to produce unique sporting experiences. Credit will be granted for only one of HKIN 431 or HKIN 471 (2017-2018). Prerequisites: HKIN 264 or 331 or 332 or 352. 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. Not offered 2019-2020.

437 Designing Interventions for Population Health

This advanced course explores the scope and current trends with respect to the design and implementation of sustainable evidence-based interventions for populations at-risk for adverse health outcomes. Subject matter encourages design thinking and innovation. Topics include preventative medicine, universal design, rural healthcare, pediatric rehabilitation, assistive technology, community-engaged scholarship and knowledge translation. The service learning component focuses on implementation science and applying theoretical knowledge in intervention settings with vulnerable populations. Credit will be granted for only one of HKIN 437 or HKIN 495 (2017-2018). Prerequisites: HKIN 151/152 or BIOL 251/252; HKIN 265 or 365. 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. Prerequisites: one of HKIN 253, 264, 332, 352 or 354. Three credits. This course will only be offered in the second term of Olympic years: 2020, 2022 and 2024.

445 Instructional Strategies in Human Kinetics

Future educators are increasingly expected to familiarize themselves with inclusive practices. In this applied course, students familiarize themselves with both traditional and alternative teaching and learning strategies. Students simultaneously apply this theoretical knowledge while teaching physical activity classes to diverse learners. Students will practice various instructional strategies in order to design an effective inclusive learning environment and accommodate for individual differences and learning objectives. Three credits and lab.

455 Games, Life & Leadership

This course serves as a philosophical inquiry into the cooperative human condition. The conceptualization of Utopia as the ideal state of the world to be established by those playing the game of life represents a central feature of the curriculum. Topics include rules in the game of life and games Utopians play. Ideas to be

discussed include the ideal of human existence, moral absolutism, social justice, jurisprudence, and servant leadership. Prerequisite: HKIN 253 and/or 354. Three credits. Not offered 2019-2020.

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 265 or 365; HKIN 151/152 or 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: HKIN 151/152 or BIOL 251/252; HKIN 265 or 365. Three credits and lab.

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. Not offered 2019-2020.

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.

492 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. Credit will be granted for only one of HKIN 492 or HKIN 392. Prerequisites: HKIN 151/152 or BIOL 251/252; HKIN 265 or 365. Three credits.

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; HKIN 374 or 396 or 397. Three credits.

495 Selected Topics

The topic for 2019-2020 is Motor Control in Everyday Actions. The ability to move accurately and efficiently is fundamental to our success and survival in any society in the world. For this reason, an in-depth understanding of the neural and cognitive mechanisms that lead to motor control is critical to a number of applied disciplines which include, but not limited to, health sciences, biomedical engineering, and robotics. The topics that will be covered in this course include human factors and design; the startle effect; electrophysiological measures; internal simulations of movements; two visual systems; and joint action. Credit will be granted for only one of HKIN 495 and HKIN 416. Prerequisite: HKIN 215. Three credits.

499 Directed Study

Designed for students with high academic standing who wish to pursue a directed, in-depth study in a selected topic. See section 3.5. Three credits.

SPORT MANAGEMENT COURSES

101 Introduction to Sport Management

An introduction to sport management. Primary focus is on sport industry, including professional sport entertainment, amateur, for-profit & nonprofit sport participation, sporting goods, and sport services. Students will examine applications of managerial concepts and processes, and look at the ways in which sport organizations interact with each other, and with corporations, the government and non-governmental organizations. Micro aspects of management applied to sport, including human resources, sport marketing, sponsorship, finance, event management, and sport law. Credit will be granted for only one of SMGT 101 and HKIN 241. Restricted to

students in BBA and HKIN. May be used in a minor in sport management or as an elective in BBA or HKIN. Three credits.

322 Human Resource Management in Sport Organizations

This course covers the theory and practice of building, developing and optimizing a competitive workforce within the context of sport organizations, teaching students the personnel related knowledge leveraged in the management and leadership of such organizations. Credit will be granted for only one of SMGT 322 and BSAD 363. Restricted to students in the sport management minor program. Prerequisite: SMGT 101. Three credits.

327 Sport Management Ethics and Law

This course investigates moral issues in sport and judgments about right and wrong behavior amongst all stakeholders in sport. Examination of ethical theories, principles and applications, with case study analyses, and personal and professional ethical issues in sport management. Focus on the three major areas of the law that have a direct impact on the management of sport: tort liability and risk management; contract law, employment law, and constitutional law. Restricted to students in the sport management minor program. Prerequisite: SMGT 101. Three credits.

423 Sport Marketing and Event Management

This course introduces the concepts, theories, and marketing strategies utilized in the context of the sport industry. Topics include, but are not limited to the marketing planning process, components of the marketing mix, branding, event planning, operational logistics, media marketing and sponsorship. Restricted to students in the sport management minor program. Prerequisites: BSAD 231; SMGT 101. Three credits. Not offered 2019-2020.

9.23 HUMAN NUTRITION

M. English, Ph.D.
A. Fox, Ph.D., P.Dt
J. Jamieson, Ph.D.
L. Reid, M.Ed., P.Dt.

Part Time

P. Mazier, Ph.D.
P. St. James, M.Sc., P.Dt.

Senior Research Professor
L. Wadsworth, Ph.D.

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, development and entrepreneurship in food and nutrition. Graduates may qualify for entrance to a dietetic internship accredited by the Partnership for Dietetic Education and Practice (PDEP) in Canada.

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, 456 and 485 as HNU electives), students may meet the requirements for admission to a graduate dietetic internship and/or the StFX Integrated Dietetic internship. Both programs are accredited by the Partnership for Dietetic Education and Practice (PDEP) in Canada and admission is competitive. The STFX Integrated Dietetic Internship enables students to attain PDEP competencies for entry level 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 101, 102; 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, 384; 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, 215; CHEM 101/102; HNU 145, 161; 6 credits humanities electives; 6 credits social science electives
Year 2	BIOL 251, 252; BSAD 102; CHEM 225, 255; HNU 146, 235, 261, 262; STAT 101
Year 3	HNU 351, 365, 384, 485; 9 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, 384, 485; 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

Co-operative education is offered as an option for HNU students. Through co-op, students have the opportunity to complete professional development training, 12-16 months of relevant and paid work experience, and COOP 405 (3 credits). The co-op education HNU graduate will be prepared to work within the food industry (product development and evaluation, food safety, and etc), public relations, consumer affairs or marketing with various employers including not-for-profits, industry or government and other related areas of practice. The human nutrition co-op program is accredited by the Co-operative Education & Work-Integrated Learning Canada (CEWIL Canada). COOP 405 can be used as a HNU elective or as an open elective. For further information on work term sequencing options and professional development training topics see section 9.13.

B.Sc. in Human Nutrition degree in 5th year for B.Sc. Human Kinetics students with Minor in Nutrition

B.Sc. Human Kinetics students majoring in kinesiology and minoring in 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 374, 396 or 397 will fulfill the requirement of HNU 384 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, 456 and 485 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 136, 215, 265, 367, 150 or 154; 6 credits of skills, and 1 of HKIN 253, 264, 332, 352, 354, 431, 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 or 261. Restricted to current nursing students. 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. Topics will include how chocolate is made, sugar crystallization, cheese manufacture and the role of gluten in bread structure. Skills in baking, measurement and the manipulation of food ingredients will be emphasized. 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 135 or HNU 261. Not acceptable for credit in the HNU, HKIN (minor in HNU) or NURS programs. Three credits.

235 Communication

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 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 135 or HNU 215. Prerequisites: CHEM 101, 102(100) or 150; BIOL 111 or 105. Three credits.

326 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, 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, 351. 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 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. Credit will be granted for only one of HNU 352 or HNU 361. Prerequisite: HNU 351 concurrently. 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 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. Three credits.

384 Research Methods: Theory and Design

This course introduces the research methodologies and techniques used to study human nutrition. Focusing on the research question, students will develop a research plan, through the review of existing literature, and articulation of 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 may be used. Credit will be granted for only one of HNU 384 or 385. Prerequisites: STAT 101 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.

421 Food and Nutrition for Global Health Equity

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. Credit will be granted for only one of HNU 421 and HNU 497(2017-2018). Prerequisite: HNU 351. 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; 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 Food Product Development

This course is designed to advance the scientific practices leading to the development of new and improved food products. Students will work with the Instructor and industry partners to carry out market research evaluations, and create and test the acceptability of new product formulations using the sensory evaluation laboratory. Prerequisites: HNU 145, 146; CHEM 225, 255; STAT 101. Three credits and 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 rare, nutrition-related metabolic diseases which affect the body's biochemical reactions. Topics include inherited defects in nutrient metabolism resulting in phenylketonuria, homocystinuria, glycogen storage diseases, thalassemias, and hemochromatosis, for example. Designed for senior students, this course develops skills in finding and understanding clinical research, as well as translating research findings into nutrition guidelines, with a focus on the evidence leading to clinical practice guidelines for these disorders. Prerequisite: HNU 351. 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 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 dietetic practice. 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 for entry-level dietetic 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 enables students to write the Canadian Dietetics Registration Exam (CDRE). Prerequisite: HNU 482. Six credits. Graded as pass/fail.

485 Research Methods: Application and Analysis

This course will provide an advanced understanding of approaches, theories and methods used in human nutrition research. Building on topics covered in HNU 384, 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 emphasized. Credit will be granted for

only one of HNU 485, 486, 495, 497 (offered in 2016-2017). Prerequisite: HNU 384. Three credits.

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.

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 https://sites.stfx.ca/service_learning/index.html 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

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.
 D. Lee, Ph.D.
 J. Levman, Ph.D.
 M. Lin, Ph.D.
 R. Lukeman, 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.

Senior Research Professor
 W. MacCaull, Ph.D.

The Department of Mathematics, Statistics, and Computer Science offers degrees in both the Faculty of Science and the Faculty of Arts. A minor in mathematics or computer science is also possible in nearly every degree. 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.

COMPUTER SCIENCE

Requirements for the BA and B.Sc. in computer science are listed in section 9.12.

MATHEMATICS AND STATISTICS

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.

Degrees Offered

BA with Major, Advanced Major, Honours
 BA with Joint Major, Joint Advanced Major, Honours with Subsidiary
 B.Sc. with Major, Advanced Major (including an option with Business Administration), Honours
 B.Sc. with Joint Advanced Major, Joint Honours; see sections 7.1.6 and 7.1.7 for options
 B.Sc. with Major or Advanced Major concurrently with a Diploma in Engineering
 Students interested in any of these programs should consult with the relevant department chairs.

General requirements for these degrees are in chapters 4 and 7.

Concentrations

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 course selection for other career paths within the mathematical sciences are available from the department chair.

Mathematics Core Courses

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, 107 or 127, 253, 267, 277, 491; STAT 231(101 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 required for honours.

In addition the senior seminar, MATH 491 (or STAT 491 for statistics concentration), is required for all major, advanced major and honours candidates. Further, MATH 493 (or STAT 493 for statistics concentration) is required for all honours students.

Department Regulations

The following pairs or groups are considered so similar that a student may only receive credit for 1 in each group: MATH 106, 111, 126, 121; MATH 107, 112, 127, 122; STAT 101, 201, 231, 224; MATH 221, 367; MATH 222, 267; MATH 223, 253; CSCI 125, 161, ENGR 147; CSCI 275; BSAD 384.

MATH 100, 101, 102, 105 cannot be counted in the major, advanced major or honours credits.

Major in Mathematics

In addition to core courses, 18 credits of MATH/STAT are required.

Typical Pattern:

Year 1	MATH 106 or 126, 107 or 127
Year 2	MATH 253, 267, 277; STAT 231 or 101
Year 3	9 credits MATH/STAT
Year 4	MATH 491 (or STAT 491 for statistics concentration); 9 credits MATH/STAT

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 12 of the MATH/STAT credits being STAT 333, STAT 334, MATH 236, and one of STAT 331 or 435. 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 in the B.Sc. degrees.

STAT 334; 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 31, 2022. STAT 333 covers a large portion of the material on the first preliminary examination (Exam P-Probability) of the new SOA. STAT 445 is strongly recommended. STAT 331, 445, and MATH 236 covers some of the material on the SOA "Statistics for Risk Modeling Exam". Students planning a career in actuarial science are strongly encouraged to complete two or more of the SOA preliminary exams by graduation date. Further information is available at <http://sites.stfx.ca/mcs/actuariatalscience>

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 sections 4.1 or 7.1.

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, 107 or 127; CSCI 161
Year 2	MATH 253, 254, 267, 277; STAT 231 or 101
Year 3	MATH 354 or 366; additional MATH/STAT courses
Year 4	MATH 491 (or STAT 491 for statistics concentration); additional MATH/STAT courses

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 with Business Administration

Students wishing to pursue the B.Sc. Advanced Major in Mathematics with Business Administration should follow the advanced major in mathematics as listed above. The degree awarded is a B.Sc. with Advanced Major. Students must take ECON 101, 102, BSAD 101, 102, 471, and 12 credits from BSAD 221, 223, 231, 241, 261, 281, plus 9 additional BSAD credits.

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 or 466 is 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, 107 or 127; CSCI 161, 162
Year 2	MATH 253, 254, 267, 277, STAT 231 or 101
Year 3	MATH 354, 366, 367; additional MATH/STAT courses
Year 4	MATH 454 or 466; MATH 491, 493 (or STAT 491, 493 for statistics concentration); additional MATH/STAT courses

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 must be chosen as the thesis course.

Minor or Subsidiary in Mathematics

Students planning to complete a minor in mathematics should complete 6 credits of calculus, 3 credits of statistics, and 15 additional credits of MATH or STAT courses. Students 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 15 credits of MATH or STAT from the following: MATH 253, 277, 347, 371, 372; STAT 311. If your degree is not B.Sc. then MATH 101, 102 are also options.

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) modelling, analysis and design to reinforce classroom-based instruction and to increase students' networks and employability. COOP 405 can be used as a MATH elective or as an open elective. For further information on work term sequencing options and professional development training topics see section 9.13.

MATHEMATICS COURSES

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 or 105. Three credits. Offered 2019-2020 and in alternate years.

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 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. Prerequisites: MATH 253 and MATH 107 or 127 or 122. 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 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 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. Three credits. Offered 2019-2020 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. Offered 2019-2020 and in alternate years.

347 Combinatorics

The course covers the principle of inclusion and exclusion; generating functions; recurrence relations; rings and modular arithmetic; finite state machines; group and coding theory; Pólya's method of enumeration; finite field and combinatorial design; graph theory. Prerequisite: MATH 277. Three credits. Not offered 2019-2020; next offered 2020-2021.

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. Not offered 2019-2020; next offered 2020-2021.

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. Three credits.

371 Modern Geometries

A survey of Euclidean and non-Euclidean geometries. Topics include geometric axioms, the parallel postulate, constructions, models of hyperbolic geometry, topology, and fractals. Prerequisite: MATH 253 or 277. Three credits. Not offered 2019-2020; next offered 2020-2021.

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 2019-2020 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. Not offered 2019-2020; next offered 2020-2021.

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 2019-2020; next offered 2020-2021.

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 (Binomial 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; STAT 101 or 231. Three credits. Offered 2019-2020 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 2019-2020; next offered 2020-2021.

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 267. Three credits. Not offered 2019-2020; next offered 2020-2021.

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 2019-2020 and in alternate years.

471 Selected Topics in Mathematics

The topic for 2019-2020 is Sports Analytics. Modern sports science and professional teams increasingly require the use of applied statistical and analytical techniques. This course introduces the use of statistical analysis in a variety of contexts applicable to sport, including models, prediction, inference, simulation, performance and notational analysis as found in statistical sports science. A major component will be a research-based project based on real-world data. Prerequisites: One of STAT 101, STAT 224, STAT 231 or HKIN 301. Three credits.

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 (MATH 221 or 367) and (MATH 267 or 222). Three credits. Offered 2019-2020 and in alternate years

491 Senior Seminar

Cross-listed as CSCI 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.

STATISTICS COURSES**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 224, STAT 231, PSYC 292(290), 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, 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, STAT 224, PSYC 292 (290). Prerequisite: MATH 107 or 127 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 or 224 or 231. Three credits and a one-hour lab. Not offered 2019-2020; next offered 2020-2021.

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 or 224 or 231. Three credits and a one-hour lab.

333 Introductory Probability Theory

Material will include: combinatorial analysis; axioms of probability; the law of total probability and Bayes' Theorem; discrete and continuous random variables; mathematical expectation and variance; joint distributions; introduction to moment-generating functions and their applications; limit theorems. Prerequisites: MATH 222 or 267 and STAT 101, 231 or 224 or permission by the department chair. 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 2019-2020. and in alternate years.

435 Regression Analysis

An investigation of the statistical techniques for modeling the relationship between a dependent variable and one or more independent or predictor variables. Topics include ordinary least squares method and linear regression, matrix algebra and multiple regression, variable selection, residual analysis, multicollinearity, and generalized linear models. Prerequisite: STAT 231 or 333. Three credits and a one-hour lab. Offered 2019-2020 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 department chair. Three credits. Offered 2019-2020 and in alternate years.

472 Selected Topics

This course will cover a selection of current statistical topics, such as epidemiology, sampling theory, time-series analysis, stochastic processes, design and analysis of experiments, bootstrap methods, multivariate analysis, and bioinformatics. See http://sites.stfx.ca/mcs/stats_courses for more information. Three credits. Not offered 2019-2020; next offered 2020-2021.

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

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:

- 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.
- First-time registrants who have not completed high school core French or its equivalent should enrol in FREN 111.
- Results on the placement test are a determining factor in the enrolment for first-time registrants.
- Students with native proficiency may register in any 200-level course.
- The department reserves the right to place students.

Recommendations

Candidates for the major, advanced major or honours degrees in French are strongly 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:

- At least 18 credits beyond the 100 level, including FREN 312(215), and at least 6 credits at the 300- or 400-level.
- A minimum grade of 70 is required in each FREN course.
- 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:
 - 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.
 - A composition on a subject prompt provided (1 hour)
 - 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:

- Newly admitted students may request transfer credit in French only for courses taken after completing grade 12 French. Normally, transfer credit will not be granted for courses taken five years prior to admission.
- Students must obtain a letter of permission from their Dean prior to enrolling in an immersion course if credit is sought.
- 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:

- 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.

235 (Français des affaires II) Business French II

A continuation of FREN 225, this course introduces the language of specialized areas of business, such as marketing, finance, management, and teaches basic legal terminology. Students will learn the protocol of a formal business presentation in French as well as meeting procedures according to the Code Morin. Prerequisite: FREN 211 (115) or permission of the department chair. Three credits.

253 Langue et culture: le français 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 2018-2019.

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 2019-2020.

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 2019-2020.

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 placed 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

The topic for 2019-2020 is Intercultural Communication. This course presents the structure of communication from the perspective of linguistics as based in sign recognition. It defines culture as the production of institutions and artefacts in relation to language use and likens it to artistic creation. Given the structure of communication, an encounter with a culture different from one's own cannot but challenge the cultural construct known as the subject and lead to its transformation. Readings will be chosen in linguistics, philosophy, literature, and aesthetics. Prerequisite: 6 credits of FREN at 200 level or permission of chair. 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.

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 2019-2020.

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. Not offered 2019-2020.

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 2019-2020.

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 2019-2020.

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. Not offered 2019-2020.

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 2019-2020.

331 From Self-expression to Self-denial: 19th Century France

This presents 19th century texts in the context of events, ideas and schools of thought that shaped this period, events such as the French Revolution, the Napoleonic era, and the Franco-Prussian war. Major currents of thought of this period involve Romanticism, Realism, Naturalism and Symbolism. Readings will include extracts from well-known authors of the period. Credit will be granted only for one of FREN 331 or FREN 347/348. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits. Not offered 2019-2020.

332 Ideas in French Literature: the 20th Century

This course proposes to present literary texts in the context of events, ideas and schools of thought that shaped 20th Century French literature, events such as the two world wars, and ideas associated with movements such as phenomenology, surrealism, communism, existentialism, and feminism. Readings will include extracts from texts of the period. Credit will be granted only for one of FREN 332 or FREN 347/348. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits.

341 Linguistics I: Phonetics

An introduction to linguistics, this course presents the major concepts used in linguistics and outlines the phonetic structure of the French language as revealed in word formations and in sentence structures. It includes pronunciation exercises. 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 2019-2020.

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.

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.

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 2019-2020.

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.

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 2019-2020.

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 2019-2020.

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 2019-2020.

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 2019-2020.

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 2019-2020.

457 French Poetry from the Symbolist Movement to the Present

A study of major French poets beginning with the Symbolist Movement at the end of the 19th century and concluding with current trends in poetry. Authors include: Stéphane Mallarmé, Paul Valéry, Guillaume Apollinaire, Pierre Reverdy, Francis Ponge, Paul Claudel, André Breton, Henri Michaux, Francis Jammes, Blaise Cendrars, Jules Supervielle, Paul Eluard, René Char, Jacques Reda. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits.

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 I

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 Language and Culture II

A continuation of 201, this puts the emphasis on understanding, speaking, writing and reading. Students will review grammar structures, acquire active vocabulary and continue to familiarize themselves with various aspects of contemporary German

culture and everyday life. Students will practice their language skills through group activities, individual presentations and discussions of short texts, video clips and songs. 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. Not offered 2019-2020.

315 Selected Topics

The topic for 2019-2020 is Introduction to Latin American Cultural Studies. 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 as 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 2019-2020.

299 Selected Topics

The topic for 2019-2020 is Introduction to Latin American Cultural Studies.

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 2019-2020.

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 2019-2020.

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. Not offered 2019-2020.

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 2019-2020.

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 2019-2020.

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 2019-2020.

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 2019-2020.

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
H. Choi, MA
T. Easley, B.Mus.
T. Roach, B.Mus.

The Department of Music offers a curriculum that focuses on jazz studies and contemporary music. Degrees 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 Music. Entrance to the Bachelor of Music Honours will be by application and based on grades. Qualifying students will be eligible to apply to the Bachelor of Music Honours program at the end of their second year of study. Students who fail to meet the admission requirements to the Bachelor of Music programs may be eligible for the BA with Major 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 in Applied Performance courses will participate in regular juried exams each term.

All courses offered by the Department of Music, except the Applied Performance courses, are available to any student who satisfies the prerequisite requirement. Applied Performance courses are only available to non-music majors with the permission of the instructor and the department chair.

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 \$750 will be applied for registration in a 3-credit Applied Performance course. Should a student withdraw from an Applied Performance course, regular refund policies will be applicable. See <http://www2.mystfx.ca/financial-services/>

Bachelor of Music

Typical Course Pattern:

Year 1	MUSI 101, 103, 106 or 107, 165, 166*, 181, 195, 265; 6 credits arts/science
Year 2	MUSI 203, 206 or 207, 263, 276, 281, 295; one from MUSI 117, 118, 119, 217, 219, 275; 9 credits arts/science and/or open electives
Year 3	MUSI 235, 304, 306 or 307, 322, 323, 325, 381; 9 credits of arts/science and/or open electives
Year 4	MUSI 395, 406 or 407, 426, 465, 492; 18 credits of arts/science and/or open electives

The 24 credits of arts/science electives must be 2 pairs with at least 1 pair from the arts faculty.

Students are required to obtain a minimum grade of 65 in Applied Performance courses.

*Students with sufficient piano skill may test out of MUSI 166 upon passing a proficiency exam. Students exempted from this course are required to complete a music elective in place of MUSI 166.

Bachelor of Music with Honours

Typical Course Pattern:

Year 1	MUSI 101, 103, 106 or 107, 165, 166*, 181, 195, 265; 6 credits arts/science electives
Year 2	MUSI 203, 206 or 207, 235, 263, 276, 281, 295; one from MUSI 117, 118, 119, 217, 219, 275; 6 credits arts/science electives
Year 3	MUSI 304, 306 or 307, 322, 323, 325, 381, 395; 9 credits arts/science and/or open electives

Year 4 MUSI 360, 406 or 407, 426, 465, 481, 494, 495; 9 credits arts/science and/or open electives

The 24 credits of arts/science electives must be 2 pairs with at least 1 pair from the arts faculty.

Students are required to obtain a minimum grade of 65 in Applied Performance courses.

*Students with sufficient piano skill may test out of MUSI 166 upon passing a proficiency exam. Students exempted from this course are required to complete a music elective in place of MUSI 166.

Bachelor of Arts with Major in Music

Students may complete a major in music in the BA program by completing 36 credits from the following, or others in consultation with the chair:

- MUSI 101, 103;
- 18 credits from MUSI 112, 117, 118, 119, 165, 203, 217, 219, 235, 275, 276, 322, 323, 385, 465;
- 12 credits of performance courses from MUSI 106, 107, 166, 181, 195, 206, 207, 214, 281, 295, 306, 307, 406, 407;
- A maximum of 15 credits at the 100-level (including MUSI 101, 103) are permitted in the major.

See section 4.1.3 for other degree requirements.

Minor in Music

Students may complete a minor in music with 24 credits from the following courses, or others in consultation with the chair: MUSI 101, 103, 106 or 107, 117, 118, 119, 165, 166, 203, 206 or 207, 214, 217, 219, 275, 276, 322, 323, 385. No audition is required for admission to a minor; however, an audition is required if a student wishes to take performance courses as part of the minor.

Pair in Music

A pair in music requires 12 credits with a maximum of 6 credits at the 100-level.

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 applied music and other courses with ensemble playing. Ensembles meet weekly; extra rehearsal sessions are expected. Coaching comes from professors and advanced students. Repertoire will reflect aspects of jazz, popular, folk, or rock music. Assessment includes performance outside of the classroom. Concert attendance in the visiting artist series is required. Attendance in weekly department master classes is required. 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. Not acceptable for credit in the Bachelor of Music programs. 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 1970's, 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 History

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.

166 Basic Keyboarding Skills

The piano keyboard has historically been the workshop for the study of harmony and music theory. This class introduces basic piano skills for supplementing the musicianship of non-piano majors. The course includes weekly instruction and testing on fingering patterns for scales, common voicings for all chord types, common chord progressions, melody and bass-lines; all primarily for use in jazz and popular styles of music. Some basic reading skills are also covered. Students with sufficient piano skill may test out upon passing a proficiency exam. Students exempted from this course are required to complete a music elective in place of MUSI 166. Restricted to students in the programs of Bachelor of Music and Bachelor of Arts with Major in Music. Three credits.

181 Applied Performance I

This course provides students with private instruction on a major applied instrument or voice. Normally restricted to students in the Bachelor of Music program, or may be taken with permission of the chair. A jury performance is required at the end of term. Credit will be granted for only one of MUSI 181 or MUSI 190. Three credits.

191 Secondary Instrument I

This course provides students with instruction on an instrument other than their major instrument. Prerequisite: permission of the chair and studio teacher. Three credits over the full academic year.

195 Applied Performance II

This course provides students with private instruction on a major applied instrument or voice. Normally restricted to students in the Bachelor of Music program, or may be taken with permission of the chair. A jury performance is required at the end of term. Prerequisite: MUSI 181 with a minimum grade of 65. 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: MUSI 106. Three credits over the full academic year.

207 Instrumental Ensembles II

A continuation of MUSI 107. Prerequisite: MUSI 107. 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 1960's and beyond. Three credits. Not offered every year.

219 Celtic Music

An historical and musical survey of traditional music from Scotland, Ireland, and Cape Breton, including Gaelic song, bagpipe, fiddle, and harp music, with reference to modern "Celtic" music. Cross-listed with CELT 219. Offered 2018-2019.

235 Music Technology

This course introduces the basic technology used to notate and edit music. Students will also be introduced to standard industry practices for the production of commercial music. Three credits. Not offered every year.

263 Improvisation Fundamentals

This class introduces students to the skills and techniques of improvisation in music. The course will focus on skill development, with an emphasis on harmonic, melodic and rhythmic accuracy in a jazz setting. Prerequisite: MUSI 103 with a minimum grade of 60. Three credits.

265 Jazz Styles and Literature: The Bebop Era

A course in the analysis of players, particularly Thelonious Monk, Miles Davis, Charlie Parker, and Dizzy Gillespie, and their innovations which brought the music to its present maturity. Three credits.

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 enrolled 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 103 with a minimum grade of 60. Three credits.

281 Applied Performance III

This course provides students with private instruction on a major applied instrument or voice. Normally restricted to students in the Bachelor of Music program, or may be taken with permission of the chair. A jury performance is required at the end of term. Credit will be granted for only one of MUSI 281 or MUSI 290. Prerequisite: MUSI 195 with a minimum grade of 65. Three credits.

291 Secondary Instrument II

This course provides students with instruction on an instrument other than their major instrument. Prerequisite: permission of the chair and studio teacher. Three credits over the full academic year.

295 Applied Performance IV

This course provides students with private instruction on a major applied instrument or voice. Normally restricted to students in the Bachelor of Music program, or may be taken with permission of the chair. A jury performance is required at the end of term. Prerequisite: MUSI 281 with a minimum grade of 65. Three credits.

304 Small Ensemble Arranging

Combines jazz arranging and orchestration with writing assignments for small ensembles. Prerequisite: MUSI 203 with a minimum grade of 60. Three credits.

306 Vocal Ensemble III

A continuation of MUSI 206. Prerequisite: MUSI 206. Three credits over the full academic year.

307 Instrumental Ensembles III

A continuation of MUSI 207. Prerequisite: MUSI 207. Three credits over the full academic year.

312 Women and Popular Music

A critical examination of the roles of the singing performer from the later 19th century to present through the development and changes of different musical styles and cultural context. Singer/audience relationships are explored as well as vocal lineage and the musical contributions of key artists. The course also surveys key singers over the last 100 years, through examining ideas fame, artistry, cultural/political significance race, and gender. Cross-listed as WMGS 312. Three credits.

322 Music History I: Medieval, Renaissance, and Baroque

An overview of musical styles and forms from the Middle Ages to the 18th century. This course addresses the broad spectrum of musical contributions that allowed for the development of Western music. The ability to read music is required. Credit will be granted for only one of MUSI 322 or MUSI 315. Prerequisite: MUSI 203 with a minimum grade of 60 or permission of the chair. Three credits.

323 Music History II: Romantic and 20th Century

An overview of musical styles and forms from the 18th to 20th centuries. This course addresses the broad spectrum of musical developments of Western music. Credit will be granted for only one of MUSI 323 and MUSI 316/416. Prerequisite: MUSI 203 with a minimum grade of 60 or permission of the chair. Three credits.

325 Jazz Composition

Designed to provide a foundation in the techniques of jazz composition with an in-depth study of modal harmony and its applications. Prerequisite: MUSI 203 with a minimum grade of 60. Three credits.

360 Advancing Improvisation

A continuation of MUSI 263 with a focus on the melodic, harmonic, and rhythmic vocabularies of jazz genres of 1960's forward and its associated repertoire.

Restricted to students in the Bachelor of Music Honours program or with permission of the chair. Prerequisite: MUSI 263. Three credits.

381 Applied Performance V

This course provides students with private instruction on a major applied instrument or voice. Normally restricted to students in Bachelor of Music programs, or may be taken with permission of the chair. A jury performance is required at the end of term. Credit will be granted for only one of MUSI 381 or MUSI 390. Prerequisite: MUSI 295 with a minimum grade of 65. Three credits.

385 Selected Topics I

Three credits.

386 Selected Topics II

Three credits.

391 Secondary Instrument III

This course provides students with instruction on an instrument other than their major instrument. Prerequisite: permission of the chair and studio teacher. Three credits over the full academic year.

395 Applied Performance VI

This course provides students with private instruction on a major applied instrument or voice. Normally restricted to students in Bachelor of Music programs, or may be taken with permission of the chair. A jury performance is required at the end of term. Prerequisite: MUSI 381 with a minimum grade of 65. Three credits.

406 Vocal Ensemble IV

A continuation of MUSI 306. Prerequisite: MUSI 306. Three credits over the full academic year.

407 Instrumental Ensembles IV

A continuation of MUSI 307. Prerequisite: MUSI 307. Three credits over the full academic year.

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. 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.

481 Applied Performance VII

This course provides students with private instruction on a major applied instrument or voice. Restricted to students in the Bachelor of Music Honours program. A jury performance is required at the end of term. Credit will be granted for only one of MUSI 481 or MUSI 490. Prerequisite: MUSI 395 with a minimum grade of 70. Three credits.

491 Secondary Instrument IV

This course provides students with instruction on an instrument other than their major instrument. Prerequisite: permission of the chair and studio teacher. Three credits over the full academic year.

492 Recital

Students work under the supervision of their private studio instructor to produce a half-hour concert performance on their major instrument/voice. Taken concurrently with MUSI 395. Restricted to students in the Bachelor of Music program. No credit.

494 Honours Recital and Thesis

Students work under the supervision of their private studio instructor to produce a one-hour concert performance on their major instrument/voice. Students also write a thesis on a topic relevant to their performing or compositional interest. Taken concurrently with MUSI 495. Restricted to students in the Bachelor of Music Honours program. Three credits over the full academic year.

495 Applied Performance VIII

This course provides students with instruction on a major applied instrument or voice. Taken concurrently with MUSI 494. Restricted to students in the Bachelor of Music Honours program. Prerequisite: MUSI 481 with a minimum grade of 70. 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. Three or six credits.

9.28 NURSING

Faculty

M. Alex, MN, RN
M. Amott, MN, RN
D. Halperin, Ph.D., RN
P. Hansen-Ketchum, Ph.D., RN
P. Hawley, Ph.D., RN (on leave)
S. Lukeman, MN, RN
C. MacDonald, 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 Educators

D. Cabrera, MN, RN
M. Chisholm, B.Sc.N., RN (on leave)
D. Connolly, MN, RN
J. Daviau, B.Sc.N., RN
D. Delorey, B.Sc.N., RN
A.M. Dobbin, M.Ed., RN
Y. Fraser, M.Ed., RN
K. Kenny, M.Ed., RN
F. Lepage, MN, RN
S. Livingston, B.Sc.N., RN
L. MacDonald, M.Ad.Ed., MN, RN
A. MacDonnell, B.Sc.N., RN
P. MacKenzie, B.Sc.N., RN
M. MacNeil, M.Ad.Ed., RN
J. Mbugua, M.Ed., RN
W. Panagopoulos, M.Ed., RN
S. Wood, M.Ad.Ed., RN

Professor Emerita

A. Gillis, Ph.D.

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. The 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:

- 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, students will be primarily immersed in nursing courses, and complete three credits of electives in each of semesters 6 and 7.
- The accelerated two-year option primarily targets students who have completed the university-level entrance requirements for nursing. Beginning in January, complete six continuous semesters over 24 months. During semesters 3 through 8, students will be primarily immersed in nursing courses, and complete three credits of electives in each of semesters 6 and 7. Graduation is at the December ceremony.
- 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 (refer to b) above.

Progression Requirements

The four-year option, students must successfully complete all courses in semesters 1 and 2 before progressing to semester 3. An overall average of 65 is required in the mandatory non-nursing courses: BIOL 115, BIOL 151, BIOL 152, ENGL 111 and STAT 101.

- In all subsequent semesters, students must complete all mandatory nursing courses in a semester in order to progress to the next semester of the program. Progression in the program requires a minimum grade of 65 in each nursing

course (including nursing electives). An overall average of 65 in a semester is required to progress into the next semester.

- b) Students must be prepared to participate in nursing practice rotations in sites other than their location of residence.
- c) Students will be expected to participate in nursing practice rotations scheduled at various times including evenings, nights, and weekends.
- d) 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 Dean of Science in consultation with the Assistant Director and/or Director of the School of Nursing and seat 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 permitted to reapply for admission.
- e) 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.
- f) Students are required to make up missed nursing practice time. Extended absences from nursing practice are evaluated by the Assistant Director, School of Nursing
- g) Current certification in standard first aid and HCP (CPR) is required; see 1.3 g. Students in the nursing program are responsible for re-certification yearly as necessary.
- h) All students must be screened through the child abuse registry of Nova Scotia. 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) and the StFX Rankin School of 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 Vulnerable Sector/Criminal records check prior to consideration for registration. Those considered a risk to others may not be considered for registration by the CRNNS. The StFX Rankin School of Nursing requires disclosure of Vulnerable Sector/Criminal records check and reserves the right to deny entry to the program based on criminal record. Failure to provide requested documentation will prevent progression and/or result in dismissal from the program. The results of students' Vulnerable Sector/Criminal Record Check and child abuse registry screens are reviewed. In the event of a problematic result, a student may not be permitted to progress in the nursing program. New graduates must be registered in the same province as their educational program prior to registering elsewhere.

Practical Skills Performance

The ultimate goal of nursing education is to prepare safe, competent, knowledgeable, and ethical practitioners of nursing. Practical testing of skill performance is required to ensure that students are able to perform nursing skills safely and competently. This academic regulation provides direction to students on the expectations related to testing of nursing skills. Detailed information is available on the School of Nursing website: <http://www2.mystfx.ca/nursing/rankin-school-nursing-policies-and-guidelines>

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, vsim, stethoscopes, first aid and HCP (CPR) certification and re-certification; exam fees including preparatory resources (HESI) for NCLEX and licensing; and travel costs to and from practice areas while in the program.

Any nursing student who has not provided official proof of up-to-date immunization, Tuberculin Skin Testing, and other required documents, will not be permitted to practice in the clinical area. A charge of \$150 will also be added directly to the students account and credit for the associated course will not be granted.

B.Sc. in Nursing

Four-year program

- Semester 1: BIOL 151; CHEM 151; ENGL 111; PSYC 155; STAT 101;
 Semester 2: BIOL 115, 152; HNU 135; RELS 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

Accelerated option

- 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

LPN to BSc.N. Pathway

- Semester 4: NURS 231, 233, 234
 Semester 5: NURS 306, 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

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 and a clinical application. 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. Community practice application. 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 per week and clinical applications. 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: Successful completion of all semester three courses. 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 and clinical applications. Prerequisites: Successful completion of all semester three courses. 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: Successful completion of all semester three courses. 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. Includes clinical applications. Prerequisites: Successful completion of all semester three courses. 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: Successful completion of all semester four courses. 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. Clinical applications. Prerequisites: Successful completion of all semester four courses. 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: Successful completion of all semester four courses. 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. Includes clinical applications. Prerequisites: Successful completion of all semester four courses. 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 and a clinical application. Prerequisites: Successful completion of all semester five courses. 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: Successful completion of all semester five courses. Six 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. Includes clinical applications. Prerequisites: Successful completion of all semester five courses. Three 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: Successful completion of all semester six courses. 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 Assistant Director of the Rankin School of Nursing. Prerequisites: Successful completion of all semester six courses. 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. Includes clinical applications. Prerequisites: Successful completion of all semester six courses. 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. Includes 480 hours of combined simulation and clinical practice experience. Prerequisites: Successful completion of all semester seven courses. Fifteen credits.

Nursing Electives**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.

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.

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.

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.

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.

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

Michelle Boucher, B.Sc.N., RN, Program Co-ordinator

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, 237, 245, 248, 300, 330, 415, 425, 494;
BIOL 105, 115, 251, 252

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. 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.

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.

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. 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.

237 Nursing Concepts in the Care of Women, Children and Families

This course encompasses a contemporary overview of the health of women, children and families during the childbearing and childrearing years from a wellness-focused nursing perspective. Select topics and issues related to health promotion and illness prevention within this population will be explored in the context of the various social, political, cultural and economic factors which impact the health and wellness of women, children and families. Three 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 251, 252; NURS 115, 135. Three credits.

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. Credit will be granted for only one of NURS 300 and NURS 310. 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

Theory and clinical framework for providing comprehensive care to adults with acute and chronic health problems related to immune system dysfunction, cancer and other selected conditions. Three credits.

415 Nursing of Adults II

Theory and clinical framework for working with individuals at-risk for or experiencing chronic health issues related to diseases of the nervous, endocrine and sensory systems, among others. Nursing leadership 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.

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.

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. 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.

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., FRSC

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 website at <https://www2.mystfx.ca/philosophy>

Note: PHIL 100 is normally a prerequisite for advanced courses; exceptions are PHIL 213, 251, 331 and 335.

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. For students considering graduate study in philosophy, 6 credits in logic (PHIL 251, PHIL 342) are very strongly recommended. 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. Six credits in logic (PHIL 251, 342) are strongly recommended.

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 101 and 102, 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 may consult the chairs of the two departments for additional advice on course selection.

The following courses must be included in the degree pattern: PHIL 251, 331, 372; one of PHIL 201, 202, 371; 15 credits from PSCI 321, 335, 341, 342, 343, 344, 353.

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. Three credits.

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 2020-2021.

232 Human Nature II: Love and Friendship

A philosophical investigation of what it means to be human. Topics include: human emotions, love, friendship, 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 111/112 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. Next offered 2020-2021.

335 Ethics in Health and Medicine

Introduces students to ethics as it bears on health and medicine. After a brief survey of ethical principles and values, the course addresses a number of contemporary issues such as: the ethical responsibilities of professionals and professional integrity; autonomy and consent; dying and euthanasia; abortion and infanticide; research involving human subjects; allocation of medical resources; confidentiality and privacy; reproductive technologies and rights. Credit will be granted for only one of PHIL 335, PHIL 135 or PHIL 336. Prerequisite: junior standing, or PHIL 100, or permission of the instructor. Three 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 2020-2021.

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 2020-2021.

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 2020-2021.

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 2020-2021.

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 2019-2020.

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. Not offered 2019-2020.

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. 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 any program or permission of the instructor. Three credits. Next offered 2020-2021.

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 any program or permission of the instructor. Three credits. Next offered 2020-2021.

461 Seminar in Metaphysics and Epistemology I

A seminar course that focuses on issues in classical and contemporary epistemology and metaphysics. Topics to be considered may include: an investigation of the ultimate structure of reality as a whole: the nature of material things; the existence of the immaterial; the meaning of being; what can and cannot be known of reality; whether there is a First Cause. Prerequisite: junior standing in any program 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 any program 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.

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 nature. 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 or 126, 107 or 127 or 121, 122; CHEM 121, 122 or 101, 102; 6 credits arts electives; 6 credits open electives
Year 2	PHYS 201, 221, 241, 242; MATH 267, 367; 6 credits arts electives; 6 credits open electives
Year 3	PHYS 325, 6 credits PHYS elective; MATH 253, 254; CSCI 161 or ENGR 147; 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
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Year 2	PHYS 201, 221, 241, 242; MATH 253, 254, 267, 367; CSCI 161 or ENGR 147; 3 credits approved elective
Year 3	PHYS 302, 322, 323, 325; 6 credits arts electives; 6 credits open electives; 6 credits approved electives
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 253, 254, 267, 367; CSCI 161 or ENGR 147; 3 credits approved electives.
Year 3	PHYS 302, 322, 323, 325, 343, 344; MATH 462 or 481; 6 credits arts electives, 3 credits approved elective
Year 4	PHYS 422, 443, 491 (no credit), 493; four of 223, 303, 425*, 444*, 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 and second teachable (30 and 18 credits, respectively). 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 a third teachable (18 credits), such as chemistry or computer science; and perhaps also a second-teachable subject in the humanities, social sciences, or a language such as French. 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. Offered 2019-2020 and in alternate years.

272 Astronomy: The Stellar System

This course provides a quantitative and more detailed treatment of the topics covered in PHYS 172. These topics include stellar evolution, supernovae, quasars, pulsars, neutron stars, black holes, the universe, our galaxy, and cosmology. 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. Not offered 2019-2020.

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 101/102(100) or 120, and one of PHYS 100, 101/102, 120, 121/122. Three credits. Offered 2019-2020 and in alternate years.

299 Selected Topics

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. Offered 2019-2020 and in alternate years.

303 Modern Physics: Subatomic Physics and Cosmology

Topics include nuclei; elementary particles; concepts of general relativity; cosmology. Prerequisite: PHYS 201. Three credits. Not offered 2019-2020.

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 2019-2020 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. Not offered 2019-2020.

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. Not offered 2019-2020.

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. Three credits. Not offered 2019-2020.

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. Offered 2019-2020 and in alternate years.

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. Three credits. Offered 2019-2020 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 2019-2020.

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 2019-2020.

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. Not offered 2019-2020.

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. 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

D. Abelson, Ph.D.
 J. Bickerton, Ph.D.
 D. Brown, Ph.D.
 Y. Cho, Ph.D.
 Y. Grenier, Ph.D.
 J. Levin, Ph.D.
 J. Spring, Ph.D.
 L. Stan, Ph.D.

Senior Research Professors
 P. Clancy, Ph.D.
 S.K. Holloway, Ph.D.

The Department of Political Science offers the following BA degree programs: major; joint major; advanced major; joint advanced major; honours; and honours with subsidiary. Students in any of these programs can also pursue one of the following four optional subfield concentrations offered by the department: political theory; Canadian politics; comparative politics; and international relations. Additionally, the department offers, along with the Department of Philosophy, an optional joint concentration in law, ethics, and politics. Minor and subsidiary programs are available for students majoring in another discipline. Degree candidates should consult the department chair for course selection, and they must have their programs of study approved by the chair

Minor and Subsidiary Program

24 credits of PSCI required, including:

- PSCI 101 and 102
- 6 credits at the 200 level
- 12 additional credits, including at least 6 credits at the 300 level or above

Major and Joint Major Programs

36 credits of PSCI required, including:

- PSCI 101 and 102
- 9 credits from PSCI 201, 202, 211, 212, 221, 222, 251, and 252
- 18 credits at the 300 level or above
- 3 additional credits at the 200 level or above

Advanced Major and Joint Advanced Major Programs

36 credits of PSCI required, including:

- PSCI 101 and 102
- 9 credits from PSCI 201, 202, 211, 212, 221, 222, 251, and 252
- 18 credits at the 300 level or above, including PSCI 399 and 6 credits of 400-level seminars
- Advanced major paper in a 400-level seminar
- 3 additional credits at the 200 level or above

Honours Program

60 credits of PSCI required, including:

- PSCI 101 and 102
- 12 credits from PSCI 201, 202, 211, 212, 221, 222, 251, and 252
- 24 credits at the 300 level or above, including PSCI 399, 6 credits of 400-level seminars, and honours thesis (PSCI 490)
- 18 additional credits at the 200 level or above

Honours with a Subsidiary Subject

48 credits of PSCI required, including:

- PSCI 101 and 102
- 12 credits from PSCI 201, 202, 211, 212, 221, 222, 251, and 252
- 24 credits at the 300 level or above, including PSCI 399, 6 credits of 400-level seminars, and honours thesis (PSCI 490)
- 6 additional credits at the 200 level or above

Concentration in Political Theory

For majors and joint majors, 18 credits of political theory required, including:

- PSCI 201 and 202
- 12 credits from PSCI 301, 303, 306, 308, and 401

For advanced majors and joint majors, 18 credits of political theory required, including:

- PSCI 201 and 202
- 9 credits from PSCI 301, 303, 306, 308
- PSCI 401
- Advanced major paper in PSCI 401

For honours and honours with a subsidiary, 24 credits of political theory required, including:

- PSCI 201 and 202
- 9 credits from PSCI 301, 303, 306, and 308
- PSCI 401
- Honours thesis (PSCI 490) in political theory

Concentration in Canadian Politics

For majors and joint majors, 18 credits of Canadian politics required, including:

- PSCI 221 and 222
- 12 credits from PSCI 321, 322, 323, 324, 325, 343, 344, 351, and 421

For advanced majors and joint majors, 18 credits of Canadian politics required, including:

- PSCI 221 and 222
- 9 credits from PSCI 321, 322, 323, 324, 325, 343, 344, and 351
- PSCI 421
- Advanced major paper in PSCI 421

For honours and honours with a subsidiary, 24 credits of Canadian politics required, including:

- PSCI 221 and 222
- 9 credits from PSCI 321, 322, 323, 324, 325, 343, 344, and 351
- PSCI 421
- Honours thesis (PSCI 490) in Canadian politics

Concentration in Comparative Politics

For majors and joint majors, 18 credits of comparative politics required, including:

- PSCI 211 and 212
- 12 credits from PSCI 312, 314, 315, 316, 331, 335, 336, 345, 365, 371, 372, 373, 391, 395, and 452

For advanced majors and joint majors, 18 credits of comparative politics required, including:

- PSCI 211 and 212
- 9 credits from PSCI 312, 314, 315, 316, 331, 335, 336, 345, 365, 371, 372, 373, 391, and 395
- PSCI 452
- Advanced major paper in PSCI 452

For honours and honours with a subsidiary, 24 credits of comparative politics required, including:

- PSCI 211 and 212
- 9 credits from PSCI 312, 314, 315, 316, 331, 335, 336, 345, 365, 371, 372, 373, 391, and 395
- PSCI 452
- Honours thesis (PSCI 490) in comparative politics

Concentration in International Relations

For majors and joint majors, 18 credits of international relations required, including:

- PSCI 251 and 252
- 12 credits from PSCI 311, 351, 352, 353, 354, 355, 356, 357, 358, 363, and 451

For advanced majors and joint majors, 18 credits of international relations required, including:

- PSCI 251 and 252
- 9 credits from PSCI 311, 351, 352, 353, 354, 355, 356, 357, 358, and 363
- PSCI 451
- Advanced major paper in PSCI 451

For honours and honours with a subsidiary, 24 credits of international relations required, including:

- PSCI 251 and 252
- 9 credits from PSCI 311, 351, 352, 353, 354, 355, 356, 357, 358, and 363
- PSCI 451
- Honours thesis (PSCI 490) in international relations

Joint Concentration in Ethics, Politics, and Law

This joint concentration is open to students pursuing a joint degree in political science and philosophy (joint majors, joint advanced majors, or honours with a subsidiary). Students in this stream must meet the credits requirements of both departments, including:

- 15 credits from PSCI 306, 308, 321, 325, 335, 343, 344, and 353
- PHIL 251, 331, and 372
- 3 credits from PHIL 201, 202, and 371

CONCENTRATION DESIGNATED COURSES

Political Theory		Credits
PSCI 201	Ancient & Medieval Political Thought	3
PSCI 202	Modern Political Thought	3
PSCI 301	Liberalism and Its Critics	3
PSCI 303	Contemporary Political Arguments	3
PSCI 306	Theory and Politics of Human Rights	3
PSCI 308	Global Justice	3
PSCI 401	Political Theory Seminar	3
Canadian Politics		Credits
PSCI 221	Canadian Politics: Structures & Institutions	3
PSCI 222	Canadian Politics: The Political Process	3
PSCI 321	Federalism	3
PSCI 322	Atlantic Canada	3
PSCI 323	Parties and Elections	3
PSCI 324	Provincial Politics	3
PSCI 325	Indigenous Politics in Canada	3
PSCI 343	Law and Politics	3
PSCI 344	Citizenship and Diversity	3
PSCI 351	Canadian Foreign Policy	3
PSCI 421	Canadian Politics Seminar	3
Comparative Politics		Credits
PSCI 211	Comparative Politics I	3
PSCI 212	Comparative Politics II	3
PSCI 312	Art and Politics	3
PSCI 314	Topics in European Politics	3
PSCI 315	Democratization around the World	3
PSCI 316	Dictatorships	3
PSCI 331	Comparative Nationalism	3
PSCI 335	Human Rights and International Justice	3
PSCI 336	Religion and Politics	3
PSCI 345	Women and Politics	3
PSCI 365	Russian Politics	3
PSCI 371	Political Economy of Development	3
PSCI 372	Politics in the Muslim World	3
PSCI 373	Irish Politics and Society	3
PSCI 391	Democratization and Development in Latin America	3
PSCI 395	Mexican Politics	3
PSCI 452	Comparative Politics Seminar	3
International Relations		Credits
PSCI 251	Foundations of Global Politics	3
PSCI 252	Contemporary Global Politics	3
PSCI 308	Global Justice	3
PSCI 311	European Union	3
PSCI 351	Canadian Foreign Policy	3
PSCI 352	American Foreign Policy	3
PSCI 353	International Organizations	3
PSCI 354	Global Political Economy	3
PSCI 355	Global Issues	3
PSCI 356	Arab-Israeli Conflict	3
PSCI 357	Model United Nations	3
PSCI 358	International Security	3
PSCI 363	International Relations of East Asia	3
PSCI 451	International Relations Seminar	3
Ethics, Politics, and Law		Credits
PSCI 306	Theory and Politics of Human Rights	3
PSCI 308	Global Justice	3
PSCI 321	Federalism	3
PSCI 325	Indigenous Politics in Canada	3
PSCI 335	Human Rights and International Justice	3
PSCI 343	Law and Politics	3
PSCI 344	Citizenship and Diversity	3
PSCI 353	International Organizations	3

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. Prerequisites: PSCI 101, 102(100). 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. Prerequisites: PSCI 101, 102(100). 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. Prerequisites: PSCI 101, 102(100). 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. Prerequisites: PSCI 101, 102(100); PSCI 211 recommended. 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. Prerequisites: PSCI 101, 102(100). 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. Prerequisites: PSCI 101, 102(100). 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. Prerequisites: PSCI 101, 102(100). Three credits.

241 Business and Government

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. Prerequisites: PSCI 101, 102(100). Three credits.

251 Foundations of Global Politics

This course provides an introduction to international relations as a field of study, offering a comprehensive survey of the conceptual, theoretical, and historical foundations of global politics. It provides students with a wide range of analytical and interpretive tools to make sense of global politics and prepare them for more advanced courses in international relations. Credit will be granted for only one of PSCI 251 and PSCI 250. Prerequisites: PSCI 101, 102(100). Three credits.

252 Contemporary Global Politics

This course examines a set of contemporary problems and issues in global politics, focusing primarily on security-related questions, the politics of international economic relations, and transnationalism. Among the topics examined are: international security, nuclear deterrence and proliferation, humanitarian intervention, terrorism, economic globalization and its consequences, the problem of poverty and development for the global South, environmental challenges, new transnational actors, and global governance. Credit will be granted for only one of PSCI 252 and PSCI 250. Prerequisites: PSCI 101, 102(100); PSCI 251 recommended. 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. Prerequisites: PSCI 101, 102(100). 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (201/202 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (201/202 recommended). Three credits.

306 Theory and Politics of Human Rights

This course critically examines the theory and politics of human rights, including conceptual, historical, legal, and practical controversies surrounding human rights and the institutions that have been designed to protect them. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (201/202 recommended). Three credits.

308 Global Justice

This course critically explores political theories of global justice that fall in both the statist or nationalist camp and the cosmopolitan camp, along with rights-based approaches that address pressing global concerns through the lens of political philosophy, including global gender justice, world poverty and global responsibility, democracy and global governance, the ethics and politics of global migration, animal rights, climate change and intergenerational justice, and indigenous struggles. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (201/202 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (251/252 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (211/212 recommended). 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 Neighbourhood 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (211/212 recommended). 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (211/212 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (211/212 recommended). 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (221/222 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (221/222 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (221/222 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (221/222 recommended). Three credits.

325 Indigenous Politics in Canada

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 treaty process, the Indian Act, Aboriginal and non-Aboriginal perspectives, citizenship and sovereignty, land claims and modern treaties, and forms of self-government. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (221/222 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (211/212 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (211/212 recommended). Three credits.

336 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. Credit will be granted for only one of PSCI 336, PSCI 295, RELS 295. Cross-listed as RELS 336. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (211/212 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (221/222 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (221/222 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. Cross-listed as WMGS 345. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (211/212 recommended). 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (251/252 recommended). Three credits.

352 American Foreign Policy

This course introduces students to the study of US foreign policy, examining major political, economic, and social forces that shape and constrain the making of American foreign policy. Among the issues examined are the historical and doctrinal context of US foreign policy, actors and institutions in the American foreign policymaking process, and contemporary external security and foreign economic policies of the US. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (251/252 recommended). Three credits.

353 International Organizations

A study of the development and role of international organizations in global politics, examining the achievements and limits of institutionalized multilateral cooperation among states. Institutions examined include the UN, NATO, the WTO, the IMF, and the World Bank. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (251/252 recommended). Three credits.

354 Global Political Economy

This course examines the politics of international economic relations. Topics include transnational corporations and the globalization of production, the multilateral trade system and regionalism, the global monetary and financial system, and economic development in the global South. Cross-listed as DEVS 354. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (251/252 recommended). Three credits.

355 Global Issues

This course examines the state's supremacy and its capacity to manage such global issues as transnational flows of goods, services, money, and ideas; the phenomenon of failed states in the post-Cold War period; global environmental issues; weapons proliferation; terrorism and other forms of transnational crime; and the rise of transnational social activist groups. Cross-listed as DEVS 355. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (251/252 recommended). Three credits.

356 Arab-Israeli Conflict

This course examines the multifaceted dimensions of the Arab-Israeli conflict. In addition to exploring various historical, political, societal, economic, and religious cleavages behind the conflict, the course also examines peace initiatives and the prospects for their success in the region. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (251/252 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 Five-day annual NMUN Conference in New York scheduled for March. 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (251/252 recommended). Three credits.

358 International Security

This course examines both the causes of war and the various strategies and tactics pertaining to how war has been-and is presently-conducted, as well exploring conflict mitigation and peacemaking strategies. Taking a pluralistic view of security studies, the course uses various frameworks of analysis drawing from classical works, rationalist approaches, structuralist accounts, normative works, and constructivist explanations for war and peace. Credit will be granted for only one of PSCI 358, 392 offered in 2018-2019, 394 offered in 2017-2018, or 392 offered in 2016-2017. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (251/252 recommended). Three credits.

363 International Relations of East Asia

An examination of contemporary international relations and foreign policies of major regional actors in East Asia including China, Japan, North and South Korea, and the US. Topics include the political economy of East Asian regionalism, institution-building, the regional security complex, the rise of China, and the ongoing nuclear crisis in the Korean Peninsula. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (251/252 recommended). Three credits.

365 Russian Politics

This course explores the reasons for the collapse and the pursuit of political and economic alternatives to state socialism in the Russian Federation. Students are encouraged to develop their own project, examining the manner in which forms of ownership, constitutional developments, party formation, political personalities, and domestic and international pressure influence events in post-communist Russia. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (211/212 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (211/212 recommended). Three credits.

372 Politics in the Muslim World

A comparative examination of politics in Muslim-majority countries. This course will focus on the interaction of religion with issues of political order and development. We will consider the prospects of democracy, the strategies of religious political parties, the interplay of religious and national identities, and the constitutional status of religion across cases. Particular attention will be paid to politics of the largest Muslim countries. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (211/212 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 101, 102(100) and 6 credits of PSCI at the 200-level (211/212 recommended). 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (211/212 recommended). Three credits.

399 Research Methods and Statistics

Introduction to the fundamentals of research design and methods in political science. The course gives students a broad exposure to an eclectic set of methodological tools appropriate for carrying out undergraduate level research in political science, including both qualitative and quantitative methods. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level. Three credits.

401 Political Theory (Seminar)

This seminar will critically analyze selected political thinkers, themes, issues and/or controversies in political theory, and their current relevance to the discipline of political science and politics. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (201/202 recommended). Three credits.

421 Canadian Politics (Seminar)

This seminar deals with the analysis of power in Canada, through the study of selected institutions, policy fields and cases. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (211/212 recommended). Three credits.

451 International Relations (Seminar)

This seminar examines advanced theories of International Relations and contemporary issues in global politics. Prerequisites: PSCI 101, 102(100), 251, 252(250). 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. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (211/212 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.
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
A. Bigelow, Ph.D.

BA and B.Sc. Major Program

Candidates must follow the degree regulations in chapters 4 and 7 and complete:

- PSYC 100
- PSYC 291, 292; one of PSYC 210, 220, 225 or 230

- 12 PSYC credits at the 300 or 400 level; and
- 6 additional PSYC credits

Students contemplating pursuing an honours degree are strongly recommended to complete PSYC 291, 292 in second year.

BA and B.Sc. Honours Program

Candidates must follow the degree regulations in chapter 4 or 7 and complete:

- PSYC 100; one of PSYC 210, 220, 225 or 230; PSYC 291, 292, 301, 302, 394
- 6 credits at the 400 level
- PSYC 391, 491 (non-credit) and PSYC 490, the honours thesis
- 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:

- PSYC courses are considered science courses only when they are taken as part of a major or honours subject in the B.Sc. program
- 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)
- B.Sc. honours degree program must include BIOL 111, 112; CHEM 101, 102; MATH 106 or 126, 107 or 127; and 6 additional credits in science courses (excluding PSYC)
- For the B.Sc. honours program, the 18 credits of electives approved by the department normally consist of courses in PSYC or in other science subjects

B.Sc. with Joint Honours

Students enrolled in joint honours programs in which psychology is one of the two honours subjects must take PSYC 230.

Concentration in Forensic Psychology

Students enrolled 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 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).

Note: PSYC 100 is a prerequisite for all other courses except PSYC 291 and 394.

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.

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.

291 Research Methods in Psychology

An introduction to methods used to conduct psychological research. Topics include identifying research questions, theory development, experimental, correlational, and observational research designs, ethics, measurement, sampling, survey development, and APA style research proposals. Quantitative methods will be emphasized. Lab component. Credit will be granted for only one of PSYC 291 and PSYC 290. Three credits.

292 Introductory Statistics for Psychological Research

An introduction to the statistical methods used to conduct psychological research. Topics include descriptive statistics, hypothesis testing, effect size, power, and inferential statistics including Z-test, t-tests, correlation and regression, basic analysis of variance, and non-parametric procedures such as chi-square. Students will learn to use statistical software. Lab component. Credit will be granted for only one of PSYC 292, PSYC 290, STAT 101. Prerequisite: PSYC 291. Three 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.

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 2018-2019.

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.

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. Not offered 2018-2019.

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.

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. Not offered 2019-2020.

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.

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.

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. Not offered 2019-2020.

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. Not offered 2019-2020.

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. Offered 2019-2020 and in alternate years.

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 2019-2020.

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 2019-2020.

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.

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 2019-2020.

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

Requirements:

- a) 36 credits in PGOV
 - i) PGOV 101, 201, 202, 301, 302, 303, 401 21 credits
 - ii) PGOV or Designated 15 credits
 - b) ECON 101, 102, 241; PSCI 101, 102, 221, 222; STAT 101
- No more than 12 credits of designated courses may be from a single department. None of the designated courses may be in the student's declared minor or other major subject.

Honours with Subsidiary

Requirements:

- a) 48 credits in PGOV
 - i) PGOV 101, 201, 202, 301, 302, 303, 401, 402, 451, 490 33 credits
 - ii) Designated PGOV 15 credits
 - b) ECON 101, 102, 241; PSCI 101, 102, 221, 222; STAT 101
- No more than 12 credits of designated courses may be from a single department. None of the designated courses may be in the student's declared subsidiary subject.

Minor or Subsidiary

Requirements:

- a) PGOV 101, 201, 202 9 credits
 - b) ECON 101 or 102 3 credits
 - c) PGOV Core or Designated 15 credits
- No more than 6 credits of designated courses may be from a single department. None of the designated courses may be in the student's declared major or honours subject.

Pair

- a) PGOV 101 3 credits
- b) PGOV 201 or 102 3 credits
- c) PGOV Core or Designated 6 credits

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 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 plus 24 credits, or permission of the instructor. 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 plus 24 credits, or permission of the instructor. 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 342. 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. Credit will be granted for only one of PGOV 302 or PSCI 341. 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 320	Peoples and Development	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
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 Intelligence & 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 314	Canada and the Cold War Era	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	Business and Government	3
PSCI 242	The Politics of Economic Policy in Canada	3
PSCI 251	Foundations of Global Politics	3
PSCI 252	Contemporary Global 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	Global Political Economy	3
PSCI 399	Research Methods and Statistics	3
Religious Studies		Credits
RELS 395	Selected Topics: Selfless Leadership: Be the Change I	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	Experiencing Social Class	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.
R. Charles, Ph.D.
L. Darwish, Ph.D.
R. Kennedy, Ph.D.
K. Penner, Ph.D.
A. Sandness, Ph.D.

Professor Emeritus
B. MacDonald, Ph.D.

Religious studies teaches the cultural literacy that is critical in a globalized world. Students are introduced to historic and contemporary expressions of world culture through the study of our world's religions, the historic basis of human society. Religious studies examines relationships between religion, the individual, and society. The department offers a broad spectrum of courses relating to all major religious traditions. Contemporary life issues are also examined as they relate to world religions. Students can take religious studies courses as electives or pairs, or to complete a minor, major, joint major, or honours program. The courses are intended, however, for a broad range of undergraduate students who wish to examine the religious answers to the major questions about human existence. See *chapter 4 for regulations*.

The following streams are available in the department of Religious studies:

Mindful Living

294	Selected Topics: Mindfulness: How to Cope with Hard Things
297	Selected Topics: The Body: An Owner's Manual
315	Authentic Power and Gender
328	Mind, Self and Society
394	Selected Topics: Authentic Relationship
395	Selfless Leadership: Be the Change I
397	Selfless Leadership: Be the Change II

Buddhist Studies

111	World Religions I: Compassionate Global Citizenship
235	Hinduism and Buddhism
294	Selected Topics: Mindfulness: How to Cope with Hard Things
310	Religion in Modern India
315	Authentic Power and Gender
327	Buddhist Thought: The Way of the Bodhisattva
328	Mind, Self and Society
414	Ancient Indian Myth and Ritual

Celtic Religions

111	World Religions I: Compassionate Global Citizenship
219	Celtic Paganism
222	Fantastic Beasts and Where to Find Them in World Religions
229	Celtic Christianity

Christian Studies

112	World Religions II: Compassionate Global Citizenship
117	Ethical Principles for Health Care Providers
200	Introduction to Religious Ethics

210	The Bible and Film
212	Christianity
221	Religion and the Environmental Crisis
222	Fantastic Beasts and Where to Find Them in World Religions
225	Cults and Alternative Religions
229	Celtic Christianity
246	Philosophy of Religion
311	New Testament
312	Old Testament/Hebrew Bible
317	Paul and His Interpreters
325	Early Christian Women
331	Social Activists Inspired by the Bible
333	Religion, Violence and Peace
334	Black/African Diaspora: Culture, Religion and Society
342	Prophets and Prophecy
353	Iconography of Christian Art: The Life of Christ
354	Iconography of Christian Art: The Saints
363	Christianity in the Roman World
365	Spirituality in Medieval Christianity
404	The Dead Sea Scrolls
426	The Jewish World of Jesus
427	Jesus the Christ

Hindu Studies

111	World Religions I: Compassionate Global Citizenship
221	Religion and the Environmental Crisis
222	Fantastic Beasts and Where to Find Them in World Religions
235	Hinduism and Buddhism
310	Religion in Modern India
315	Authentic Power and Gender
326	Hindu Deities
414	Ancient Indian Myth and Ritual

Islamic Studies

112	World Religions II: Compassionate Global Citizenship
209	Beginning Arabic
254	Islam
261	Islam and Film
295	Religion and Politics
333	Religion, Violence and Peace
374	Modern and Contemporary Islam
375	Islam in Canada

Jewish Studies

112	World Religions II: Compassionate Global Citizenship
210	The Bible and Film
214	Judaism
222	Fantastic Beasts and Where to Find Them in World Religions
246	Philosophy of Religion
295	Religion and Politics
312	Old Testament/Hebrew Bible
316	Women in Early Judaism
333	Religion, Violence and Peace
342	Prophets and Prophecy
352	History of Early Judah
404	The Dead Sea Scrolls
416	History of Archaeology of Ancient Israel
426	Jewish World of Jesus

111 World Religions I: Compassionate Global Citizenship

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. Offered 2019-2020.

112 World Religions II: Compassionate Global Citizenship

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. Offered 2019-2020.

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 2019-2020.

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.

209 Beginning Arabic

Arabic is written and understood as an official language in more than 35 countries, including at least 400 million people living in majority Arabic-speaking countries. This course introduces students to formal written Arabic and the spoken dialects of Syria and Egypt. Students will become proficient at reading, writing, and understanding basic Arabic and will be able to carry on simple conversation. In addition to language, the course includes expressions of culture, both religious and non-religious. Credit will be granted for only one of RELS 209 and RELS 291(2018-19) or RELS 298(2017-18). Three 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 2019-2020.

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. Offered 2019-2020.

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. Offered 2019-2020.

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 2019-2020.

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. Not offered 2019-2020.

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. Not offered 2019-2020.

222 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. Credit will be granted for only one of RELS 222, RELS 292(2018-19) and RELS 298(2017-18). 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. Offered 2019-2020.

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. Not offered 2019-2020.

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. Not offered 2019-2020.

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 introduces students to the emergence of the Islamic tradition with the aim of understanding a) its place in the Near Eastern religious and geo-political context; b) its reception by contemporaries, especially Christians of the 7th-9th centuries; and c) the teachings of its seminal texts, especially the Qur'an. Particular attention is given to those sections of the Qur'an that reflect the Jewish and Christian theological environment within which the text emerged. Credit will be granted for only one of RELS 254 or RELS 370. Three credits. Offered 2019-2020.

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 2019-2020.

294 Selected Topics

The topic for 2019-2020 is The Mindfulness: How to Cope with Hard Things. This course teaches how to have a thought, how to have an emotion and how to cope with hard things. It introduces and offers experiential knowledge of several popular "Mindfulness" practices. It also asks: how can we be mindful if we don't understand the nature of mind? It introduces traditional contexts of Buddhist psychology, philosophy and ethics to promote reflection and increase the skillfulness with which we relate to the minds of ourselves and others. Three credits.

295 Selected Topics

The topic for 2019-2020 is Food and Religion. Feasting, fasting, ritual, customs, taboos, ethics and more. Food is ubiquitous in world religions. This course takes an innovative and appetizing approach to learning about the place of food in world religions. How do food practices express a religious worldview? How do they define boundaries between insiders and outsiders? How do they try to build bridges? A study of food and religion reveals far more than the permissions and prohibitions commonly associated with religious foodways. Offered in online format. Three credits.

297 Selected Topics

The topic for 2019-2020 is *The Body: An Owner's Manual*. The course teaches how to have a body? We will support each other in finding "what is the right answer for you?" We will examine varied perceptions of the body in the history, cosmology, ethics, philosophy, sociology and art of Hinduism, Buddhism, first nation's traditions, and Chinese traditions. With the help of guests, we will create our personal "owner's manual" for the body and examine such questions as sexual safety, nutrition and financial health. Three 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. Not offered 2019-2020.

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, RELS 255 and RELS 265. Three credits. Offered 2019-2020.

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. Offered 2019-2020.

315 Authentic Power and Gender

This course presents "authentic power" as understood in Hindu and Buddhist traditions. Here, "authentic power" is that which creates, supports, maintains and sustains life. It is understood as an expression of inter-dependent masculine and feminine "principles" both within and outside the individual self. That which seeks to manipulate, control, dominate, oppress or defend territory is here understood to be based in fear: it is an expression of cowardice and, as such, merits our compassion. Cross-listed as WMGS 397. Three credits. Offered 2019-2020.

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. Not offered 2019-2020.

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. Not offered 2019-2020.

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. Offered 2019-2020.

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. Not offered 2019-2020.

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. Not offered 2019-2020.

328 Mind, Self and Society

A "Mindfulness Immersion" experience, this summer course offers three weeks of intensive online 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 mindfulness/contemplative techniques will be experienced during our time as part of the Buddhist monastic community. Prerequisite: permission of the instructor; enrolment is limited. The 3-week theory component of the course is offered online only. Three credits. Offered Summer 2019.

331 Social Activists Inspired by the Bible

In this course students trace the biblical origins of ideas that have inspired global leaders to engage issues of social justice in the world. The activists typically include Moses Coady, Martin Luther King Jr., Mother Teresa, Abraham Joshua Heschel, Oscar Romero, Charlotte Keys, SueZann Bosler, Helen Prejean, Jim Zwerg, Jim Corbett, John Dear, Shane Claiborne, Daniel Berrigan, Roy Bourgeois, Robin Harper, William Wilberforce, Desmond Tutu, Tommy Douglas, Dorothy Day, and Dietrich Bonhoeffer. Three credits. Not offered 2019-2020.

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. Offered 2019-2020.

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. Not offered 2019-2020.

336 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. Credit will be granted for only one of RELS 336, RELS 295, PSCI 295. Cross-listed as PSCI 336. Three credits.

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, RELS 253 and RELS 312. Three credits. Offered 2019-2020

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. Not offered 2019-2020.

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. Not offered 2019-2020.

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. Offered 2019-2020.

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 sources and primary sources in translation. Three credits. Not offered 2019-2020.

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. Offered in online format. Three credits. Offered 2019-2020.

395 Selected Topics

The topic for 2019-2020 is Selfless Leadership: Be the Change I. Success of the one at the expense of the many is failure. This course examines the leadership model of M.K. Gandhi. Gandhi's paradigms of thinking inspired global leaders to de-colonise and remove social limitations based on race and gender. We examine, among others, Gandhi's perceptions of truth and nonviolence as taught by Buddhism and Jainism. Together we will support each other to be the change we wish to see in the world. Credit will be granted for only one of RELS 395 and RELS 310. 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. Not offered 2019-2020.

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. Not offered 2019-2020.

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. Not offered 2019-2020.

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. Not offered 2019-2020.

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. Not offered 2019-2020.

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. Offered 2019-2020.

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. Offered 2019-2020.

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.
 R. Chisholm, 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.
 J. Phyne, Ph.D.
 D. Smythe, Ph.D.
 N. Verberg, Ph.D.

Professor Emeritus
 W. Jackson, Ph.D.
 D. MacInnes, Ph.D.

The Department of Sociology offers honours and major programs. Second- and third-year sociology courses require SOCI 101, 102 as prerequisites. 400-level courses require at least twelve credits in sociology below the 400 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:

- SOCI 101, 102;
- SOCI 202 and at least 3 additional credits at the 200 level;
- SOCI 301 and SOCI 302;
- 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:

- SOCI 101, 102;
- SOCI 202 and at least 3 additional credits at the 200 level;
- SOCI 301 and SOCI 302 and at least 3 credits in methods: SOCI 300 or 307;
- at least 6 additional SOCI credits at the 300 level;
- 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 Introduction to Sociology I

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 Introduction to Sociology II

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. Prerequisites: SOCI 101, 102. Three 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 SOCI 203 and SOCI/WMGS 310. Cross-listed as WMGS 203. Prerequisites: 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. Prerequisites: SOCI 101, 102. 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. Prerequisites: SOCI 101, 102. Three credits.

217 Race and Identities

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. Prerequisites: SOCI 101, 102. Three credits.

221 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. Prerequisites: SOCI 101, 102. 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. Prerequisites: SOCI 101, 102. Three credits.

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. Prerequisites: SOCI 101, 102. 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. Prerequisites: SOCI 101, 102. 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. Prerequisites: SOCI 101, 102. 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. Prerequisites: SOCI 101, 102. 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. Prerequisite: SOCI 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. Prerequisites: SOCI 101, 102. 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 Experiencing Social Class

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. Prerequisites: SOCI 101, 102. Three credits.

Note: 300-level courses require prerequisites SOCI 101 and 102 or the permission of the instructor.

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. Prerequisites: SOCI 101, 102. 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. Prerequisites: SOCI 101, 102. Three credits.

303 Social and Political Thought

This course introduces you to early modern approaches to thinking about the social world, including social contract theory, liberalism, political economy, scientific rationality, progressive history, colonialism, and human rights. We will consider how sociology and the social sciences either developed out of these early modern ideas or, in some cases, reacted against them. The course provides students with the intellectual foundations to engage more fully with contemporary debates in social and political thought. Prerequisites: SOCI 101, 102. 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. Three credits.

311 Men and Masculinities

A critical review of the science of masculinity and recent theoretical developments on the social construction of men's lives and masculinities. Topics include male

gender role socialization; the role social institutions play in shaping masculinities; masculinity politics, men's movement, and social change. Cross-listed as WMGS 311. Prerequisites: SOCI 101, 102. 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.

313 Conceptions of Disability

An introduction to the field of disability studies, this course examines the ways in which disabled people and disability issues are defined and treated in contemporary society. Social and political conceptions of disability are contrasted with medical and individualistic definitions of disability with the aim of developing a critique of taken-for-granted conceptions of normal bodies, minds, and senses. Community-based contributions and responses to disability knowledge are emphasized and common ideas and assumptions about disability are situated historically to illustrate changing relations to disability over time, and to the role of disability knowledge in social change. The experience of disability will be stressed. Prerequisites: SOCI 101, 102. 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. Prerequisites: SOCI 101, 102. Three credits. Not offered 2018-2019.

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. Prerequisites: SOCI 101, 102. 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. Prerequisites: SOCI 101, 102. 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. Prerequisites: SOCI 101, 102. 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. Prerequisites: SOCI 101, 102. Three credits. Not offered 2018-2019.

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. Prerequisites: SOCI 101, 102. Three credits.

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. Prerequisites: SOCI 101, 102. 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. Prerequisites: SOCI 101, 102. Three credits.

341 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 relations between agricultural and social sustainability, local food versus export economies, food security, food sovereignty and justice, as well as biotechnology, soil science and climate framing. At least one farm visit is included. Credit will be granted for only one of SOCI 341 and SOCI 398 offered from 2016-2018. Prerequisites: SOCI 101, 102. Three credits.

356 Power, Culture and Identity

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. Prerequisites: SOCI 101, 102. Three credits.

364 Food and Society

This course emphasizes linkages between food production and consumption in the changing global political economy. The social organisation of food production and consumption will be assessed from the standpoint of comparative research on global food chains and recent insights surrounding the social construction of food risks and benefits. Case studies will change on an annual basis but will always involve some consideration of the interrelations between countries from the 'North' and the 'South'. Prerequisites: SOCI 101, 102. 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. Prerequisites: SOCI 101, 102. Three credits. Not offered 2018-2019.

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. Prerequisites: SOCI 101, 102. 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. Prerequisites: SOCI 101, 102. 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. Prerequisites: SOCI 101, 102. 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. Prerequisites: SOCI 101, 102. Three credits. Not offered 2018-2019.

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.

395 Selected Topics

The topic for 2018-2019 is Family Policy in Canada. Students gain knowledge about federal and provincial social policies that influence family formation (e.g., pre- and perinatal health care, fertility assistance, adoption), care of infants, children and family members (family leave, child care, domestic worker programs, elder care), family dissolution (separation, divorce), and family trauma (violence prevention). Students learn to critically appraise policy, while examining how social policy intersects with cultural and structural aspects of gender, sexuality, Indigenous status, race and ethnicity, and socio-economic status. Prerequisites: SOCI 101, 102. Three credits.

Note: 400-level courses require at least 12 credits in sociology below the 400 level as a prerequisite, or the permission of the instructor. SOCI 101, 102 counts as six of these 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. Prerequisite: 12 credits of SOCI. Three credits. Not offered 2018-2019.

421 Ancestry, Society, and Personal Identity

This course attempts to locate personal biography in the context of social history. Students' genealogies provide the starting point for explorations of family, social history, and personal identity. Students will apply sociological ideas to the historical periods that helped shape their personal and family histories. Prerequisite: 12 credits of SOCI. Three credits. Not offered 2018-2019.

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. Prerequisite: 12 credits of SOCI. Three credits.

451 Topics in Social and Criminal Justice

This course examines current theoretical and research issues in crime and social justice. Using qualitative, quantitative, and historical methodologies, students will explore topics such as gender, class, minorities, and criminal justice; police-community relations; carceral and non-carceral forms of punishment; criminal and regulatory legal procedures. Prerequisite: 12 credits of SOCI. 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

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

» **SPORT MANAGEMENT** see 9.6 Business Administration and 9.22 Human Kinetics

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 Major or a BA with Joint 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

- 12 credits of WMGS 100, 205 and 303; and,
 - 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

- 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:
 - 12 credits of WMGS 100, 205 and 303; and,
 - 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.
- Course Pattern: see section 4.1.3

Honours in Women's and Gender Studies with a Subsidiary

See section 4.1 for general regulations on degree requirements.

- 48 credits in WMGS (subject A) and 24 credits subsidiary subject. For the 48 credits in WMGS students must complete the following:
 - 18 credits of WMGS 100, 205, 303, 391 junior seminar (non-credit), 400
 - WMGS 232 or 346
 - WMGS 493 (thesis)
 - ANTH 304 – designated methods course
 - 18 credits from WMGS core or cross-listed courses

No more than 12 credits of WMGS cross-listed courses may be in a single subject. Also, none of the WMGS cross-listed courses may be in the student's subsidiary subject (subject B).

Subsidiary in Women's and Gender Studies

- 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.
 - 12 credits of WMGS 100, 205 and 303
 - 12 credits WMGS including cross-listed courses.

Minor in Women's and Gender Studies

- WMGS 100; and,
- 18 credits in women's and gender studies core or 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

- WMGS 100 (6 credits); and
- 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 enrolled 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 and Identities

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 or third- or fourth-year status with permission of instructor. 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.

311 Men and Masculinities

A critical review of the science of masculinity and recent theoretical developments on the social construction of men's lives and masculinities. Topics include male gender role socialization; the role social institutions play in shaping masculinities; masculinity politics, men's movement, and social change. Cross-listed as SOCI 311. Three credits.

312 Women and Popular Music

A critical examination of the roles of the singing performer from the later 19th century to present through the development and changes of different musical styles and cultural context. Singer/audience relationships are explored as well as vocal lineage and the musical contributions of key artists. The course also surveys key singers over the last 100 years, through examining ideas fame, artistry, cultural/political significance race, and gender. Cross-listed as MUSI 312. 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. Not offered 2019-2020.

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. Not offered 2018-2019.

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. Not offered 2018-2019.

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. Offered 2019-2020.

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. Not offered 2018-2019.

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. Not offered 2018-2019.

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 2019-2020.

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. Not offered 2018-2019.

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 2018-2019.

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; 6 credits at the 200-level (211, 212 recommended). 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. Not offered 2018-2019.

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.

391 Junior Seminar

This is a non-credit, required course for third year students enrolled in the BA Honours with Subsidiary option in the WMGS Program. The seminar will give students an opportunity to engage with the research of faculty who teach core and cross-listed courses in the program, as well as the intellectual life of the program, in preparation to select a supervisor for the honours thesis they will write in their fourth year. No credit.

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 Authentic Power and Gender

This course presents "authentic power" as understood in Hindu and Buddhist traditions. Here, "authentic power" is that which creates, supports, maintains and sustains life. It is understood as an expression of inter-dependent masculine and feminine "principles" both within and outside the individual self. That which seeks to manipulate, control, dominate, oppress or defend territory is here understood to be based in fear: it is an expression of cowardice and, as such, merits our compassion. Cross-listed as RELS 315. Three credits. Offered 2019-2020.

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. Not offered 2019-2020.

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. Not offered 2019-2020.

425 Power and Change

Power and change can be volatile processes. This course allows students to explore them from an anthropological point of view. In 2018-19, the focus will be on food and power. It will address questions such as: How do gender, class, race, culture or other categories of difference affect who cooks and who eats, as well as what they eat? How has food become central to "gastro-diplomacy"? What are the politics of different kinds of food, locally produced food, food aid? How is food managed in times of crisis? Prerequisites: 12 credits ANTH, or HNU 365, or permission of instructor. Cross-listed as ANTH 425. Three credits.

491 Selected Topics

The topic for 2018-2019 is The Coquette in 18th-century literature is a trope for modernism as well as a woman who transgresses social and gender boundaries. Using *The History of Miss Betsy Thoughtless* as our main focus, we will examine how the coquette is characterized variously as inconsequential, threatening, flighty, flirty, feminist, and in need of reform. A conspicuous consumer, she resists marriage, refuses to settle, and "chooses too much." The coquette is damned or delightful depending on who judges her. Cross-listed as ENGL 491. Prerequisites: third year standing and 15 credits ENGL. Three credits.

493 Honours Thesis

A required course for students enrolled in the BA Honours with Subsidiary program. Students enrolled in this course will write a thesis about a question that is of interest to them and grounded in relevant scholarly research related to their chosen topic. Six credits.

Other courses may be considered WMGS cross-listed courses after consultation.

UNIVERSITY PERSONNEL

As of March, 2019

University Faculty Professors

Abelson, D., Ph.D.(Queen's) Director, Brian Mulroney Institute of Government, ECN Capital Chair in Canada-US Relations, Political Science

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

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

Boyle, T., Ph.D.(Carleton) Marketing & Enterprise Systems

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

English, L., Ed.D.(Columbia) Adult Education

Finbow, S., Ph.D.(Victoria) Mathematics, Statistics & Computer Science

Forestell, N.M., Ph.D.(OISE) History

Garbary, D., Ph.D.(Liverpool) Biology

Grenier, Y., Ph.D.(Laval) Political Science

Groarke, L., Ph.D.(Waterloo) Philosophy

Halperin, D., Ph.D.(Calgary), RN Nursing

Hynes, T.W., Ph.D.(Calgary) Accounting & Finance

Kalman, S., Ph.D.(McMaster) History

Kellman, L., Ph.D.(UQAM) Earth Sciences

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) Management

Lin, M., Ph.D.(Linköping) Mathematics, Statistics & Computer Science

MacAulay, K., Ph.D.(Queen's) Accounting & Finance

MacDonald, K., Ph.D.(Pennsylvania) Education

MacDonald, L., Ph.D.(Alberta) Education

Mackenzie, S., Ph.D.(Saskatchewan) Human Kinetics

Madden, R.F., MBA(Queen's), FCPA, FCA(ICANS) Accounting & Finance

Mahaffey, T., Ph.D.(Queen's) Marketing & Enterprise Systems

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

Murray-Orr, A., Ph.D.(Alberta) Education

Orr, J., Ph.D.(Alberta) Education

Palanisamy, R., Ph.D.(IIT, New Delhi) Marketing & Enterprise Systems

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

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

Tompkins, J., Ed.D.(OISE) Education

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

Weaving, C., Ph.D.(UOW) Human Kinetics

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) Marketing & Enterprise Systems

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

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

DeVries, R., Ph.D.(Trinity) Celtic Studies

Dodaro, S., Ph.D.(Toronto) Economics

Estill, L., Ph.D.(Wayne State) Canada Research Chair, English

Fawcett, C., Ph.D.(McGill) Anthropology

Foran, A., Ph.D.(Alberta) Education

Foshay, N., Ph.D.(Bradford, UK) Marketing & Enterprise Systems

Fox, A., Ph.D.(Toronto) Human Nutrition

Frazer, C., Ph.D.(Brown University) History

Fuller, M., Ph.D.(York) Management

Galway, M., Ph.D.(Australian NU) Biology

Gilham, C., Ph.D.(Calgary) Education

Gondra, I., Ph.D.(Oklahoma State) Mathematics, Statistics & Computer Science

Graham, D., Ed.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) Management

Lomore, C., Ph.D.(Waterloo) Psychology

Long, B., Ph.D.(Saint Mary's) Management

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

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) Management

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

Mitton-Kukner, J., Ph.D.(Alberta) Education

Morrison, B., Ph.D.(Strathclyde) Marketing & Enterprise Systems

Mukerji, B., Ph.D.(Carleton) Marketing & Enterprise Systems

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) Accounting & Finance

Ozkok, Z., Ph.D.(Madrid)	Economics	Part-Time Faculty	
Paz, M., MA(Ottawa)	Modern Languages	Boulter, C., Ph.D.(South Australia)	Education
Penner, K., Ph.D.(McMaster)	Religious Studies	Boyd, C., LL.B.(Victoria)	Management
Potts, J., Ph.D.(John Hopkins)	English	Braid, J., Ph.D.(Dalhousie)	Earth Sciences
Risk, D., Ph.D.(Dalhousie)	Earth Sciences	Brown-Georgallas, K., BFA(NSCAD)	Art
Robinson, D.B., Ph.D.(Alberta)	Education	Carty, E., M.Litt.(Glasgow)	Philosophy
Rosborough, J., Ph.D.(UWO)	Economics	Cavanagh, M.	Human Kinetics
Roy, C., Ph.D.(OISE)	Adult Education	Clark, S.	Human Kinetics
Rushton, C., Ph.D.(Bristol)	English	Crouse, Z., M.Ed.(StFX)	Education
Sandness, A., Ph.D.(Sorbonne)	Religious Studies	Dunnewold, H., P.Eng.(TUNS)	Engineering
Semple, R., Ph.D.(King's College, UK)	History	Fecteau, J., MFA(UBC)	Art
Taylor, B., Ph.D.(Calgary)	Biology	Gibson, M., MA(Goldsmiths College, UK)	Art
Taylor, T., Ph.D.(Dalhousie)	Mathematics, Statistics & Computer Science	Gillies, C., LL.B.(Dalhousie)	Management
Tokarz, W., Ph.D.(Alberta)	Modern Languages	Hadley, G., M.Ed.(StFX)	Education
Trembinski, D., Ph.D.(Toronto)	History	Haley, F., MHSA(Dalhousie), P.Dt.	Human Nutrition
Verberg, N.J., Ph.D.(Waterloo)	Sociology	Hatt, B., LL.M.(York)	Management
Vishwakarma, V.K., Ph.D.(U of New Orleans)	Accounting & Finance	Jan, S., BA(StFX)	Art
Vossen, D., Ph.D.(UWO)	Human Kinetics	Kraglund-Gauthier, W., Ph.D.(South Australia)	Coady Institute
Weaver, A., Ph.D.(UNB)	Psychology	Lade, M., M.Ed.(Kiel)	Modern Languages
White, R., Ph.D.(OISE)	Education	Lauff, R., M.Sc.(McMaster)	Biology
Whitty-Rogers, J., Ph.D.(Alberta), RN	Nursing	Legere, R., MBA(St. Mary's)	Marketing & Enterprise Systems
Withey, P., Ph.D.(Victoria)	Economics	Lin, Q., MMAD	Marketing & Enterprise Systems
Wright, K., Ph.D.(Toronto)	English	MacAskill, W., Ph.D.(Alberta)	Education
Wyeth, R., Ph.D.(Washington)	Biology	MacDonald, D., MA(Acadia)	Sociology
Young, D.C., Ph.D.(UWO)	Education	MacDonald, S., M.Ed.(MSVU)	Education
Zecker, R., Ph.D.(Pennsylvania)	History	MacEachern, L., MBA (St. Mary's)	Marketing & Enterprise Systems
Assistant Professors		McNeil-Wilson, A., M.Ed.(MSVU)	Education
Alessandrini, D., Ph.D.(Guelph)	Economics	Nicholson, M., B.E.D.S.(TUNS)	Art
Arnott, M., MN(South Queenlands)	Nursing	Olson, M., Ph.D.(Alberta)	Education
Aubrecht, K., Ph.D.(Toronto)	Canada Research Chair, Sociology	Patterson, G., M.Ed.(Acadia)	Education
Berrigan, L., Ph.D.(Carleton)	Psychology	Pulsifer, M., M.Sc.(Acadia)	Biology
Blair, K., Ph.D.(Queen's)	Psychology	Reid, L., M.Ed. P.Dt., C.D.E.	Human Nutrition
Braid, J., Ph.D.(Dalhousie)	Earth Sciences	Rogers, W., CSPWC, TWSA, SCA	Art
Charles, R., Ph.D.(Toronto)	Religious Studies	Ryan, R., M.Ed.(Memorial)	Education
Cormier, W., MBA(Dalhousie)	Accounting & Finance	Smythe, D., Ph.D.(Toronto)	Sociology
English, M., B.Sc.(Dalhousie)	Human Nutrition	Sparks, B., MA(Carleton)	Art
Ghouma, H., Ph.D.(Montreal)	Accounting & Finance	St. James, P., M.Sc.(Chicago Medical School)	Human Nutrition
Hallett-Tapley, G., Ph.D.(Dalhousie)	Chemistry	Sutherland, T., M.Kin.(Calgary)	Human Kinetics
Hanlon, J., MMUS(North Texas)	Music	Tetu, O.	Art
Hughes, J., M.Sc.(Brock)	Mathematics, Statistics & Computer Science	Vossen, J., M.Sc.(UWO)	Human Kinetics
Karunakaran, V., Ph.D.(Strathclyde)	Biology	Walters, W., Ph.D.(StFX)	Education
Kikkert, P., Ph.D.(UWO)	Irving Shipbuilding Research Chair, Public Policy & Governance	Young, R., BD Vis.Com.(NSCAD), M.Ad.Ed.(StFX)	Art
Lajeunesse, A., Ph.D.(Calgary)	Irving Shipbuilding Research Chair, Public Policy & Governance	Adjunct Professors	
Lam, M., Ph.D.(UBC)	Human Kinetics	Adesola, J., Ph.D.(Rhodes U, South Africa)	Biology
Lee, D., Ph.D.(UBC)	Mathematics, Statistics & Computer Science	Barre, E., Ph.D.(Guelph)	Human Nutrition
Leung, O., Ph.D.(Bentley)	Management	Beaton, E., Ph.D.(Manitoba)	Sociology
Levin, J., Ph.D.(Toronto)	Political Science	Bierenstiel, M., Ph.D.(Munich)	Chemistry
Levman, J., Ph.D.(Toronto)	Mathematics, Statistics & Computer Science	Cooper, M., Ph.D.(Toronto)	Human Nutrition
Lukeman, S., M.Sc.(Ottawa)	Nursing	Doyle, A., Ph.D.(Poland)	Celtic Studies
MacDougall, A., Ph.D.(Victoria)	Climate and Environment	Drijlepan, M., Ph.D.(UWO)	Earth Sciences
MacIsaac, M., MBA(Bradford, UK)	Management	Gregg, J., Ph.D.(Ireland)	Biology
Malloy, B., Ph.D.(UWO)	Economics	Gregg, M., Ph.D.(Toronto)	Anthropology
McKee, L., Ph.D.(UWO)	Education	Halperin, S., MD(Cornell)	Nursing
Nguyen, Y.N., Ph.D.(Monash)	Accounting & Finance	Hauf, P., Ph.D.(Frankfurt)	Health
Nzindukiyimana, O., MA HKIN(Ottawa)	Human Kinetics	Lackenbauer, W., Ph.D.(Calgary)	Public Policy & Governance
Palmer, M., Ph.D.(Guelph)	Human Kinetics	Ludlow, P., Ph.D.(Queen's, Belfast)	Catholic Studies
Parikh, B., Ph.D.(Memphis)	Accounting & Finance	MacDonald, A., Ph.D.(Toronto)	Physics
Price, S., MBA(St. Mary's)	Management	MacKenzie, C.B., MA(UBC)	Human Nutrition
Purvis, J., MN(Dalhousie)	Nursing	Oickle, D., M.Sc.(Saskatchewan)	Human Nutrition
Razul, S., Ph.D.(Dalhousie)	Chemistry	Sarhan, A.M., Ph.D.(Gdansk)	Mathematics, Statistics & Computer Science
Rodela, T., Ph.D.(Ottawa)	Biology	Smith, E., Ph.D.	Earth Sciences
Robinson, I., Ph.D.(StFX)	Education	Sullivan, T., MD(McMaster)	Nursing
Sheppard-LeMoine, D., Ph.D.(Dalhousie), RN	Nursing	Retired Faculty	
Spring, J., Ph.D.(Guelph)	Political Science	Aalto, S., Ph.D.(Oregon State)	Mathematics, Statistics & Computer Science
Summerfield, F., Ph.D.(Guelph)	Economics	Aboud, Sr. H.T., Ph.D.(Cornell)	Human Nutrition
Thomas, R., Ph.D.(OISE)	Education	Amoako Tuffour, J., Ph.D.(Alberta)	Economics
Thompson, K., Ph.D.(Victoria)	Psychology	Appleby, B., Th.D.(Toronto)	Religious Studies
Throop-Robinson, E., Ph.D.	Education	Arpin, M., Ph.D.(Laval)	Modern Languages
van Wijlen, J., MN(Dalhousie)	Nursing	Asadulla, S., Ph.D.(Florida)	Math, Computing & Information Systems
Williams, M., Ph.D.(StFX)	Education	Beck, J.F., Ph.D.(UBC)	Chemistry
Lecturers		Beckwith, C., Artist in Residence	Music
Alex, J., CA(ASCA)	Accounting & Finance	Bernard, I., Ph.D.(Pennsylvania)	Education
Mattie, D., BIS(StFX)	Marketing & Enterprise Systems	Bigelow, A., Ph.D.(Simon Fraser)	Psychology
Melong, J., MBA(Laurentian)	Accounting & Finance	Bilek, L., Pea.D.(Prague)	Human Kinetics
		Bourbeau-Walker, M., Ph.D.(UBC)	Modern Languages

Brooks, G.P., Ph.D.(Queen's, Belfast)	Psychology	Palepu, R., Ph.D.(India)	Chemistry
Buckland-Nicks, J., Ph.D.(Alberta)	Biology	Parsons, C.N., MA(Hons.)(Edinburgh)	Celtic Studies
Burke, Sr. B., MA(Columbia TC)	Music	Pencer, E.L., Ph.D.(Waterloo)	Psychology
Cameron, J. D., Ph.D.(Queen's)	History	Phillips, P., Ph.D.(Toronto)	History
Carter, G.G., M.Mus.(Eastman)	Music	Pink, D., Ph.D.(UBC)	Physics
Carty, E., M.Litt.(Glasgow)	Philosophy	Pluta, L., Ph.D.(Queen's)	Economics
Clancy, P., Ph.D.(Queen's)	Political Science	Quigley, A., Ph.D.(Northern Illinois)	Adult Education
Cormier, J., MN(Dalhousie), RN	Nursing	Quinn, J., Ph.D.(Wisconsin)	Mathematics, Statistics & Computer Science
Currie, S., Ph.D.(Alabama)	English	Quinn, W.R., Ph.D.(Queen's), P.Eng.	Engineering
Dawson, J., Ph.D.(UBC)	Adult Education	Rancy, C., Ph.D.(Toulouse)	Modern Languages
DeMont, M.E., Ph.D.(UBC)	Biology	Riley, S.E., D. Phil.(Oxford)	President, 1996-2014
den Heyer, K.C., Ph.D.(Manitoba)	Psychology	Roach, I., MFA(Guanajuato)	Art
Duff, D., Ph.D.(Calgary)RN	Nursing	Robertson, G., Ph.D.(Dalhousie)	Biology
Duncan, C.M., Ph.D.(UWO)	Business Administration	Schuegraf, E.J., Ph.D.(Alberta)	Mathematics, Statistics & Computer Science
Delgado, I., MFA(Instituto Allende)	Art	Sears, J.T., DBA(Harvard)	Business Administration / Academic Vice-President 1984-1987, 1991-1995
Dossa, S.A., Ph.D.(Toronto)	Political Science	Seymour, N., Ph.D.(McGill)	Biology
Edwards, J.R., Ph.D.(McGill)	Psychology	Shaw, J., Ph.D.(Arizona)RN	Nursing
El-Sheikh, S., Ph.D.(Queen's)	Economics	Smith, G., M.Mus.(Eastman)	Music
Fabijancic, U., Doc. Ille cycle (Montpellier III)	Modern Languages	Smith Palmer, T., Ph.D.(Auckland)	Chemistry
Gallant, C.D., Ph.D.(Illinois)	Mathematics, Statistics & Computer Science	Sony, S.D., MN(Delhi)RN	Nursing
Gallant, L., MBA(Queen's) CFP, FCA(ICANS)	Business Administration	Sproull-Seplaki, B., M.Sc.N.(Pennsylvania)RN	Nursing
Gallant, M., M.Sc.P.E.(Dalhousie)	Human Kinetics	Steinitz, M.O., Ph.D.(Northwestern)	Physics
Genge, A., Ph.D.(State)	Music	Stouffer, A.P., Ph.D.(Claremont)	History
Gerriets, M., Ph.D.(Toronto)	Economics	Sullivan, A., Ph.D.(UBC)	Human Nutrition
Gillen, M., Ed.D.(Toronto)	Adult Education	Syperek, A., BFA(NSCAD)	Art
Gillis, A., Ph.D.(Texas)RN	Nursing	Taylor, J.O., Ph.D.(Ottawa)	English
Gillis, D., Ph.D.(Nottingham)	Human Nutrition	Trites, G., BA(York), FCA(ICANS)	Business Administration
Gillis, H.A., Ph.D.(Notre Dame)	Chemistry / Academic Vice-President 1995-99	Wadsworth, L., Ph.D.(Saskatchewan)	Human Nutrition
Gillis, M.L., M.Sc.(Boston), RN	Nursing	Walsh, P., Ph.D.(Dublin)	English
Graham, H., MN(Dalhousie), RN	Nursing	Williams, P.J., Ph.D.(Memorial)	Biology
Grant, C., Ph.D.(Purdue)	Economics	Wood, G., Ph.D.(Bologna, Italy)	Modern Languages
Grant, J., Ed.D.(Toronto)	Education	Woodfine, W., Ph.D.(MIT)	Economics
Grant, Sr. J., M.A.(Notre Dame)	Art		
Grew, E., MNS(Harvard)	Nursing		
Harrison, J.F., Ph.D.(Durham)	Political Science	Nurse Educators	
Hayes, Z.L., Ph.D.(Waterloo)	Psychology	Briand, K., MN, RN	Nursing
Henke, P.G., Ph.D.(Georgia)	Psychology	Cabrera, D., MN(UNB), RN	Nursing
Hogan, M.P., Ph.D.(Toronto)	History	Chisholm, M., B.Sc.N.(StFX), RN	Nursing
Holloway, S., Ph.D.(Ohio State)	Political Science	Connolly, D., MN(Southern Queensland), RN	Nursing
Hunter, D., Ph.D.(King's, London)	Physics	Daviau, J., B.Sc.N.(StFX), RN	Nursing
Jackson, W., Ph.D.(Washington)	Sociology and Anthropology	Delorey, D., B.Sc.N.(Dalhousie), RN	Nursing
Jan, N., Ph.D.(Cambridge)	Physics	Dobbin, A.M., M.Ed.(StFX), RN	Nursing
Jensen, E., MN(Dalhousie), RN	Nursing	Fraser, Y., M.Ed.(StFX), RN	Nursing
Jewers, H., MN(Dalhousie), RN	Nursing	Kenny, K., M.Ed.(StFX), RN	Nursing
Johnson, R.W., Ph.D.(Manitoba)	Psychology / Academic Vice-President & Provost 1999-2005	LePage, F., MN(Southern Queensland), RN	Nursing
	Biology	Livingston S., B.Sc.N.(StFX), RN	Nursing
Klapstein, D., Ph.D.(Victoria)	Adult Education	MacDonald, L., B.Sc.N.(StFX), RN	Nursing
Lander, D., Ph.D.(Nottingham)	Administrative Vice-President 1972-2002	MacDonnell, A., B.Sc.N.(StFX), RN	Nursing
Langley, J.T., M.Sc.(Nebraska)FCGA	Chemistry	MacKenzie, P., B.Sc.N.(StFX), RN	Nursing
Liengme, B.V., Ph.D.(Imperial)	Chemistry	MacNeil, M., M.Ad.Ed.(StFX), RN	Nursing
Lynch, B.M., Ph.D.(Melbourne)	Mathematics, Statistics & Computer Science	Mbugua, J., M.Ed.(StFX), RN	Nursing
MacCaull, W., Ph.D.(McGill)	Celtic Studies	Panagopoulos, W., M.Ed.(StFX), RN	Nursing
MacDonell, Sr. M., Ph.D.(Harvard)	Mathematics, Statistics & Computer Science	Wood, S., M.Ad.Ed.(StFX), RN	Nursing
MacEachern, A., Ph.D.(Iowa State)	Nursing		
MacFarlane, E., M.Ad.Ed.(StFX) RN	Sociology and Anthropology	Lab Instructors	
MacInnes, D., Ph.D.(McMaster)	Education	Archibald, D., Ph.D.(Adelaide)	Earth Sciences
MacInnis, M., M.Ed.(Alberta)	Education	Artibello, T., B.Sc.Phys.Ed.(StFX)	Human Kinetics
MacIsaac, T., Ph.D.(Temple)	Theology / President 1978-90	Azad, M., MA.Sc.(Dalhousie)	Engineering
MacKinnon, Rev. G.A., Ph.D.(Ottawa)	Information Systems	Boucher, S., B.Sc.(StFX)	Chemistry
MacKinnon, R.J., Ph.D.(Oklahoma State)	Nursing	Buckland-Nicks, L., B.Sc.(Alberta)	Biology
MacLellan, M., MN(Dalhousie)RN	Education	Budicky, P., B.Sc., MBA(Waterloo)	Chemistry
MacMullin, Sr. M.R., Ed.D.(Temple)	Adult Education	Burbidge, M., M.Sc.(Victoria)	Biology
MacNeil, T., Ph.D.(Wisconsin)	Education	Burse, S., B.Sc.(Memorial)	Chemistry
Mahody, M.J., M.Ed.(MSVU)	Biology	Cozzi, R., M.Sc.(Quebec)	Biology
Marshall, W.S., Ph.D.(UBC)	Chemistry	Fraser, H., B.Sc.(StFX)	Chemistry
McAlduff, E.J., Ph.D.(Toronto)	Engineering	Fraser, J., B.Sc., B.Ed.(StFX)	Chemistry
McDonnell, R., ME(TUNS)	Human Kinetics	Hanlon, B., B.Sc.HNU(StFX)	Human Nutrition
McFarland, J.M., DPE(Springfield)	Director of Counselling	Hazel, M., M.Sc.(McMaster)	Biology
McMullin J., Ph.D.(Boston College)	Philosophy	Hunter, K., B.Sc.(StFX)	Biology
Mensch, J.R., Ph.D.(Toronto)	Education	Kane, C., M.Sc.(Calgary)	Human Kinetics
Meyer, M., Ph.D.(McGill)	Biology	Keizer, P., B.Sc.(StFX)	Mathematics, Statistics & Computer Science
Miller, A.G., Ph.D.(Queen's)	English	Lauff, R., M.Sc.(MacMaster)	Biology
Milner, P., Ph.D.(Notre Dame)	Human Nutrition	MacNeil, A., M.Ed.(StFX)	Human Kinetics
Morrissey, L., MNS(Cornell)	Education	Maillet, D.	Modern Languages
Munroe, E., Ph.D.(Calgary)	English	Marchand, C., B.Sc., B.Ed.(MSVU)	Biology
O'Brien, K., Ph.D.(Notre Dame)	Education	McInnis, R., BA(StFX)	Psychology
Olson, M., Ph.D.(Alberta)	Music	Murphy, C., M.Sc.(McGill)	Earth Sciences
O'Mahoney, T., M.Mus.(Miami)		Neville-MacLean, S., M.Ed.(StFX)	Psychology
		Overmars, J., BA(StFX)	Psychology

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., M.Ed.(StFX)	Human Kinetics
Trimboli, M.G., M.Sc.(Lethbridge)	Physics
Vossen, J., M.Sc.(UWO)	Human Kinetics

Student Success Centre

Leeming, M., Ph.D.(Dalhousie)	Interim Co-ordinator
ten Brinke, C., BA(CBU)	Learning Skills Instructor

Professor Emeritus/a

Aaito, 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
Phillips, P., Ph.D.(Toronto)	History
Quinn, J., Ph.D.(Wisconsin)	Mathematics, Statistics & Computer Science
Steinitz, M.O., Ph.D.(Northwestern)	Physics
Williams, P.J., Ph.D.(Memorial)	Biology

Senior Research Professors

Bigelow, A., Ph.D.(Simon Fraser)	Psychology
Buckland-Nicks, J., Ph.D.(Alberta)	Biology
Clancy, P., Ph.D.(Queen's)	Political Science
Holloway, S., Ph.D.(Ohio State)	Political Science
Marshall, W.S., Ph.D.(UBC)	Biology
MacCaull, W., Ph.D.(McGill)	Mathematics, Statistics & Computer Science
Meyer, M., Ph.D.(McGill)	Education
Phillips, P., Ph.D.(Toronto)	History
Pink, D., Ph.D.(UBC)	Physics
Smith Palmer, T., Ph.D.(Auckland)	Chemistry
Wadsworth, L., Ph.D.(Saskatchewan)	Human Nutrition
Williams, P.J., Ph.D.(Memorial)	Biology

Chaplains

MacPherson, Fr. Gary, M.Div.(AST), MPTH(Saint Paul)	University Chaplain
MacPherson, Sr. Jovita, DipTh, MA(Boston)	Associate Chaplain
Clubine, Rev. Jerry	Full Gospel Assembly
Smith, Rev. Peter	United
Channen, Rev. Susan, M.Div.	Anglican

Library

Delorey, C., MLIS	Librarian
Cameron, S., MLIS(UWO)	Librarian
Landry, M., MLIS(McGill)	Librarian
MacKenzie, K. MA(Saint Mary's)	Archivist
Matheson, L., MLIS(McGill)	Librarian

Coady International Institute

Alma, E., MA(Royal Roads)	Director, Women and Indigenous Programming/ Adult Education
Baden-Clay, A., BA(UNSW)	Manager, Youth Programs
Berger, B	Student Services
Case, A.	Manager, Finance Coady
Cash, C., Ph.D.(Waterloo)	Program Teaching Staff
Chowdhury, N., M.Sc.(Jahangirnagar)	Program Teaching Staff
Corkum, L.	Financial Officer
Cunningham, G., MA(Guelph)	Executive Director and Director Program Development
Ghore, Y., MPA(Columbia)	Program Teaching Staff
Hawkes, S.	Communications Coordinator
Irving, C., MA(Memorial)	Library Specialist
Kraglund-Gauthier, W. Ph.D.,(South Australia)	Manager, Networks and Ongoing Learning
Landry, J., MA(UBC)	Program Teaching Staff
Lazzuri, B., BA(UMW)	Marketing Manager
LeBlanc, J.	EA & Manager of Operations

MacDonald, J.	Manager, Recruitment and Admissions
MacDonald, J.	Marketing Coordinator
Neustaeter, R., Ph.D.(Manitoba)	Program Teaching Staff
Paul, K., BA (FNUC)	Program Teaching Staff
Peters, B., MA(Carleton)	Program Teaching Staff
Scoggins, A., MA(Cambridge)	Director, Education Programs and Project Development
Sears, C., BSc,	Library Assistant
Smith, E., B. Hums, MA	Manager, Monitoring and Evaluation
Thomson, K., BSc	Education Program Coordinator
Worth, C.	Acting Manager, Recruitment and Admissions

Extension Department

Bear, A	Navigator of New Initiatives
Brophy, P., BIS(StFX)	Innovation and Enterprise Centre Coordinator
Cook, Jody	Centre for Employment Innovation Financial and Administrative Coordinator
MacIntosh, P., M.Ad.Ed.(MSVU)	Extension Program Staff
Popp, J., M.Sc. (Saskatchewan)	Centre for Employment Innovation Coordinator of Stakeholder Engagement,
Romanow, P., Ph.D.(Carleton)	Centre for Employment Innovation Manager of Applied Research
Smith, J., B.Des.(NSCAD)	Director, Social Innovation
Stewart Snyder, K.,	Centre for Employment Innovation Marketing and Communications Officer

Continuing and Distance Education

Boucher, M., B.Sc.N.(Dal)	Co-ordinator, Distance Nursing Programs
Delorey, T., M.Ed., (StFX)	Co-ordinator
Goldie, H., M.Ed.(StFX)	Co-ordinator
Landry, J., Ed.D.(Calgary)	Director

Diploma in Adult Education

Goggin, William, M.Ad.Ed.(StFX)	Director
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Research Services Group

Richard Isnor, D. Phil.	Associate Vice President, Research & Graduate Studies
Bruce, D., MA	Director, Research Grants
Andrew J.D. Kendall, B.Sc.	Manager, Industry Liaison & Knowledge Transfer
Natasha Neal, BA MIM	Manager, Research Financial Operations
Dianne Edmond, BA	Research Operations Officer
Marie Gillis, BA	Research Administrative Co-ordinator

Administrative Departments**Administrative Services**

Vice-President, Finance & Administration	Andrew Beckett, CPA, CA
Director of Finance	Lisa Craig, CPA, CMA
Director, Human Resources	Jennifer Swinemar-Murray, B.Comm.
Director, Ancillary Services	Bob Hale, M.Ed.
Director, Risk Management	Randy Peters, MBA, CPA, CMA

University Advancement

Vice-President, Advancement	Murray Kyte, BBA, M.Ed., LL.B.
Director, Alumni Affairs	Shanna Hopkins, BA HKIN
Director, Development	Wendy Langley, MHK
Director, Marketing & Communications	Kyler Bell, B.Comm.

Athletics and Recreation

Director	Leo MacPherson, MBA
Manager, Varsity Athletics and Communications	Krista McKenna, MA
Manager, Recreation and Club Sports	Gerry Balcom, B.Sc.HKIN
Athletic Therapist	Tara Sutherland, M.HKIN., CAT(C)
Assistant Athletic Therapist	Dianne Ouimet, B.Sc.Ex.S.,CAT(C), RMT
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	Eric Gillis, B.Ed., OLY
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	Lee Anna Osei, MA
Coach, Women's Hockey	Ben Berthiaume, M.Ed.
Coach, Men's Football	Gary Waterman, B.Sc.P.E.
Strength & Conditioning Coach	Josh Crouse, B.Sc.Kin.

Co-operative Education Program

Manager	Jane MacDonald, MLIS, M.Ad.Ed., M.Ed.,
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Facilities Management

Director	Leon MacLellan, M.Eng., P.Eng.
Maintenance Manager	Shaun Chisholm, BBA
Manager, Custodial Services	Gary MacMillan
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 Leebeek

Office of the Registrar

Registrar & Director of Enrolment Planning	Tara Buksaitis, BA, MLIS
Associate Registrar, Academic	Shannon Morell, B.Ed.
Associate Registrar, Enrolment	Mark Kolanko, BA HKIN
Associate Registrar, Recruitment	Mary Jessie MacLellan, M.Ed.
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Co-ordinator, Tours & Special Events	Lisa Lawrence, BA, BBA
International Admissions Specialist	Brittany Wood, BBA
Admissions Officer	Sarah McKenna, BA
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Scholarship Administrator	Margaret Cameron

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Program Co-ordinator	Mary Oxner, Ph.D.
Program Manager	Megan Turner, MA

Student Services

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Director, Athletics & Recreation	Leo MacPherson, MBA
Director, Health, Counselling & Accessible Learning	Margaret McKinnon, MA., R. Psych
Director, Student Life	Jacqueline De Leebeek, MA
Director of Internationalization	Larissa Strong
Manager, University Housing	James Tobin
Manager, Residence	Sandy MacIntosh, B.Sc.HKIN, B.Ed.
Manager, Student Career Centre	Jane MacDonald, MLIS, M.Ad.Ed., M.Ed.
Manager, Student Experience	Augy Jones, M.Ed.
Student Conduct Co-ordinator	Matt Girard, BA
Centre Accessible Learning, Co-ordinator	Elizabeth Kell, M.Ad.Ed.
Coordinator, African Descent Affairs	Kelsey Jones, BA, JD
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IT Services

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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. See 3.1.

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. 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. The Faculty of Business includes courses in business administration. The Faculty of Education includes education courses at the undergraduate, graduate and doctoral 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 combined Faculties of Arts and Science offer climate and environment and health programs. 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 24 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.

Letter of Permission

A student may request a letter of permission to complete courses at another university. The credits will be used to fulfill StFX degree program requirements.

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 enrolled 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. Some programs have specific passing grade requirements. 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 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. The original grade has "R" specified indicating the course has been repeated and original credits removed.

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.

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 Program.

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
ANTH	Anthropology
AQUA	Aquatic Resources
ART	Art
BIOL	Biology
BSAD	Business Administration
CATH	Catholic Studies
CELT	Celtic Studies
CHEM	Chemistry
CLAS	Classical Studies
CLEN	Climate & Environment
COOP	Co-operative Education
CSCI	Computer Science
DEVS	Development Studies
ECON	Economics
EDUC	Education
ENGL	English
ENGR	Engineering
ESCI	Earth Sciences
FREN	French
GERM	German
HIST	History
HKIN	Human Kinetics
HLTH	Health
HNU	Human Nutrition
IDS	Interdisciplinary Studies
MATH	Mathematics
MIKM	Mi'kmaq
MNST	Ministry
MUSI	Music
NURS	Nursing
PGOV	Public Policy and Governance
PHIL	Philosophy
PHYS	Physics
PSCI	Political Science
PSYC	Psychology
RELS	Religious Studies
SOCI	Sociology
SMGT	Sport Management
SPAN	Spanish
STAT	Statistics
WMGS	Women's and Gender Studies

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. These courses may be used to meet StFX degree program requirements.

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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