St. Francis Xavier University

# Academic Calendar

2022-2023

Toll free 1-877-867-StFX(7839)

PO Box 5000, Antigonish, Nova Scotia, Canada B2G 2W5

# 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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## 2022

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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 May 2022.

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Association of Atlantic Universities
Association of Commonwealth Universities
International Association of Universities

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

**Civic Address**
2329 Notre Dame Avenue

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

**Registrar's Office**
Toll free 1-888-Reg-StFX(734-7839)
Phone: 902-867-2160
Fax: 902-867-5458
Email: registr@stfx.ca

ST. FRANCIS XAVIER UNIVERSITY

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# CALENDAR OF EVENTS 2022 - 2023

**JUNE 2022**

Thu. 16 2022-2023 Course timetable posted
Registration start times available on Banner Self-service for continuing students
Mon. 20 Course registration for the 2022-2023 academic year begins for continuing students

**JULY**

Fri. 1 Canada Day, offices closed
Mon. 4 Final date to apply for degree or diploma to be conferred at Fall Convocation
Fri. 8 Registration start times for new first-year students available on Banner Self-service
Tue. 12 Registration begins for new first-year students
Fri. 15 Student Account - Summer course fees due

**AUGUST**

Mon. 1 Nova Scotia Civic Holiday, offices closed

**SEPTEMBER**

Fri. 2 - Sat. 3 Welcome Days. Orientation program begins.
Students will receive schedule of activities.
Mon. 5 Academic Day
Move-in day for returning students
Tue. 6 Classes begin
Sun. 11 Opening Mass, 5 p.m.
Tue. 13 Last day to change first-term or full-year courses
Wed. 15 Student Account - First term payment due
Thu. 22 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
Thu. 29 December exam schedule available
Fri. 30 National Day for Truth and Reconciliation, no classes, offices closed.

**OCTOBER**

Mon. 10 Thanksgiving Day, no classes, offices closed
Tue. 11 University Senate meeting, 2:15 p.m.
Mon. 31 Deadline for professors to submit Fall mid-term grades
Thu. 27 Final date to apply for degree or diploma to be conferred at Spring Convocation

**NOVEMBER**

Tue. 1 University Senate meeting, 2:15 p.m.
Fri. 4 Last day to drop first-term three-credit courses
Mon 7 Fall Study Break begins
Fri. 11 Remembrance Day, offices closed
Mon. 14 Classes resume after study break

**DECEMBER**

Sat. 3 Feast Day of St. Francis Xavier
Sun. 4 Fall Convocation
Tue. 6 Last day of classes for first term
University Senate meeting, 2:15 p.m.
Thu. 8 Term examinations begin
Sat. 17 Christmas break begins after last examination
Wed. 21 Professors to submit term grades by 9:00 a.m.
Thu. 22 University closed for holiday break

**JANUARY 2023**

Tue. 3 University reopens
Wed. 4 Second term classes begin
Wed. 11 Last day to drop full-year courses or change second-term courses and request to audit courses
Sun. 15 Student Account - Balance due in full
Mon. 16 University Senate meeting, 3:45 p.m.
Wed. 25 Final date for submission of application to the B.Ed. program
Fri. 27 April exam schedule available

**FEBRUARY**

Mon. 13 University Senate meeting, 3:45 p.m.
Mon. 20 Winter Study Break begins
Nova Scotia Heritage Day, offices closed
Mon. 27 Classes resume after study break

**MARCH**

Fri. 3 Deadline for professors to submit Winter mid-term grades
Fri. 10 Last day to drop second-term three-credit courses
Mon. 13 Formal academic advising period begins
Mon. 20 University Senate meeting, 3:45 p.m.
For Spring Convocation, final date for:
• seniors to submit senior theses
• graduate students to submit theses
Fri. 24 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**

Wed. 5 Last day of classes
Fri. 7 Good Friday
Mon. 10 Examinations begin
Sat. 22 Last day of examinations
Mon. 24 University Senate meeting, 3:45 p.m.

**MAY**

Mon. 1 Professors to submit final grades for graduation candidates by 9:00 a.m.
Fri. 5 Spring Convocation list published
Sun. 7 Spring Convocation
Mon. 8 Professors to submit final grades for continuing students by 9:00 a.m.
Sun. 15 Student Account - Spring course fees due
Mon. 22 Victoria Day, offices closed

ST. FRANCIS XAVIER UNIVERSITY

# A TRADITION OF EXCELLENCE

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

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

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

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

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

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

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

## Arts

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

## Business

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

## Education

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

## Science

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

## History of StFX

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

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

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

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

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

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

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

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

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

## The Next Chapter

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

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

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

# UNIVERSITY PERSONNEL

### University Officers

| | |
|---|---|
| Andy Hakin, Ph.D. | President |
| Amanda Cockshutt, 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 |
| Bobbi Morrision, Ph.D. | Dean of Business |
| Lace Marie Brodgen, Ph.D. | Dean of Education |
| Joe Apaloo, Ph.D. | Dean of Science |
| Tara Buksaitis, BA, MLIS | Registrar & Director Enrolment Planning |
| Sandy Iverson, M.Ed., MLIS, RP | University Librarian |

# BOARD OF GOVERNORS

### Officers of the Board

| | |
|---|---|
| Chair: Dennis Flood | Saint John, NB |
| Vice Chair: Mary Lou O'Reilly | Toronto, ON |
| President and Vice Chancellor: Andy Hakin, Ph.D. | Antigonish, NS |
| Secretary and Treasurer: Andrew Beckett, CPA, CA | Antigonish, NS |

### Members Ex-Officio

| | |
|---|---|
| John Peacock, BBA, CPA, CA | Montreal, Qc |
| Most Reverend Wayne Kirkpatrick | Antigonish, NS |
| Amanda Cockshutt, Ph.D. | Antigonish, NS |
| Gord Cunnungham, MA | Antigonish, NS |

### Appointed Members

| | |
|---|---|
| Simone Abbass, DDS | Antigonish, NS |
| Denton Anthony, Ph.D. | Antigonish, NS |
| Paul Ash | Halifax, NS |
| Fr. Bill Burke | Sydney, NS |
| Ron Chisholm, LL.B. | Truro, NS |
| Archbishop Martin Currie | Dartmouth, NS |
| Fr. Duaine Devereaux | Sydney, NS |
| Marc Furlotte | Halifax, NS |
| Karen Gardiner, LL.B. | Halifax, NS |
| Deborah Gillis, MA | Toronto, ON |
| Geniece Hallett-Tapley, Ph.D. | Antigonish, NS |
| Anna Hancin | Antigonish, NS |
| Jack Irwin | Antigonish, NS |
| Tom Langley, B.Com., M.S. | Antigonish, NS |
| Peter Ludlow, Ph.D. | Kentville, NS |
| Paul McFarland, BA | Springfield, VA |
| Sylvia Parris | Halifax, NS |
| Dhruv Patel | Antigonish, NS |
| Chief Andrea Paul, BA, B.Ed. | Pictou Landing First Nation, NS |
| Lisa Raitt, LL.B. | Moffat, ON |
| Marc Rodrigue, BAH, JD | Toronto, ON |
| Kathleen Sheridan, BBA | Nepean, ON |
| Judy Steele, FCPA | Halifax, NS |
| Wojciech Tokarz, Ph.D. | Antigonish, NS |
| Joanne Tompkins, Ph.D. | Antigonish, NS |
| Frank van Schaayk, BE | Mira, NS |

# UNIVERSITY SENATE

### Members Ex-Officio

| | |
|---|---|
| Andy Hakin, Ph.D. | President |
| Amanda Cockshutt, Ph.D. | Academic Vice-President & Provost |
| Andrew Beckett, CPA, CA | Vice-President, Finance & Administration, Director of Student Services |
| Elizabeth Yeo | Vice-President, Student Services |
| Gord Cunningham, MA | Executive Director, Coady International Institute |
| Richard Isnor, D.Phil. | Associate Vice-President Research & Graduate Studies |
| Karen Brebner, Ph.D. | Dean of Arts |
| Bobbi Morrison, Ph.D. | Dean of Business |
| Lace Marie Brodgen, Ph.D. | Dean of Education |
| Joe Apaloo, Ph.D. | Dean of Science |
| Tara Buksaitis, BA, MLIS | Registrar & Director Enrolment Planning |
| Sandy Iverson, M.Ed. MLIS, RP | University Librarian |
| Meredith Cudmore-Keating | Vice-President Academic, Students' Union |
| Meghan Landry | Library Representative |

### Officers of Senate

| | |
|---|---|
| Lisa Lunney Borden, Ph.D. | Chair |
| Mary Oxner, Ph.D. | Past Chair |
| Marcia English, Ph.D. | Secretary |

### Elected Faculty Members

*Term Expires June 2022*
Denton Anthony, Ph.D.
Steve Baldner, Ph.D.
Maureen Coady, Ph.D.
Linda Darwish, Ph.D.
Laura Estill, Ph.D.
Stephen Finbow, Ph.D.
Mikael Haller, Ph.D.
Sionnach Hendra, MN, RN
Daniel Kane, Ph.D.
Stephen Marmura, Ph.D.

*Term Expires June 2023*
Alan Anderson, Ph.D.
Manuel Aquino, Ph.D.
Stefan Litz, Ph.D.
Brad Long, Ph.D.
Lori McKee, Ph.D.
Emeka Oguejiofor, Ph.D.
Jason Potts, Ph.D.

*Term Expires June 2024*
Youngwon Cho, Ph.D.
Christina Holmes, Ph.D.
James Hughes, Ph.D.
Karine LeBris, Ph.D.
Jennifer Mitton, Ph.D.
Shelley Price, Ph.D.
Holly Richardson, Ph.D.
Ingrid Robinson, Ph.D.
William Walters, Ph.D.
Kailin Wright, Ph.D.

### Elected Student Members

*Term Expires September 2022*
Margaret Ann Gillis
Hunter Park
Mackenzie Le Vernois
Tianna Williams

# 1. ADMISSION PROCEDURES AND REQUIREMENTS


**1.1 Admission Procedures**
**1.2 Admission to University Programs**
**1.3 International Admission**
**1.4 Admission to the Bachelor of Science in Nursing**
**1.5 Admission to the Bachelor of Education Program**
**1.6 Admission to Graduate Programs**


## 1.1 ADMISSION PROCEDURES

Address all applications and inquiries concerning admission to:

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

Applications for admission should be made on the appropriate form. A non-refundable application fee is required at the time of application. All applicant types are welcome to apply. Applicants must submit all previous academic transcript(s) from the secondary and/or post-secondary level. All information supplied by an applicant may be used by the university in its normal course of business. Students who have been accepted to the university can confirm their seat in their program by submitting the confirmation fee. 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. Documents submitted in support of an application become the property of StFX and may not be returned to the applicant or student. Any student found to have submitted forged or fraudulent credentials during the admissions process may be subject to one or more of the following penalties:

- Application cancellation
- Inadmissibility for up to 12 months

### Admission Requirements from High School

For high school students, the minimum requirements include an overall average of 70% in Grade 12, with no mark below 65% in each of the required subjects. Admission to limited enrolment programs is competitive, meeting the minimum average does not guarantee admission. The requirements for admission from high school and the courses required for university programs are specified in the chart on next page.

### Transfer Students

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

### Transfer Credits

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 to be evaluated for transfer credit. Transfer credit may be granted for courses if the course can be used towards the applicant's intended undergraduate program of study. Applicants may not knowingly, or carelessly provide untrue or incomplete information. Failure to supply such documents is considered grounds for subsequent academic dismissal.

### Mature Students

Applicants who have been out of high school for at least three years, and who have not completed any university of college level studies, may be considered for admission. Mature applicants are required to submit transcripts of all previous academic work, letters of reference from employers, and an outline of future plans. Each applicant is considered on an individual basis. Please note programs require specific prerequisites for admission.

### Re-entry Students

Students who wish to re-enrol at StFX after completing a degree or who are returning to previous studies in the same or different program must re-apply for admission. See section 3.4 for additional information.

### University Scholarships

All applicants with superior grades will be considered for scholarships. See section 2.6 for information on university scholarships.

### Program for Students with Disabilities

StFX welcomes students with disabilities and the Tramble Centre for Accessible Learning 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, visit their website at https://www.mystfx.ca/accessible-learning/ or call the Tramble 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. From the time of admission to beginning studies at StFX, students will be permitted to complete a maximum of 6-crdit hours at StFX, or another post-secondary institution. The completion of these credits will not impact their student type at the time of admission or their eligibility for major scholarship consideration. Students must submit official transcripts to have credits transferred and applied to their record at StFX. Failure to submit the required documentation will forfeit the transfer of these credits.

StFX requires university preparatory subjects to be used to meet admission eligibility. All programs require English and four additional Grade 12 (or equivalent) required subjects as specified in the chart on the next page. 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.stfx.ca/ admissions/requirements for the complete list of acceptable courses.

a) Bachelor of Music: 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 (music@stfx.ca) for an audition or to receive information regarding an audition. Successful candidates receive letters of acceptance from both the university and the music department.

b) Bachelor of Arts or Bachelor of Science in Applied Forensic Psychology: Admission to the Applied Forensic Psychology program is a two-part process. Students must apply to be accepted to the university and submit a supplemental application form to admit@stfx.ca for review by the department. The supplemental form is available at https://www.stfx.ca/admissions/requirements under general admissions requirements.

c) Collège d'enseignement général et professionnel (CEGEP): 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.

d) 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.

e) 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.

f) Early admission: Students may submit their final Grade 11 transcript in the fall of their Grade 12 year to be considered for early admission before their first set of grade 12 marks are available. Students applying for early 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 below. 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. |
| Bachelor of Arts in Applied Forensic Psychology | Students in the Applied Forensic Psychology program will learn how psychology research and practice applies to the legal system. Forensic Psychology examines issues at the interface of psychology and law, including eyewitness testimony, jury selection, deception detection, criminal law, police stress, forensic risk assessment, criminal behaviour, and types of offenders (e.g. those who offend in a sexual manner, psychopaths, murderers). | English and four university preparatory courses in grade 12. Limited enrolment. |
| 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. 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. Admission depends on the student's performance during an audition, please contact music@stfx.ca to schedule an audition and review requirements. |
| Bachelor of Arts in Public Policy & Governance | Students will study the world of public affairs and leadership. This program will introduce 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 tacking policy problems, and how to analytically approach the design, implementation and assessment of public policy. | English and four university preparatory courses in grade 12. |

## 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. |
| 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 including biomedical sciences, social determinants of health, health equity and health ethics, and customize their degree with a selection of courses from the Faculties of Arts and Science. 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. |

## 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. |
| Post-baccalaureate Diploma in Enterprise IT Management | A 48-credit diploma program that prepares graduates for employment in the field of enterprise systems. Students in this program will have the option of completing a Co-op Education program. | Completion of an undergraduate degree from a recognized university. Normally a minimum average of 70 in senior year of the undergraduate program. |

## 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. |

## FACULTY OF SCIENCE

| **Program** (four-years) | **Description** | **High School Requirements** |
|---|---|---|
| Bachelor of Science with Major | Major degree program offered in actuarial science, aquatic resources, biology, chemistry, computer science, Earth sciences, economics, mathematics and statistics, 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. |
| Bachelor of Science in Applied Forensic Psychology | Students in the Applied Forensic Psychology program will learn how psychology research and practice applies to the legal system. Forensic Psychology examines issues at the interface of psychology and law, including: eyewitness testimony, jury selection, deception detection, criminal law, police stress, forensic risk assessment, criminal behaviour, and types of offenders (e.g. those who offend in a sexual manner, psychopaths, murderers). | English, pre-calculus math, two of biology, chemistry or physics; and one other university preparatory course in grade 12. Limited enrolment. |

| | | |
|---|---|---|
| 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. 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; 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. Successful completion of CASPER prior to deadline. Limited enrolment. Admission is competitive. |
| 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 to graduate school in the sciences or engineering, look for employment across a widened field of opportunities, or enrol in the engineering program at Dalhousie 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. |
| Post-baccalaureate Diploma in Artificial Intelligence | A 48-credit diploma program that prepares graduates to begin or advance their career in computing-related fields and provide the depth of knowledge in the highly sought-after field of artificial intelligence. | Completion of an undergraduate degree, that is not computer science or equivalent, from a recognized university; one computer programming language course. |

## 1.3 INTERNATIONAL ADMISSION

In addition to meeting the general requirements above, students seeking admission from outside of Canada may require additional documentation to support the admission process.

a) English Language Proficiency. StFX reserves the right to require proof of language proficiency as a condition of acceptance, regardless of country of origin, citizenship status, or language of instruction. Applicants from countries where English is not an official language are normally required to submit a test of English Language Proficiency. Test results must be two years old or less, at the time of application to be valid. Acceptable tests include:
   i) IELTS - minimum score of 6.5 with no band below 6
   ii) MET – minimum score of 55
   iii) TOEFL iBT or TOEFL iBT Home Edition – minimum score of 90 with no band score below 20
   iv) CAEL and CAEL online – minimum overall score of 70 with no band score below 60
   v) C1 Advanced or C2 Proficiency – minimum overall score of 180 with no band score below 170

b) Submission of official transcripts and documentation
   i) Official transcripts are those that are submitted to the University directly from the issuing institution by mail or an official school email. Any transcript submitted directly by the student must be received in a sealed envelope from the issuing institution.
   ii) Any student found to have submitted forged or fraudulent credentials during the admissions process may be subject to one or more of the following penalties:
      • Application cancellation
      • Inadmissibility for up to 12 months

c) StFX uses credential evaluation and verification tools to examine, authenticate, and evaluate documents and grade point averages in assessing applications. Grading scales and conversions are continuously reviewed and updated during the academic cycle.

d) Translation of Academic Documents: English translations are required for any transcript not provided in English. The translator must be certified, and this should be indicated with a stamp or seal and signature on the documentation. Please note, the original transcript from the issuing institution is still required along with the official translation.

e) 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.

f) 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 C for admission to any program. Higher averages may be required for programs with limited enrolment. 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.

## 1.4 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 LPN to BScN option on campus or by distance. Admission is competitive and enrolment is limited. Students seeking re-admission must contact the Associate Director, Rankin School of Nursing, prior to June 30. Transfer student should contact the Admissions office for options.

CASPer is a mandatory admissions requirement for the Bachelor of Science in Nursing program. The test can only be taken once each year and is only valid for one admissions 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 nursing program. All students must successfully complete the test prior to the application deadline to be considered for admission to nursing.

Students accepted into any Bachelor of Science in 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.

| 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 and supplemental application form. |
| LPN to B.Sc. in Nursing Pathway (full-time, on campus)<br>Or<br>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. | Currently licensed as an LPN in Nova Scotia, with a total of 1800 hours work experience as a licensed practical nurse within the last two years<br>Minimum of 75% overall average for all practical nursing courses<br>Completion of CASPer exam<br>Students applying for the LPN to BScN Pathway program must accompany their application with official transcripts, a letter(s) from employer(s) confirming work experience, and a copy of their valid Nova Scotia LPN license. |

### 1.5 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.

### 1.6 ADMISSION TO GRADUATE PROGRAMS

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

## COADY INTERNATIONAL INSTITUTE

St. Francis Xavier University is committed to social responsibility and community development leadership on both a local and global level. Since 1928, StFX has invested in community development leadership. First, through the Extension Department to promote and advance the economic self-reliance and social well-being of the people of Atlantic Canada through economic cooperation and education and later with the establishment of Coady Institute in 1959.

Building and supporting change leaders globally and locally is at the core of Coady's mission. The Institute's work begins with assets available at the local level, builds on the strengths of all citizens, and establishes a network of supportive partnerships. This includes the addition of the Innovation and Enterprise Centre and the Centre for Employment Innovation. Both centres work to help foster a thriving province through employment and enterprise activities rooted in social innovation and community engagement.

Coady emphasizes local ownership and collaborative relationships that strengthen the capacity of people to drive their own development. Leadership education programs combine classroom-based sharing and community-based experiential learning along with the creation of virtual networks of peer support, mentorship, and accompaniment.

More than 9,500 graduates from 133 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. Coady focuses on building resilient communities, strengthening local economies, and promoting accountable democracies while offering 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.

Through the Pathy Family Fellowship, Coady provides community-focused experiential learning opportunities for select Canadian university graduates (Queen's, McGill, UOttawa, Bishop's 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. This includes a Master of Adult Education (M.Ad.Ed.) in Women's Leadership and Community Development online program.

StFX students benefit from Marie Michael Library, which houses one of the finest collections on international development and adult education. Learn more about StFX's and Coady's commitment to social justice, social responsibility, innovation, equity, and inclusion at coady.stfx.ca

# 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,

**2.2 Housing 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 Health and Counselling Services
2.3.5 Student Life Office
2.3.6 Financial Aid Office
2.3.7 Diversity Engagement Centre
2.3.8 Tramble Rooms Centre for Accessible Learning
2.3.9 Office of Internationalization
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 2021-2022 in Canadian dollars and are subject to change. An addendum to this Academic Calendar will show the fees for 2021-2022. For the most current and up to date information on tuition fees and refunds please refer to the accounting services online resources at https://www.mystfx.ca/financial-services/student-accounts

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

| | |
|---|---|
| Fewer than 24 credits | $ 330.00 per credit |
| 24 to 30 Credits | $9370.00 |
| Above 30 Credits | $9370.00 plus $300.00 per credit |

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

| | |
|---|---|
| Fewer than 24 credits | $ 342.68 per credit |
| 24 to 30 Credits | $9730.00 |

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 $6.01 per credit hour. For 18 or more credits, the fee is a flat rate of $180.00.

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 | $270.00 (single)* |
| Dental Plan | $205.00* |
| International students | $1200.00 (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 $14.33 per credit. For 24 or more credits, the fee is a flat rate of $430.00.

Students who are not Canadian citizens or permanent residents are required to pay an international student fee which is equal to the applicable tuition fee in addition to the tuition fee.

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 2021-2022 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 | $330.00 | |
| Full-time Tuition | | 24.00 | 30.00 | | $9,370.00 |
| Overload Tuition | | 30.01 | 99.00 | $300.00 | |
| Part-time NURS | | 0.01 | 23.99 | $342.68 | |
| Full-time NURS | | 24.00 | 30.00 | | $9,730.00 |
| Coop Education | | | | | $3,300.00 |
| M.Ed. Tuition | | 3.00 | 3.00 | | $990.00 |
| M.Ad.Ed. Tuition | | 3.00 | 6.00 | $341.33 | |
| MACS | | 3.00 | 18.00 | $412.50 | $7,425.00 |
| M.Sc., MA Tuition | | | 36.00 | | $6,010.00 |
| Ph.D. Tuition | | | 42.00 | | $11,430.00 |
| 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<br>24.00 | 23.99<br>99.00 | ($42.76) | <br>($1,283.00) |
| Student Assistance Program Fee | | | | | $6.00 |
| Students Union Fee | | 0.01<br>18.00 | 17.99<br>30.00 | $6.01 | <br>$180.00 |
| Health & Wellness Expansion fee | | 18.00 | 30.00 | $4.17 | $125.00 |
| Facilities Renewal Fee | | 0.01<br>24.00 | 23.99<br>30.00 | $6.97 | <br>$209.00 |
| International Student Fee | International on VISA | 0.01<br>24.00 | 23.99<br>30.00 | $330.00 | <br>$9,370.00 |
| Recreational Facilities Fee | | 18.00 | 30.00 | | $123.00 |
| Information & Technology Fee | | 0.01<br>24.00 | 23.99<br>30.00 | $14.33 | <br>$430.00 |
| Health Care Plan | Canadian Citizenship | 18.00 | 99.00 | | $270.00 |
| | International on VISA | 18.00 | 99.00 | | $1,025.00 |
| Dental Plan | | 18.00 | 99.00 | | $205.00 |

### 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 https://www.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 online through myData. Periodic notification of the balance owing on the student account will be sent to the students StFX e-mail account however it is the student's responsibility to monitor their account on a regular basis. 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. 65% of all fees are due and payable by September 15, 2022 and the balance on January 15, 2023. Student are expected to continue to monitor their student account after January 15 each year. Upon request, 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, 2022. The balance of the scholarship is applied to fees due on January 15, 2023. Students should note that no reduction in fees is allowed for late entrance.

Monthly late payment charge: Interest 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.

A late payment fee of $50 is charged in the first term if payment is delayed beyond September 15, 2022 and in the second term if payment is delayed beyond January 15, 2023. 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. The university also reserves the right to cancel or restrict IT services.

### 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 Program

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

## 2.2 HOUSING AND MEAL PLANS

Students in residence agree to be governed by the StFX University Community Code of Conduct and the University Housing 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 housing or food service will be made if students are temporarily absent from residence. This includes absences for academic reasons. All inquiries about housing contracts or meal plan contracts should be made to University Housing, Morrison Hall, email: residence@stfx.ca, phone: 902-867-5106.

### 2.2.1 Application for Housing

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

When a student applies to attend StFX, they are given the opportunity to apply for housing. 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 housing application by May 15. Once offered a space in residence, students have until June 1 to pay their $400 housing fee to confirm their space. This $400 fee is applied towards the student's cost for housing and meal plan. Students may continue to apply for housing after May 15.

**Returning Students**

Returning students may apply for housing using the online application. Information about the room assignment process can be found on the University Housing website. Once a room assignment is offered to a student and a student accepts their room and selects their meal plan, a $400.00 forfeiture fee will be applied to the student's account if a student cancels their residence contract before August 10. Refer to the Housing Contract for details about cancelling after August 10. 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 Housing and Meal Plan Fee 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 September 30. Off-campus students may purchase a meal plan and/or DCB or purchase meals. Visit the University Housing website.

### 2.2.3 Duration of Housing Occupancy

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

The university shall permit new students to occupy their assigned room from Friday, September 2 or Saturday, September 3, 2022 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 3, 2023 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 5, 2022 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 3, 2023 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 University Housing is required.

### 2.2.4 Cancellation of Housing Application and Contract

**New Entry Students**

Where the resident notifies University Housing prior to June 1, that they do not intend to take a room in residence, the housing fee will be returned. If the resident notifies the university that they do not intend to take a room in residence after June 1, they will forfeit their $400 housing fee. If the resident notifies the University after August 10 that they do 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 their room assignment, they are bound to the Housing Contract. Breaking a contract after accepting a room assignment will result in a $400.00 room forfeiture fee. If the resident does not notify University Housing prior to August 10 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 University Housing in writing that they wish to decline their room assignment either after the resident takes up their 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 2022-2023 academic year except in the following cases:

a) 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
b) 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 University Housing Contract on the basis of violation of policies outlined in the University Community Code and/or University Housing 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 recreational and physical activity. Intramural sports 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, baseball, cheerleading, curling, dance, equestrian, women's field hockey, men's and women'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 U SPORTS national organization. There are women's teams in basketball, cross-country & track, hockey, rugby and soccer; and men's teams in basketball, cross country & track, hockey, football and soccer.

### 2.3.2 Student Career Services

The Student Career Services (SCS) offers career coaching, career information, and employment services. The SCS can incorporate formal career assessments in students' career decision-making process and further educational opportunities. Throughout the academic year, the SCS offers a variety of events and programs to 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

Through the campus ministry, we support and encourage students, faculty, staff, and alumni to practice and live their faith. We welcome all faith traditions and offer connections and opportunities for all students who wish to practice their beliefs. Chaplaincy is ultimately here to travel with students in their time on campus. For more information please visit the website: https://www.mystfx.ca/chaplaincy/events/home

### 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, sexual violence prevention and response advocate, and the student wellness program coordinator. We also provide consultation opportunities with specialist physicians, student life staff equity and diversity advisors 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 and mental health needs of our students. We offer individual and group counselling, along with campus-wide wellness initiatives including the Bloomfield Hub. Students may book an appointment with our intake nurse for medical and/or mental health concerns 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 about our services, along with directions for online appointment booking with the intake nurse, please visit our website: https://www.mystfx.ca/health-and-counselling/home

### 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, Residence Life, and 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 facilitates restorative practices and 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 4th floor Bloomfield Centre. To contact us, please visit our website at https://www.mystfx.ca/student-services/ or phone (902) 867-3934.

### 2.3.6 Financial Aid Office

The university maintains a financial aid office to advise students regarding Canadian, American, and Ecuadorian government student loans, help students with financial planning, and administer the university bursary programs. For further information, visit the website at https://www.mystfx.ca/financial-aid/

### 2.3.7 Diversity Engagement Centre

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 advising, Indigenous student affairs, and African descent student affairs. More information is available at https://www.mystfx.ca/equity/diversity-engagement-centre

### 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 https://www.mystfx.ca/accessible-learning/

### 2.3.9 Office of Internationalization

The Office of Internationalization supports the specific needs of international students as they adapt to living and learning in Canada. This ranges from specialized admissions processes, support in arriving in Canada and on campus, the international student orientation, and information on immigration issues, working in Canada, staying in Canada, income tax, accessing health care, and finding success at StFX. The Office of Internationalization works with the international student society to organize social activities throughout the academic year.

### 2.3.10 Wellspring Centre

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

### 2.3.11 Student Success Centre

Student Success Centre services complement course work by assisting students in developing their academic communication skills and assisting them in accessing the other academic supports they require, including locating subject tutors. StFX students can arrange free one-to-one appointments through the centre's web page (https://www.mystfx.ca/student-success/), 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 workshops and 1-on-1 meetings 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, learn and work in an environment that promotes equity and is free from harassment and discrimination. In support of creating a safe environment where all individuals are treated with dignity and respect, the StFX Human Rights & Equity Manager provides resolution of discrimination and harassment issues, including formal and informal procedures for resolving concerns and complaints. The Human Rights & Equity Manager 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, AWARDS 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, students will receive the largest to which they are 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 Accessibility 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
Antigonish X Student Bursary
Justin Avery Memorial Award
Bank of Montreal Scholarship
Rev. R.V. Bannon Scholarship Fund
Barrick Gold Scholarship
Barry-Dewaele Family Bursary
Holly Bartlett Memorial Bursary
Bauer Bursary Fund
A.P. Beaton Scholastic Award
John Beaton Fellowship Bursary
Kristen Beaton – VON Memorial Nursing Award
Rev. Donald Belland Bursary
Dr. Dan Belliveau Bursary
Robert and Tracy Bennett Bursary
David Bernatchez Memorial Bursary
Lou Bilek Soccer Award
Rod & Betty Bilodeau Bursary
Michelle Birks Memorial Bursary
Black Leaders Bursary
Black Student Bursary in Education
Bogdanka Pivnicki Scholarship
Roger Boudreault Scholarship
Michael and Lisa Boyd Family Award
Harry and Martha Bradley Scholarship
Cecilia Brennan Bursary
Jo M. Brown Scholarship in Nursing
Claude Brunelle Memorial Scholarship
Florence Kate Burroughs Nursing Scholarship
Sister Peggy Butts Scholarship
CJFX Scholarship
Dominic Joseph Campbell O'Halloran Bursary
J.L. Campbell Bursary in Celtic Studies
Rev. J.V. Campbell Bursary
Michael A. "Diker" Campbell Scholarship
Madeline Cantin-Parslow Bursary
Madeleine Cantin-Parslow Nursing Scholarship
Cape Breton Scholarship and Bursary Fund
John Lloyd Carnegie Scholarship
Dr. J.J. Carroll Scholarship
Celtic Travel Bursary
Clarence & Helen Chadwick Bursary
Chadwick-Hayes Scholastic Award
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 Bursary
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
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 Bursary
Class of 1965 Fund
Class of 1967 Scholarship
Class of 1968 Bursary
Class of 1970 Bursary
Class of 1971 Bursary
Class of 1973 Service to Others Award
Class of 1994 Food for Thought Fund
Class of 2007 Bursary
Class of 2018 Refugee Student Bursary
Class of 2019 Emergency Mental Health Bursary
Class of 2020 Family Helping Family
Class of 2021 Food Security Fund
Class of 2022 Textbook Bursary Fund
Paul Cogger Memorial Scholarship
Gerald P. Coleman Q.C. Award
Louis Connolly Fund
Jean E. Cooke Bursary
Daniel & Frances Anzelc Cordeau Music Scholarship
Arleen Power Corey Memorial Fund
Rev. Cornelius B. Collins Scholarship
Rev. Cornelius J. Connolly Bursary
Rev. Cornelius J. Connolly Scholarship
Dahdaleh Scholarship
General Romeo Dallaire African Leadership in Education Award
John & Selena Daly Scholarship
Stuart R. Davie Bursary
James E. & Mary D. Deagle Endowment
Calvin Debaie Award
Edward P. Delaney Bursary
Edward P. Delaney Scholarship
Alphonse Desjardins Commemorative Scholarship
Development Studies Internship Bursary
Jeannine Deveau Educational Equity Bursary
Jeannine Deveau Educational Equity Scholarship
DeWolfe Memorial Scholarship in Education
Dr. John Dobson Memorial Award in Adult Education
Paul Dole Memorial Bursary
Class of 1960 - Dougher -Levesque Bursary
Alexander Doyle Memorial Scholarship
Rev. D.A. Doyle Scholarship
Dorothy Doyle Bursary
Richard and Rosemary Dumais Scholarship
The Sir James Dunn Foundation Internship Scholarship
Trudy Eagan Women in Business Award
Richard S. Elliott and Olive Mulroney Elliott Scholarshi
Faculty Staff Scholastic Award
Farrell Entrance for Nursing
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
Michael Fowlie Memorial Bursary
Irene & Joseph Francis Memorial Award
Roger Franklin Memorial Scholarship
Hugh Allen Fraser Scholarship
Kevin Fraser Memorial Bursary
Fund for French Scholarships
Douglas P. Furlott Award
Gaelic Scholarship Fund
L.T. Gallant Fund
Danny Gallivan Memorial Scholarship
Wilfred J. Garvin Scholarship
General Motors of Canada Company Women in Science Bursary
General Motors of Canada Company Women in Science Scholarship
Dr. A. Marie Gillen Award in Adult Education
Andrew and Isabelle Gillis Award
Anne Gillis (of Glen Alpine) Award
Belle Gillis of Glen Alpine Award
Colin and Christine Gillis-Chisholm Award
Daniel Gillis (of Alpine) Award
Donald and Margaret Gillis (of Glen Alpine) Award
Sister Henrietta Gillis Award for Education
Monsignor Hugh Gillis
Hugh and Celia Gillis Bursary
John and Sarah Gillis-Campbell Award
Joseph and Tessie Gillis Fund
Katie Gillis (of Glen Alpine)
Margaret Gillis (of Glen Alpine) Award
Mary Gillis (of Glen Alpine) Award
Mary Gillis MacPherson of Pinevale Award
John and Sarah Gillis-Campbell Award
Mary Margaret Gillis-Campbell Award
Joan Gillis-Lang Award

Mary Ann Gillis-MacIsaac (of Glen Alpine) Award
Glen Bursary Fund
Colin Russell Goodall Literature Bursary
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
Evie Grew Maternal-Child Nursing Award
Shirley (Martinello) Grinnel Scholarship
The Gulf Canada Scholarship
Andy Gunn and Jean Gunn Bursary
Dr. H.B. Hachey Scholarship
Bonnie (MacIsaac) Hale Memorial Bursary
A.G. Hamilton Scholarship
Hatchette Nicholas Bursary
Thomas J. Hayes and Family 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 & Donna Hudson Memorial Scholarship
Phil Hughes Leadership Award
Philip H. Hynes Memorial Scholarship
Inverness Scholarship Fund
Arthur and Sandra Irving Scholarship
Alanna Jenkins Legacy Fund Research Award in Forensic Psychology
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
Leo D. Kirwan Memorial Bursary
Rev. Martin Luther King, Jr. Award
Mike and Murdena Kolanko Bursary
Rev. John B. Kyte Scholarship
Melissa Jane Landry Memorial Bursary
LIFT Bursary – Living Intentionally, Fighting Tenaciously
Livingstone-Topshee Award
Don Loney Scholarship
Mac, Mac & Mac Scholarship
MacBain-Riley International Fund
Rev. Dr. Dan MacCormack
Senator John MacCormick Scholarship
MacDonald-MacIntyre Scholarship
Angus R. MacDonald Memorial Bursary
Rev. B.A. MacDonald Scholarship Fund
Rev. Hugh John MacDonald Memorial Fund
James M. and Evelyn MacDonald Bursary
Kathryn M. MacDonald Scholarship
Linda MacDonald Humanitarian Bursary
M. & N. MacDonald Bursary
Dr. Vernon and Mrs. Ann MacDonald Bursary
Wally MacDonald Memorial Nursing 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
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
Minnie MacIsaac Award
J. Elizabeth Mackasey Memorial Award for Education
Dennis MacKay Memorial Bursary
Michael and Jean MacKenzie Award
Alexander J MacKinnon Bursary
Gerard MacKinnon Memorial Bursary
Hugh MacKinnon Bursary
Dr. Ron MacKinnon Enterprise Systems Scholarship
Atlantic Central Credit Union Dave MacLean Bursary
Donald and Ethel Lyle MacLean Scholarship
Monsignor Donald A. MacLean Scholarship
Kennedy and Wendy MacLean Bursary
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
Ada MacNeill Wallace Bursary
Daniel and Mary MacNeil Fund
John V. MacNeil Fund
Stephen MacNeil Memorial Bursary
Archie and Catherine MacPhee Memorial Bursary in Catholic Studies
Angus and Mary (MacDougall) MacPherson Bursary
Joseph B. MacSween Award
Class of 1961 - Rev. Rod J. MacSween Scholarship
John C (Jack) Madden Memorial Bursary
The Noreen Manthorne Memorial Bursary
Married Students Bursary
James A. Martin Award
Emerson Mascoll Bursary
Dr. James McArthur Memorial Fund
Ann McCaig Business Administration Bursary
Ann McCaig Bursary
Harrison McCain Foundation Scholarship
McCarthy Estate Scholarships
Dr. Daniel McCormick Scholarship
Irene McFarland Memorial Bursary
Paul and Sara McFarland Bursary
The McGilly Bursary
Dr. J. William McGowan Family Scholarship
Frederick J. McInerney Scholarship
Rev. Roderick McInnis Bursary
McKenna-Smith Bursary
Rev. Leo G. McKenna Scholarship Fund
Jack McLachlan Fellowship in Biology
Margaret McLean Bursary
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
Morrisey Sisters Endowment Fund
Joan (MacDonald) and Fraser Muir Bursary
Benedict M. Mulroney Scholarship
The Right Honourable Brian Mulroney Scholarship
Michael Mulroney Scholarship
Dr. Mila Mulroney Scholarship
Donald and Barbara Munroe Student Wellness Fund
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
Dr. Brian and Mrs. Florence O'Brien Bursary
Daniel and Margaret O'Brien Bursary
Heather O'Brien – VON Memorial Nursing Award
Dr. Ed O'Connor Scholarship
Professor Emeritus Jack O'Donnell Scholarship in Music
Commodore Bruce S. Oland Scholarship
Philip Oland Scholarships
Barry O'Leary Leadership Award
Mercedes O'Reilly Memorial Bursary
Thomas O'Shea Scholarship
Rudy Pace Memorial Jazz Bursary
Dolores Parent Memorial Bursary
Daniel & Dorothea Petrie
The James and Marguerite (Murphy) Pistone Bursary
Pluta Family Bursary
Rev. William E. Power Estate Scholarship
Prodigy Consulting Scholarship
Project 2017
Allan Quigley Adult Education Access Award
Archie and Mary Catherine Rankin Scholarship
Rev. Donald M. Rankin Scholarship
RBC Leadership Award
Dr. Abraham Risk Award
Joady Anne Robertson Memorial Bursary
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 Russell "Return-to-University" Bursary
B.A. Ryan Scholarship
Claire Sampson Nursing Scholarship
Guy R. Savard Bursary
James P. Sawler Scholarship
Scotiabank Scholarship
T.J. Sears Family Scholarship
Service Learning Bursary
Dr. William Shaw Bursary in Earth Sciences
Dr. Ann Sherman Scholarship
Sisters of St. Martha Scholarships and Bursaries
Sisters of St. Martha Bursary (Parkland Antigonish)
Sisters of St. Martha Single Mother Bursary
C. Gordon Smith Scholarship
The Sobey Scholarships
Sodexo Canada Award in Nutrition
Sodexo Human Nutrition Scholarship
Ruth Steinmetz Memorial Bursary
James Jarvis Stewart Bursary
St. Francis Xavier University Alumni Scholarships
St. Francis Xavier Association of University Teachers Bursary
St. Martha's Hospital School of Nursing Alumni and Sisters of St. Martha's Bursary
StFX Halifax Alumni Kehoe Bursary
St. John's Chapter Alumni Bursary
John L. Stoik Scholarship
Laurence Streete Athletics Bursary
Students for Life Bursary
Students' Union Bursary
Henry and Josephine Sullivan Bursary
Marjorie (MacLeod) Sullivan & Thomas L. Sullivan Scholarship
Justin Svazas Memorial Bursary
Tannenbaum Canada Israel Exchange Student Scholarship.
Fred L. Taylor Memorial Scholarship
TD Bank Scholarship in Jazz Studies
Thompson Family Bursary
Dr. J.J. Tompkins Memorial Scholarship
Rev. John F. Toomey Bursary Fund
Rev. John F. Toomey Scholarship Fund
Toronto Alumni Bursary
Toyota Scholarship
Class of 1966 - Judge D. Tramble Bursary
Arthur P.H. Tully Fund
Katherine Tully Scholarship
Ted and Ann (MacDonald) Turcotte Bursary
Upton-Girard Family Leadership Award
Harvey Veniot Scholarship
Paul Wacko Bursary
Walker Wood Foundation Bursary
Walker Wood Foundation Bursary for Bachelor of Arts
Walker Wood Foundation Bursary for Bachelor of Science in Nursing
Wallace Family Internship
Martin J. Walsh Bursary
Dr. Margo C. Watt Forensic Psychology Award
Katherine Wdowiak Memorial Award
Kathie Wdowiak Bursary
Westbury Family Scholarship
The Weston Family Scholarship for International Exchange
James and Mary Whelan Scholastic Award
Rev. Robert Wicks Fund
August Wilkins Atlantic Engineering Competition Fund
August Wilkins Scholarship in Engineering
Women for Women Bursary
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 National Entrance Scholarship.

Major 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 all entrance and major scholarships students are required to submit the following by March 1:

a) An application for admission to the University;
b) A final first semester grade 12 high school transcript with an average of 85% or higher, by March 1, to support major scholarship applications,
c) A final grade 12 high school transcript with an average of 85% or higher, by August 1, to support national entrance scholarship. No application is necessary.

In addition to the requirements stated above, major renewable scholarships require additional submission through the online scholarship application site at https://www.stfx.ca/scholarshipapplication. Application materials include a detailed résumé containing a description of extra-curricular activities and awards, letter(s) of recommendation, essay responses and in some cases budgetary forms.

If a student is eligible for more than one university nominated scholarship, the student will receive the largest to which they are 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.

#### National Entrance Scholarships

| Admission Average | Value |
|---|---|
| 96 to 100% | $12,000 ($3,000/year over 4 years) |
| 90 to 95.9% | $7,000 ($1,750/year over 4 years) |
| 85 to 89.9% | $5,000 ($1,250/year over 4 years) |

#### Major Scholarships

#### 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.

#### 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.

#### Philip W. Oland 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.

#### Canadian Scholarships
Canadian Scholarships are awarded annually to students from Canada who are entering StFX. 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.

#### 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.

### Gerald Schwartz School of Business Scholarships

#### Schwartz National Scholars
StFX will offer annually four Schwartz National Scholars awards of $20,000 per year, renewable, for a total of $80,000 over four years. These awards are open to all first-year full-time BBA students who have a minimum 90 per cent average and demonstrated StFX qualities of leadership and service to community. The awards are open to all nationalities.

#### Schwartz Order of Merit Entrance Awards
StFX will offer six Order of Merit Entrance Awards, of $7,500 per year, renewable for a total of $30,000 over four years. These awards will be open to first-year full-time BBA students enrolling from high school who are Canadian residents and have a minimum 90 per cent average and demonstrated StFX qualities of leadership and service to society.

#### Schwartz Heather Reisman Women in Business Scholars
StFX will offer two Heather Reisman Women in Business Scholars awards, each renewal at $7,500 per year for a total of $30,000 over four years. These awards are open to first year full-time female BBA students enrolling from high school. The awards are open to Canadian residents, with a minimum 90 per cent average and demonstrated StFX qualities of leadership and service to community.

#### Schwartz Scholars of Distinction
StFX will offer 14 Schwartz Business Scholars of Distinction awards of $4,000 per year, renewable for a total of $16,000 over four years. The awards are open to first-year, full-time BBA students enrolling from high school with a minimum average of 85 per cent and demonstrated StFX qualities of leadership and service to community. The awards are open to Canadian residents.

#### Schwartz International Scholars
StFX will offer 14 Schwartz School of Business International Scholars awards, each valued at $8,000 annually and renewable for a total of $32,000 over four years. These awards are open to all first-year, full-time BBA students enrolling from high school with a minimum average of 85 per cent and demonstrated StFX qualities of leadership and service to community. The awards are open to all non-Canadian residents.

#### Schwartz Transfer Entrance Scholarships
StFX will offer four Transfer Entrance Scholarships of $3,000, each renewable for a total of $9,000 over three years. These awards will be open to students transferring full-time into the BBA program from the Nova Scotia Community College system or equivalent college in Canada with a minimum of 80 per cent average and no fewer than 24 credits in the past year of study. The scholarship is open to all Canadian residents.

### Mulroney Institute of Government Scholarships

#### The Right Honourable Brian Mulroney Scholarship
StFX will offer two Right Honourable Brian Mulroney awards, of $15,000 per year renewable for a total of $60,000 over four years. These awards will be open to first year full-time PGOV students enrolling from high school who are Canadian residents and have a minimum of 90 per cent average and demonstrate StFX qualities of leadership and community involvement.

#### The Sobeys Scholarship Associated with the Mulroney Institute of Government
StFX will offer three Sobeys awards, of $10,000 per year renewable for a total of $40,000 over four years. These awards will be open to first-year full-time PGOV students enrolling from high school who are Canadian residents and have a minimum of 85 per cent average and demonstrate StFX qualities of leadership and community involvement.

#### Irving Entrance Scholarship Associated with the Mulroney Institute of Government
StFX will offer three Sobeys awards, of $5,000 per year renewable for a total of $20,000 over four years. These awards will be open to first-year full-time PGOV students enrolling from high school who are Canadian residents and have a minimum of 85 per cent average and demonstrate StFX qualities of leadership and community involvement.

#### Mila Mulroney Scholarship for African Nova Scotian Students
StFX will offer an award of $4,000 per year renewable for a total of $16,000 over four years. This award will be open to first-year full-time Aboriginal Canadian and African Nova Scotia PGOV students enrolling from high school who are Canadian residents and have a minimum of 70 percent average and demonstrate StFX qualities of leadership and community involvement.

#### Scotiabank Entrance Scholarship
StFX will offer an award of $4,000 per year renewable for a total of $16,000 over four years. Open to all students enrolling in the PGOV program directly from high school. A minimum 85% average is required for entrance scholarship. Awards are renewable for 4 years with continuation in Bachelor of Arts with major or minor in PGOV.

#### Michael Mulroney Scholarship
StFX will offer an award of $1,750 per year renewable for a total of $7,000 over four years. Open to all students enrolling in the PGOV program directly from high school. A minimum 90% average is required for entrance scholarship. Awards are renewable for 4 years with continuation in Bachelor of Arts with major or minor in PGOV.

#### Thomas O'Shea Scholarship
StFX will offer an award of $1,750 per year renewable for a total of $7,000 over four years. Open to all students enrolling in the PGOV program directly from high school. A minimum 90% average is required for entrance scholarship. Awards are renewable for 4 years with continuation in Bachelor of Arts with major or minor in PGOV.

#### Bogdanka Pivnicki Scholarship
StFX will offer an award of $1,750 per year renewable for a total of $7,000 over four years. Open to all students enrolling in the PGOV program directly from high school. A minimum 90% average is required for entrance scholarship. Awards are renewable for 4 years with continuation in Bachelor of Arts with major or minor in PGOV.

#### Sam Wakem Scholarship
StFX will offer an award of $1,750 per year renewable for a total of $7,000 over four years. Open to all students enrolling in the PGOV program directly from high school. A minimum 90% average is required for entrance scholarship. Awards are renewable for 4 years with continuation in Bachelor of Arts with major or minor in PGOV.

### 2.6.2 English for Academic Purposes
Students admitted into the English for Academic Purposes (EAP) program with conditional acceptance into an undergraduate degree program by March 1, 2020 are eligible for entrance scholarships. Scholarship eligibility is based on a student's final grade 12 final marks, and 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 scholarships listed below is March 1. To be eligible for any guaranteed entrance scholarships students are required to submit the following:

a) An application for admission to the University;
b) A final first semester grade 12 high school transcript prior to March 1;
c) An English language proficiency test

Upon successful completion of the EAP program, students who meet the requirements of the entrance scholarship program will be assessed for entrance scholarships. Eligible students must be enrolled in a minimum of 24 credits in the Fall/Winter terms combined, and have taken no more than 3 credits at StFX before entering into full-time studies in an undergraduate program. Additionally, students must also achieve a minimum overall average of 80% at StFX to maintain scholarship offer. Scholarships are tenable at StFX over four consecutive years of study unless stated otherwise in the scholarship offer letter. Renewal terms listed above.

### 2.6.3 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. Grades obtained for courses taken on a letter of permission or exchange are not used for scholarship eligibility. The scholarships, ranging in value from $1,000 to $5,000, are awarded for one year.

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

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

The following guidelines are used in making these awards:

a) A student ranked first in each scholarship group will qualify for the amount of $5000.
b) A student ranked in top 5% in each scholarship group will qualify for the amount of $2000.
c) A student with average of 80% or higher will qualify for the amount of $1000.
d) If a student is eligible for more than one university nominated scholarship, s/he will receive the largest to which they are entitled

### 2.6.4 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. The entrance bursary program runs from mid-April to early June and the limited and general bursary programs run during the fall and winter semesters. Each program has unique deadlines; 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:

Clare Fawcett Graduating Anthropology Student Award
Art History Prize
Onex Corporation Gold Medal
CPA Nova Scotia Award of Excellence
East Coast Credit Union Prize in Entrepreneurship
CIBC Wood Gundy Prize in Finance
Killam REIT Prize in Marketing
IBM Prize in Enterprise Systems
Schwartz School Prize for International Business
Schwartz School Prize for Management and Leadership
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
A.A. MacKenzie Prize in Celtic Studies
Chemistry Industry Merit Award
Andree and Claude Coussement Prize in Chemistry
Dr. John P. Cunningham Internship Prize in Chemistry
Richard Cunningham Internship in Engineering
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
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
Craig McDonald Mooney Prize for Psychology
Walter Kontak Prize in Political Science
Hon. John B. Stewart Scholarship for Political Science
Annette Ahern Memorial Essay Prize in Religious Studies
John and Mary Fraser Memorial Prize for Senior Religious Studies
Rev. F. J. Mifflen Sociology Prize
Allard Tobin Travel Fund
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
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3.6 Student Classification
3.7 Class Attendance and Withdrawal
3.8 Academic Integrity Policy
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3.10 Grading System for Undergraduate Programs
3.11 Academic Penalties
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3.13 Grade Appeal Procedure
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3.15 Academic Records
3.16 Regulations for a Second StFX Degree
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3.18 Exchange and Study Abroad
3.19 Dean's List
3.20 Distinction and First Class Honours
3.21 Correspondence from the Registrar's Office to the Student
3.22 Obligations of Students
3.23 Research Ethics


## 3.1 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) Effective for the 2022-2023 academic year, all new first year students will be required to complete the non-credit Xaverian Community Foundations Certificate prior to registering for courses in their second year.

c) Students are responsible for the accuracy of their course registrations and for ensuring that the courses they select are appropriate to their degree programs.

d) Students will be dropped from any second term courses if they have failed or dropped any required prerequisite course(s) in the first term.

e) Students who are uncertain about their course selection are encouraged to seek assistance from academic advising, the department chair, or program co-ordinators.

f) 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.

g) 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.

h) 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.

i) 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 who do not formally drop the course in Banner, 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, Immigration, Refugees, and Citizenship Canada (IRCC) reporting, 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 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. Courses taken on a letter of permission (LOP) are included and counted as part of a student's 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 the grade will 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 earned in the second instance is lower than the grade in the first instance, no adjustment will be made to the grade in the first instance.

### Course Restrictions

a) Courses in business administration, education, engineering, health, human kinetics, human nutrition, or nursing may normally only be applied 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 from any of the professional or applied program disciplines: AQUA, BSAD, CLEN, ENGR, HKIN, HLTH, HNU or NURS.

### Auditing Courses

a) A student may audit any on campus undergraduate course with approval from the course instructor. A course instructor may deny permission to audit a course. Non-students are required to submit an application for admission, and be accepted, prior to being permitted to audited courses. Admission deadlines for the university will be in effect.

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 for 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.

f) 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 towards 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. The transfer credit will be removed from the StFX record.

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 the forfeit of transfer credits or 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) Students will not be permitted to take distance courses on a letter of permission if StFX offers the same course via distance.

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) Students must have an active student status, or seek re-admission to the university, to enrol in any course at another university. Students must obtain a Letter of Permission (LOP) from the appropriate Dean **PRIOR** to registering and completing the courses. The LOP form is available through Services@StFX.

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) Students must have an official transcript sent to the Office of the Registrar at StFX when courses are complete to finalize their transfer credits.

e) Grades obtained for courses taken on a letter of permission are not used in the calculation of averages or to determine scholarship eligibility, first class honours or distinction.

f) Students in good academic standing or on academic probation are eligible to enrol in courses at another university during the regular, spring, and summer terms.

g) 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

To obtain a first degree or diploma from StFX, students must normally complete:

a) At least 1/2 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 since the previous academic year or withdraws from university, must re-apply for admission.

b) A student who is returning to complete the honours conversion will be placed in a non-degree program until the honours declaration form is approved.

c) A student who is re-admitted is bound by any changes made in the curriculum and regulations after their first registration.

d) Students are required to complete their degree within 10 years of their first registration.

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

f) 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 is required to enrol and complete the APEX program. Refer to section 2.3.11 for additional information.

g) Upon re-admission to the university, students will be eligible to register in courses at StFX and elsewhere.

## 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 three-credit 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, as early as possible, 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 and no later than the first day of classes 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 only 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. 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 |

b) Advancement in classification is granted when a student earns 30 credits in the preceding classification.

c) Registration time tickets are assigned based on credits completed and year of study. See section 3.1(a) for additional information.

## 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 exceeding 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 Services@StFX.

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).

## 3.8 ACADEMIC INTEGRITY

The Academic Code of Conduct sets out for the university community the expectations for an academic community of integrity. The code is the measure for addressing a charge of academic misconduct against a student within an academic community that seeks to support student learning at St. Francis Xavier University. The premise of this code is set in the various laws and codes that regulate the university's day-to-day activities. These include but are not limited to the Canadian Copyright Act, Canadian Privacy Act, and the Canadian Intellectual Property Rights.

An academic community flourishes when its members are committed to six fundamental values and ideals: honesty, trust, fairness, respect, responsibility, and courage (ICAI, 2021). Specifically, the following have been adopted from the

### 3.8.1 The Code of Academic Conduct

International Centre for Academic Integrity Fundamental Values document (2021). The Academic Code of Conduct espouses the following values:

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 academic standards, practices, and procedures and expects fairness in interactions amongst 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.
e) Upholds personal responsibility and accountability and depends upon action in the face of wrongdoing; and,
f) Stands up for these fundamental values in the face of pressure and adversity with determination, commitment, and courage.

In the spirit of Reconciliation, using the concept of Two-eyed seeing (Bartlett, Marshall, & Marshall, 2012), we can connect the above, allowing us to see with an Indigenous perspective via the Seven Grandfather teachings given to us by the Anishinaabe and Mi'kmaq people (Bouchard, 2016; Seven Grandfathers in Academic Integrity, 2020), these are as follows:

a) Love with love in our hearts. We love to have the ability to soar to great heights,
b) Courage, always seek the courage to make changes within, do what is right,
c) Respect, all of creation is to be treated with respect. This includes respect for yourself and others.
d) Honesty in facing a situation is to be brave. Always be honest in your word and action.
e) Humility brings inner power and strength. You are equal to others, but you are not better.
f) Truth, slow down the pace of your life; faster is not always the best way to reach your goals. Speak the truth. Do not deceive yourself.
g) Wisdom reminds us to act on our dreams and make them a reality. Wisdom is given by the creator to be used for the good of the people.

### 3.8.1 Offenses against Academic Integrity

Offences against academic integrity include but are not limited to plagiarism, cheating, fabrication (includes falsification), and tampering. The following misconducts, intentional or otherwise, describes the above offence that constitute academic dishonesty and are therefore subject to consequences disciplinary action. The following descriptions/ examples is not an exhaustive list.

a) Plagiarism

Academic work often involves research on or reference to and critically examining and evaluating the ideas, data, and commentary of other scholars' work. Academic integrity requires that any use of another person's work or previous work by the student be properly acknowledged and cited using the reference system appropriate to that discipline (e.g., MLA, APA, Chicago).

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.

The most common forms of plagiarism are usually associated with students' writings, such as papers and essays; however, plagiarism may occur in studio, seminar, laboratory, and classroom work and include audio and or video format. It is the course professor/instructor's duty to clarify plagiarism for students and provide students with acceptable format guidelines for references and citations within their course syllabus and make them available on their electronic course pages, e.g., Moodle.

Plagiarism includes but is not limited to when a student knowingly or unknowingly commits the following offences and therefore will be held to:

i) Represents as one's own idea or expression of an idea or work of another in connection with any source regardless of format by quoting verbatim, paraphrasing, re-arranging the text or summarizing text, even small portions of text, without proper acknowledgement. Proper acknowledgement is through using the citation style (e.g., APA, MLA) as per the academic discipline and or as described in the course syllabus;
ii) Plagiarism also includes coping from the Internet, from materials obtained from a library, or any other database, including online applications, all, or part of a print resource (e.g., a paper, a journal article, a book or e-resource, an audio recording, a video, a studio work, a data set, a program/code, excluding bibliography makers), and presents it as one's own work;
iii) Self-plagiarism is when work previously submitted by the student is used in another assignment. Self-plagiarism without proper acknowledgement of the previous submission and permission of the previous instructor is a violation of academic integrity.

b) Cheating

Cheating is when a student or students seek credit or other advantages for themselves or disadvantage others through fraud, misrepresentation of work, dishonest or disruptive behaviour.

Students are required to follow the expectations and acceptable use guidelines set by the professor(s)/instructor(s) in the course syllabus and/or separate instructions communicated to students before the completion of graded assessment, such as course assignments, midterms, and/or examinations.

Cheating includes, but is not limited to when a student:

i) submits, in any part, another's work as one's own;
ii) shares graded work (e.g., assignments, essays, tests), when not permitted to do so, or when not explicitly told that collaboration is allowed;
iii) buys, borrows, or leases any graded assignments, including laboratory work, codes, and data, to submit the work as their own;
iv) submits, without the professor(s)/instructor(s) prior expressed written consent, any work for which credit has been, or is being sought in another course, including any work that has been submitted at another educational institution. Depending on the case this may also be self-plagiarism.
v) collaborates (i.e., works together) on graded work (e.g., an assignment, test, midterm, online assessment) for which the professor(s)/instructor(s) did not explicitly indicate that students could collaborate;
vi) possesses and/or uses unauthorized aids or obtains unauthorized assistance, including but not limited to copying, using a translation service,

online aids, bot, any unauthorized computer hardware, software, including computer programs, Apps, widgets, or other electronic retrieval systems or face-to-face assistance for any graded assessments (e.g., quizzes, assignments, tests, and examinations);

vii) helps another student engage in academic dishonesty including but not limited to providing answers to graded or ungraded assessment, a test or examination; providing an essay, laboratory report, or assignment that is copied and submitted by another student as their work;

viii) obtains or views a copy of the graded or ungraded assessment (e.g., the midterm, test, or final examination) before it is administered and uses this knowledge to yield an unfair advantage.

c) Fabrication and Falsification

Fabrication involves the act of creating a falsehood to obtain credit or advanced standing or seek to disadvantage others through dishonest or disruptive behaviour.

Falsification includes but is not limited to the untruthful representation, reporting, and submission of any personal, academic, or other graded assessment and evaluation to obtain credit or advanced standing or seek to disadvantage others through dishonest or disruptive behaviour.

The following are infractions of fabrication and/or falsification and will be treated as academic misconduct violations.

In writing/assignments/examinations when the student:

i) Fabricates the connection between the sources cited and the content within the student's work;

ii) Fabricates references or sources;

iii) Falsifies any research results, whether in laboratory experiments, field trip exercises, or other assignments whereby the data has been fabricated and/or falsified.

In an online/in person class when the student:

iv) impersonates another student in a test, examination, assignment, attendance record, or in connection with any other academic work;

v) knowingly permits another to impersonate oneself;

vi) forges, alters, or falsifies transcripts or other academic records in print or electronic form for any purpose;

vii) submits false credentials to the University or any other institution;

viii) makes false representation on an application for admission;

ix) makes false representation on an application for ethical approval for a research project involving human or animal subjects; or,

x) requests the extension of a deadline citing reasons known to be false, including submitting false documentation supporting that request.

d) Tampering

When a student knowingly makes or creates unauthorized alterations to obtain credit or advanced standing or seek to disadvantage others through dishonest or disruptive behaviour.

Tampering includes but is not limited to, when a student knowingly:

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

ii) gains unfair advantage by using software and/or computer tools that inhibit the use of the resources by others;

iii) damages or destroys course materials, library materials, or laboratory resources;

iv) willfully or negligently damages the academic work of another member of the University;

v) alters a graded assessment (e.g., assignment, midterm, test, or examination) after it has been graded and returned by the professor/ instructor with the intent to improve a grade or grade appeal.

Tampering may be reported under the process for Student Code of Conduct violations where applicable.

Any other form of misrepresentation or fraudulent academic behaviour, or other improper academic conduct comparable to what is above but has not been mentioned herein could be deemed by an Academic Integrity Officer or Senate Committee on Academic Integrity to be an act of academic misconduct and an offence against academic integrity and is subject to discipline under this policy

The full academic integrity policies and procedures document is available at https://www.mystfx.ca/registrars-office/academic-integrity

## 3.9 MID-TERMS AND EXAMINATIONS

**Mid-terms**

a) October and February mid-term grades, accounting for at least 20% of a final grade, must be entered in Banner Self-service; October grades for full-year courses may be entered in Moodle or communicated to students in a confidential manner. See calendar of events for deadlines.

b) Dates for mid-terms quizzes in October and February are determined by the professor.

**Examinations**

a) Once the examination schedule is posted as per the calendar of events, it is considered final.

b) 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. Exams will not normally be scheduled on Sundays during the exam period unless it is required to generate a conflict free exam schedule or to accommodate rescheduling of exams due to unforeseen circumstances such as inclement weather resulting in University closure.

c) 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.

d) Take-home examinations may not be distributed before 1:00pm on the last day of classes for the term and are to be due no sooner than 7 days, and no later than 10 days, after distribution. Take-home exams must not be due after the last day of the examination period.

e) Students should be aware that their examinations could be scheduled on any of the days in the examination period and will be required to write their examinations at the scheduled time.

f) 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.

g) Normally, no student will be required to write more than two examinations in 25 hours.

h) No written tests or examinations (excluding lab exams) worth 10% or more of a student's final grade should take place during the last 7 teaching days prior to the last day of classes of the academic term (September - April). Final exams may not be scheduled during this period.

## 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) A student's average is a weighted calculation based on full-time enrolment. 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.

c) Averages are not calculated for students studying part-time. Grades for courses completed in the spring or summer terms are not included in the average.

d) Courses graded as Pass or Fail are not included in a student's average calculation, regardless of credit value.

e) 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 progress 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.

f) At least 25% of the grade in six-credit or three-credit 100- and 200- level courses should be based on December, April, or mid-term summative assessments, such as exams, essays, projects, portfolios, or other appropriate forms of summative assessment.

g) 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 to receive credit for the course.

h) When a student repeats a course, the final grade of the first instance it was completed will remain on the transcript and be denoted with an "R" to indicate a repeat grade and will be included in the student's average calculation. However, the credits will be removed from the first instance of the course so credit for

the course is granted only once. The final grade from the second instance the course is taken will be used in the average calculation for the year in which the course was completed.

## 3.11 ACADEMIC PENALTIES AND PROGRAM PROGRESSION FOR UNDERGRADUATE PROGRAMS

### Academic Penalties

a) Academic standing for all undergraduate programs, except, nursing, will be assessed at the end of the academic year.

b) Academic assessment is based on a minimum of two final grades during the regular academic year.

c) All students, including those who withdraw from the University, will be assessed.

d) To be considered in good academic standing, students are required to:

i) earn a year end average of 55 or better, and,
ii) earn 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 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 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 grants an exception.

h) Academic penalties assessed for the regular academic year are applied to the spring term of the academic year in which they were earned. A copy of the assessment will also be mailed to the home address on file and are sent electronically to students' webfx account. Academic penalties of probation, suspension, or dismissal will be recorded on a student's transcript.

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.

m) For information on the academic penalties for the Bachelor of Education; see section 6.4.

n) For information on graduate level programs, see section 8.6.6.

### Program Progression

Students must fulfill the requirements of their program to progress in their program. For program progression information for the Bachelor of Arts programs, see section 4.1.5, for the Bachelor of Business programs see section 5.1.5, for the education program, see section 6.4, and for the Bachelor of Science programs see section 7.1.5.

The Bachelor of Science in Nursing and the Bachelor of Education programs will be assessed at the end of each term, in December and April.

### Non-Academic Misconduct

Students suspended for non-academic misconduct through the Community Code of Conduct, or other University policies, will have a notation added to their academic transcript to record the offence. Students may appeal a non-academic suspension following the process outlined in the StFX Community Code of Conduct. See section 3.22.

## 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. The Committee on Studies, in assessing appeals, may consult and obtain information from Student Services departments, including but not limited to Residence Life and Student Conduct but excluding Health and Counselling, as part of the review and decision-making process on appeals.

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.

## 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 and must clearly state the reason for the appeal.

c) A $10 fee is applicable 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) A $25 fee will be applicable 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) Effective for the 2020 Fall Convocation and onwards, students who have an outstanding account with the University **over $100** will not be eligible to participate in convocation ceremonies, events, or receive their parchment until their account is paid in full. Students will become eligible to participate fully in the next scheduled convocation ceremony following the full payment of fees owed. Students wishing to do this should contact the Registrar's Office as soon as their debt is cleared.

b) 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.

c) 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.

d) 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.

e) 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 submitted to the Registrar's Office.

f) StFX degrees are printed in Latin and Mi'kmaq and reflect the student's academic designation (i.e., Bachelor of Arts with Major) but not the specific major, concentration, or minor. This information is included in the students' official academic record and appears on any transcript issued. StFX degrees are not printed in English.

g) StFX diplomas are printed in English.

h) Graduates who are unable to attend convocation will have their degrees sent to their home address on file by courier or Expresspost. Students are responsible for ensuring their address on file is accurate and up-to-date.

i) Students graduating with an undergraduate degree may be awarded the designation distinction or first class honours. Refer to Section 3.20 for additional information.

j) 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.

k) Additional graduation information is available at https://www.stfx.ca/student-life/convocation

## 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 housed within the Registrar's Office 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) To support university operations, student registration status is disclosed in confidence to the following:

i) Student Union to assist with the delivery of student elections
ii) health plan office to administer in the health plan
iii) human kinetics department in support the whistle banquet

c) 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 Statistics Canada and the Maritime Provinces Higher Education Commission (MPHEC)**
Statistics Canada

Statistics Canada is the national statistical agency. As such, Statistics Canada carries out hundreds of surveys each year on a wide range of matters, including education. It is essential to be able to follow students across time and institutions to understand, for example, the factors affecting enrolment demand at postsecondary institutions. The increased emphasis on accountability for public investment means that it is also important to understand 'outcomes'. In order to conduct such studies, Statistics Canada asks all colleges and universities to provide data on students and graduates. Institutions collect and provide to Statistics Canada, student identification information (student's name and student ID number), student contact information (address and telephone number), student demographic characteristics, and enrolment information. 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 may contact Statistics Canada via e-mail if they have any questions: statcan.PSIS-SIEP.statcan@canada.ca.

Maritime Provinces Higher Education Commission (MPHEC)
The MPHEC collects the data described above on behalf of Statistics Canada. In addition, it archives these data and uses them to generate basic statistics, research products, as well as the sampling frame for its university graduate survey. These activities support its mandate, which is to assist institutions and governments in enhancing the post-secondary learning environment. The legal authority for these activities is provided by the Maritime Provinces Higher Education Commission Act. The MPHEC publishes information in aggregate form so that personal infor-mation concerning any person is never revealed. The MPHEC may disclose personal information for the purpose of research, in alignment with its mandate, and as authorized the MPHEC Act. For more information, consult the MPHEC's Privacy Statement at: www.mphec.ca

e) Notification of Disclosure to Immigration, Refugees, and Citizenship Canada (IRCC) All designated learning institutions (DLI's), at the post-secondary level, with the exception of institutions in Quebec, must use complete regular reports on the academic enrolment status of their international students and submit these reports to IRCC. Reporting is completed each academic year in November and March. Information collected will be used to assess whether study permit holders in Canada continue to meet their study permit conditions, including whether they are actively pursuing their course of study at a DLI. Students who do not comply with study permit conditions can be subject to a removal order.

f) Notification of Disclosure of Engineering Transcripts to Dalhousie University Accreditation and System of Continuous Improvement:
The engineering program at StFX, like all accredited engineering programs in Canada, has a system of continuous improvement that requires the collection of student assessment data. In accordance with the Memorandum of Understanding (MOU) with Dalhousie University, each associated university must report certain information to Dalhousie, including attribute results for each individual student.
The accreditation board has identified twelve graduate attributes and Dalhousie has separated each into three principal indicators (PI). The PIs are measurable and are what StFX collects and sends to Dalhousie. As an example, this could be an entire test or lab, a question on a test, a project, or part of a project - anything that has been evaluated. It could change from year to year. Please contact the Engineering Department at StFX for further information.
This information is provided by student number and not student name. The required release of this data represents an important part of the accreditation process.
Any release of information is done in compliance with the Nova Scotia Freedom of Information and Protection of Privacy Act (FOIPOP). In particular, the following sections apply:
27 A public body may disclose personal information only (c) for the purpose for which it was obtained or compiled, or a use compatible with that purpose;
28 A use of personal information is a use compatible with the purpose for which the information was obtained within the meaning of section 26 or 27 if the use:

i) has a reasonable and direct connection to that purpose; and
ii) is necessary for performing the statutory duties of, or for operating a legally authorized program of, the public body that uses the information or to which the information is disclosed.

Release of transcripts and grades to Dalhousie University
As part of the MOU with Dalhousie University, graduates from the Diploma in Engineering program at StFX are guaranteed admission into the Faculty of Engineering at Dalhousie University.

i) Transcripts: In support of our students, and Dalhousie's admissions process, the Registrar's Office, at the request of our engineering department, will prepare, and release, official transcripts directly to the Faculty of Engineering at Dalhousie. Students who do not wish to have their transcripts released, should advise the StFX Engineering Department. Transcripts will not be released for students with a financial hold.
ii) Grades: Student grades are released to Dalhousie for students who have applied for a placeholder and for students who have a placeholder at Dalhousie. Students are advised in the application process for a placeholder that they are consenting to the transfer of their academic data from StFX to Dalhousie.

g) 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 and be accompanied by the required fee. Student records are confidential; transcripts may only be requested by the student who owns the record. Third party requests will not be accepted. An original or digital/electronic student signature must accompany 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/registrars_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. For the Ph.D. program, the conversion to letter grades is A+ = 99-94, A = 93-87, A- = 86-80, B+ = 79-77, B = 76-73, B- =72-70.
   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 a 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 only be issued 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, normally, be sent electronically.

j) Additional information is available on the Registrar's Office website at https://www.mystfx.ca/registrars-office/

## 3.16 REGULATIONS FOR A SECOND STFX DEGREE

To receive a second degree from StFX, a graduate of the university must complete at least 30 credits towards the second degree at StFX and must comply with all course requirements of the second degree. Candidates for a second degree may not choose a major, joint major, advanced major, joint advanced major 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. See section 3.4.

## 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 part-time nursing programs; 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 course and program offerings may be obtained from the continuing and distance education department's website at https://www.mystfx.ca/continuingeducation/ or by phone at 902-867-3906 or toll-free at 1-877-867-3906.

## 3.18 EXCHANGE AND STUDY ABROAD

Students on exchange remain full-time students at StFX while earning credit from one of our partner institutions. StFX students pay 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 and fees directly to that university.

Exchange and study abroad students must first apply to the Office of Internationalization (NT 109) and be approved by the Dean of their department to have these courses credited towards their StFX degree. Students may apply for exchange after their first semester of study at StFX, with the exchange typically taking place in their third year. To apply, students must be in good academic standing and must have a minimum grade point average of 70% at the time of application. Students may not participate in exchange during their final term of study at StFX.

The deadline to apply for exchange and study abroad opportunities is January 15th. First- and 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 second or third year for remaining exchange spaces at host universities.

For more information, contact the Office of Internationalization located in NT 109 or by email: international@stfx.ca

### Exchange Institutions by Country

| | |
|---|---|
| Barbados | University of the West Indies – Cave Hill |
| Czech Republic | Charles University |
| Denmark | Aalborg University<br>University of Southern Denmark |
| Finland | Hanken School of Economics |
| France | ESSCA School of Management<br>ESC Amiens<br>IESEG Business School<br>Institut d'Etudes Politiques de Lille (Sciences Po Lille)<br>Université Polytechnique Hauts-de-France<br>Universite Catholique de L'ouest en Angers<br>Universite Catholique de Lyon - ESDES Business School |
| Germany *Winter Semester of Full Year Only | Universitat Stuttgart<br>ESB Business School, Reutlingen University<br>University of Koblenz Landau<br>International School of Management - Dortmund |
| Ireland | University of Limerick |
| Israel | Reichman University |
| Japan | iCLA (International College of Liberal Arts) Yamanashi-Gakuin |
| Mexico | Universidad de Guanajuato<br>Universidad Iberoamericana Santa Fe |
| Netherlands | Han University of Applied Sciences |

| | |
|---|---|
| Norway | Nord University |
| Peru | Pontificia Universidad Catolica del Peru |
| Poland | Warsaw School of Economics |
| Spain | CEU Universidad San Pablo |
| Turkey | Yeditepe University |
| United Kingdom | Leeds Trinity University<br>University of Exeter<br>University of the Highlands and Islands<br>Bangor University<br>Heriot Watt University<br>Winchester University |

## 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 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

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

b) 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.

c) Students who have graduated and return to complete a minimum of 18 credits toward an honours degree are not eligible for the first class honours designation.

d) 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

a) 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.

b) 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.

c) Students who return to complete a minimum of 18 credits toward an honours degree are not eligible for the first class honours designation.

d) 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

a) 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.

b) 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:
   i) semesters 3 and 4, (LPN pathway semester 4 only)
   ii) semesters 5 and 6, and
   iii) 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 ensuring their inbox is open for delivery.

## 3.22 RESPONSIBILITIES OF STUDENTS

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

i) the StFX Academic Calendar available at https://www.mystfx.ca/registrars-office/academic-calendars
ii) the StFX Community Code of Conduct, available at https://www.stfx.ca/about/university-governance/university-policiest
iii) the Academic Integrity Policy available at https://www.mystfx.ca/registrars-office/academic-integrity

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

# 4. FACULTY OF ARTS REGULATIONS

**4.1 General Regulations**
4.1.1 Degrees Offered
4.1.2 Subjects Available
4.1.3 Degree Patterns
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 Colloquia**
4.3.1 Humanities
4.3.2 Social Justice
**4.4 Intra-Departmental Concentrations**
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4.4.2 Humanities

## 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 six degrees:

Bachelor of Arts with Major: in one of 20 subjects listed in 4.1.2. A major in aquatic resources combined with a major in economics, or public policy and social research is available.

Bachelor of Arts with Joint Major: combines the study of two of 19 subjects listed in 4.1.2.

Bachelor of Arts with Advanced Major: in two of nine subjects listed below. Requires high academic achievement and a senior research paper.

Bachelor of Arts with Joint Advanced Major: an advanced major program that involves the combined study of two subjects; requires high academic achievement and a senior research paper. Designed for the student who wishes both depth and breadth in subjects.

Bachelor of Arts with Honours: in one of 14 subjects listed in 4.1.2; requires depth and breadth of subject study, superior academic achievement and an honours thesis.

Bachelor of Arts Honours with Subsidiary: involves the combined study of two subjects in one of 16 subjects and superior academic achievement and an honours thesis.

The human kinetics degrees, each with a choice of kinesiology (optional minor in sport management) or pre-education major, are

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

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)

See chart 4.1.2 for subjects available for the Bachelor of Arts or the Bachelor of Arts in Human Kinetics. Additional information for each subject is provided in chapter 9.

### 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, courses are three credits for a one-semester course and six credits for a full-year (two-semester) course.

#### First-Year Pattern

Students choose courses as outlined below from group I or group II. 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 in one subject from Catholic studies, Celtic studies, computer science, English, history, mathematics, philosophy, religious studies |
| Group II | 6 credits in one subject 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 courses 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 program 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 Department 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 https://www.mystfx.ca/dean-of-arts/student-resources

| 4.1.2 Subjects Available<br>M1 = Major 1; M2= Major 2; Mi = Minor; P = Pair; E = Elective; S = Subsidiary. | | BA Major | BA Joint Major | BA Adv Major | BA Joint Adv Major | BA Honours | BA Honours Subsidiary * | BA HKIN Major | BA HKIN Honours |
|---|---|---|---|---|---|---|---|---|---|
| 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 | — | — |
| FPSY | Applied Forensic Psychology, see 9.32, see note 7 | M1 | — | — | — | M1 | — | — | — |
| 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, see note 7 | M1, Mi, P, E | M1, M2, P, E | Mi, P, E | P, E | P, E | M1, S, P, E | — | — |
| WMGS | Women's and Gender Studies, see 9.36 | M1, Mi, P, E | M1, M2, P, E | Mi, P, E | P, E | P, E | M1, 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 | — | — |
| MUSI | Music, see 9.27 | 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 | — | — |
| HLTH | Health, see 9.20, see note 6 | P, E | P, E | P, E | P, E | P, E | P, E | — | — |
| AQUA | Aquatic Resources, see 9.3 | M2 see note 4, E | E | E | E | E | S, E | — | — |
| KINE | Kinesiology, see 9.22 | — | — | — | — | — | — | M1 | M1 |
| PREE | Pre-Education, see 9.22 | — | — | — | — | — | — | M1 | M1 |
| SMGT | Sports Management, see 9.36 | — | — | — | — | — | — | Mi | S |
| BSAD | Business Administration, see 9.6 and note 1 | Mi, E | E | Mi, E | E | E | E | — | — |
| ENGR | Engineering, see 9.18 and note 2 | E | E | E | E | E | E | — | — |
| HKIN | Human Kinetics, see 9.22 and note 3 | 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.
Note 7 The degree awarded for the Applied Forensic Pyschology is a Bachelor of Arts or a Bachelor of Science, the degree awarded for the Public Policy and Governance is a Bachelor of Arts.
* 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

Req = Required; Elec = Electives

| Bachelor of Arts | Major 1 | Major 2 | Minor | Pair (see note 5) | 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 notes 3 and 6) | min 48 | min 24 | — | 1 x 12 | 24-36, See note 3 | | |
| **Bachelor of Arts and Science** | **Core** | **Arts** | **Science** | **Art or Science** | **Humanities** | **Electives** | |
| BASc | 24 | 18 | 18 | 12 | 12 | 36 | |
| BASc Honours | 30 | 18 | 18 | 12 | 12 | 30 | |
| **Human Kinetics** | **HKIN** | **Statistics** | **Arts A** | **Arts B** | **Arts/Sci Elec** | **Approved** | **Elective** |
| BA HKIN Major Kinesiology | 57 | 3 | 24 | 12 | 12 | 6 | 6 |
| BA HKIN Major Pre-Education | 60 | — | 24, see note 1 | 12 | 12 | 6 | 6 |
| BA HKIN Advanced Major or Honours Kinesiology | 57 | 3 | 24 | 12 | 12 | 6 | 6 |
| BA HKIN Advanced Major or Honours Pre-Education | 57 | 3 | 24, see note 1 | 12 | 12 | 6 | 6 |
| BA HKIN Major or Honours Kinesiology with SMGT Minor | 57 | 3 | 6 BSAD<br>18 SMGT | 12 | 12 | 6 | 6 |
| **Music** | **MUSI** | **Pair (see note 5)** | **Electives** | | | | |
| Bachelor of Music | 78 | 2 x 12 | 18 | | | | |
| Bachelor of Music with Honours | 90 | 2 x 12 | 6 | | | | |

Note 1 For students intending to pursue 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. A maximum of 6 of these credits can be at the 100-level.
Note 6 Honours thesis must be written on a topic in honours subject area (subject A).

### 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 course | 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 |

### 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) of their chosen program. For any honours with subsidiary or joint degrees, students submit only one research report, senior paper, or honours thesis to the first named department on the student's application, after consultation with both departments.

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

Exceptions to these requirements need the approval of the Dean and the Department Chair.

### 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, BASc in Health, BASc in Climate & Environment students. 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. The BASc degree is 120 credits. Students complete 24 credits in interdisciplinary courses in their program subject. Students will be required to complete a minimum of 18 credits from the Faculty of Arts and 18 credits from the Faculty of Science as well as 12 credits in the humanities.

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. See chapter 9.11 for program requirements and regulations. Further information is available at https://www.stfx.ca/academics/arts-science/climate-and-environment

### 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 select courses from the Faculties of Arts and Science that focus on biomedical science, social determinants of health, health equity, and the humanities. See chapter 9.20 for program requirements and regulations. Further information is available at https://www.stfx.ca/academics/arts-science/health

## 4.3 COLLOQUIA

### 4.3.1 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 https://www.mystfx.ca/sjc/

### 4.3.2 Humanities Colloquium

The Humanities Colloquium (HC) is an interdisciplinary way of studying 18 credits in the first year, usually ENGL 100, HIST 101, 102 and PHIL 100. 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. Courses taken for credit in the HC may be used to fulfil other university course requirements. Please see the website at http://www.mystfx.ca/humanities-colloquium/ for additional information.

## 4.4 INTRA-DEPARTMENTAL CONCENTRATIONS

### 4.4.1 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 political science. This concentration will be of particular interest to students planning to apply to law school. Interested students must take PHIL 100 and PSCI 101/102 in their first year. See chapters 9.29 and 9.31.

### 4.4.2 Humanities

Students who have completed the HC courses have the option of taking additional courses to complete the HC concentration. The humanities colloquium concentration normally requires 36 credits:

a) ENGL 100, HIST 101 and 102, PHIL 100;
b) 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
c) 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).

# 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-op 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

The Faculty of Business, jointly with the Faculty of Science, offers a Bachelor of Business Administration in Entrepreneurship with B.Sc. in Human Nutrition.

### 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.

**BBA Degree Requirements Chart 5.1.2**

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

* For the finance stream: Art/Sc credits prescribed total 18
** For the finance stream: Arts/Sc electives total 30.

### 5.1.3 Electives

a) Arts and Science Electives
   i) BBA students must earn 36 credits of arts/science electives (with the exception of students in the finance stream who need to earn 30 credits). Normally these credits are completed prior to the fourth year of study. The arts/science electives must include a pair (12 credits) in each of two different subjects offered by the Faculty of Arts or the Faculty of Science with exceptions noted below. The remaining credits of arts/science electives may be additional courses in paired subjects or courses in other subjects.
   ii) Economics, mathematics and statistics courses required to earn the BBA may not count as arts/science electives.
   iii) At least one of the two pairs must be in an arts subject. For maximum flexibility, students are advised to complete one arts/science pair by the end of their second year.
   iv) The following professional and applied subjects are not permitted as arts/science electives: Adult education, aquatic resources, education, engineering, human kinetics, human nutrition and nursing.
   v) Economics courses beyond ECON 101 and 102 may count as an arts pair except for BBA students enrolled in the joint honours in business administration and economics program.

**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) 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. Students enrolled in an undergraduate program complete 12-16 months of work experience and the Post-Baccalaureate Diploma students complete 4 months of co-op work experience. The undergraduate BBA Co-op Program is accredited by the Co-operative Education and 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
6.2 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 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 both elementary and secondary streams. Specialist programs in teaching physical education and French as a second language are available in both streams.

### 6.1.1 Admission Process

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

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

b) Interview
Based on the above criteria, applicants will be short-listed for the next stage of the process in which interviews are normally required. Interviews are about 30-40 minutes in length and include core questions asked of all applicants applying to the B.Ed. program as well as specific questions relating to the elementary 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) Vulnerable Sector/Criminal Record Check and Child Abuse Registry Letter, and Updates
Applicants for the B.Ed. program must submit a Vulnerable Sector/Criminal Record Check and a Child Abuse Registry Letter to the StFX B.Ed. Field and Admissions Coordinator following confirmation of enrollment into the program; these will be shared with the participating Regional Centres/Boards for EDUC 471; EDUC 472; EDUC 481; EDUC 482 (Field Practicum). While enrolled in the B.Ed. program, students are responsible to inform the Field and Admissions Coordinator and Chair of the Department of Teacher Education of any changes that occur to the Vulnerable Sector/Criminal Record Check and Child Abuse Registry Letter 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. Adverse information located on police records management systems will need to be discussed with the Field and Admissions Coordinator and the Chair of Teacher Education.

### 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 fulfilment 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 fulfilment 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 PHYSICAL EDUCATION SPECIALIZATION

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

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

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

## 6.3 MI'KMAQ FOCUS

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

## 6.4 PROGRESSION REQUIREMENTS AND ACADEMIC PENALTIES

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

Given the compressed time frame of the B.Ed. program, students will be reviewed at the end of each term. Students are expected to pass all of their academic courses and practicum each term.

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

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

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

## 6.5 PROFESSIONAL CONDUCT

In the event of unprofessional conduct of a BEd student, a faculty advisor or faculty member is required to bring it to the immediate attention of the Chair of Teacher Education. The Chair of Teacher Education shall call a meeting of the BEd Professional Committee, which will examine the circumstances of the reported incident(s). In some cases, such as when the professional conduct of a BEd student falls outside of the expertise of the committee, and/or occurs in a time and/or location outside of the field experience, the Chair and the BEd Professional Committee may request investigative assistance from other university officers (e.g., Human Rights and Equity Advisor). In instances where conduct is related to alleged violations of the StFX Community Code or the StFX Sexual Violence Policy, these cases would be referred to those relevant bodies (i.e., Discipline Committee, Responsible Authority for Sexual Violence). Findings and/or penalties imposed from these bodies will also inform the decisions made by the BEd Professional Committee.

This committee may recommend to the Dean of Education the imposition of penalties, which may include delay or failure of the field experience, or suspension or dismissal from the BEd program. Students may appeal the penalty to the Committee on Studies - Professional Programs within seven days of receiving the BEd Professional Committee's decision.

## 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**
7.1.1 Degrees and Diploma Offered
7.1.2 Subjects Available
7.1.3 Degree Patterns
7.1.4 Declaration of Major, Advanced Major, or Honours
7.1.5 Advancement and Graduation Requirements by Degree
7.1.6 Bachelor of Science with Joint Advanced Major
7.1.7 Bachelor of Science with Joint Honours
7.1.8 Co-operative Education Program in Science
**7.2 Engineering**
7.2.1 Bachelor of Science with a Diploma in Engineering
**7.3 Bachelor of Arts and Science**
7.3.1 Climate and Environment
7.3.2 Health
**7.4 Possible Pathways in the Sciences**
7.4.1 Architectural Studies
7.4.2 Pre-Medical Studies
7.4.3 Pre-Dental Studies
7.4.4 Pre-Veterinary Studies
7.4.5 Graduate Studies
7.4.6 Education and Teaching

## 7.1 GENERAL REGULATIONS

The Faculty of Science offers a Bachelor of Science, a Bachelor of Science in Nursing, a Bachelor of Science in Human Kinetics, a Bachelor of Science in Human Nutrition, a Bachelor of Science in Human Nutrition with Integrated Dietetic Internship, a Diploma in Engineering, and a Post-Baccalaureate Diploma. The Bachelor of Science, Bachelor of Science in Human Kinetics, and Bachelor of Science in Human Nutrition each require 120 credits. The Bachelor of Science in Nursing is offered in 4 formats: a 4-year BScN, which requires 120 credits; an accelerated option for students with some university credits, which requires 90 credits and an accelerated option for LPNs, which required 69 credits. The B.Sc. Human Nutrition with IDI degrees require 138 credits. The Faculty of Science also offers, jointly with the Faculty of Arts, a Bachelor of Arts and Science, which also requires 120 credits. The Diploma in Engineering requires 69 credits. The Post-baccalaureate Diploma in Artificial Intelligence requires 48 credits. Courses for each degree option and diploma must follow the credit pattern required by the program chosen.

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 (aquatic resources, biology, chemistry, computer science, Earth sciences, economics, applied forensic psychology, 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 eight 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 nine subjects listed in chart 7.1.2; 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

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

- Bachelor of Science in Human Nutrition with Bachelor of Business Administration in Entrepreneurship (Five-year, two-degree program)

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; on campus and in person accelerated options for LPNs; 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 two diplomas.

- Diploma in Engineering
- Post-baccalaureate Diploma in Artificial Intelligence

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

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

### 7.1.2 Subjects Available

Chart 7.1.2 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

Chart 7.1.3 lists the degree options 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 https://www.mystfx.ca/academic-advising/

### 7.1.5 Advancement and Graduation Requirements by Degree

All students must fulfill the advancement and graduation requirements outlined in chart 7.1.5, 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** | B, C, E | A, B, C, E | A, B, C, E | A, B, C, E | A, B, C, E |
| PSYC | Psychology** | A, B, C, E | B, C, E | C, E | A, B, C, E | A, B, C, E |
| CLEN | Climate and Environment | B, C, E | B, C, E | C, E | B, C, E | C, E |
| HLTH | Health | E | E | E | E | E |
| FPSY | Applied Forensic Psychology | A, E | — | — | A, E | — |
| HKIN | Human Kinetics | — | — | A, B, E | — | — |

* Note The Aquatic Resources program is available with biology, Earth sciences or mathematics. **Of science A, B, and C, only one may be economics or psychology.

### 7.1.6 Bachelor of Science with Joint Advanced Major

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

| *with* | BIOL | CHEM | CSCI | ECON | ESCI | HKIN | MATH | PHYS |
|---|---|---|---|---|---|---|---|---|
| **BIOL** | — | Y | Y | Y | Y | Y | Y | Y |
| **CHEM** | Y | — | Y | Y | Y | — | Y | Y |
| **CSCI** | Y | Y | — | Y | Y | — | Y | Y |
| **ECON** | Y | Y | Y | — | Y | — | Y | Y |
| **ESCI** | Y | Y | Y | Y | — | — | Y | Y |
| **HKIN** | Y | — | — | — | — | — | — | — |
| **MATH** | Y | Y | Y | Y | Y | — | — | Y |
| **PHYS** | Y | 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:

| *with* | BIOL | CHEM | CSCI | ECON | ESCI | MATH | PHYS | PSYC |
|---|---|---|---|---|---|---|---|---|
| **BIOL** | — | Y | Y | Y | Y | Y | Y | Y |
| **CHEM** | Y | — | Y | Y | Y | Y | Y | Y |
| **CSCI** | Y | Y | — | Y | Y | Y | Y | Y |
| **ECON** | Y | Y | Y | — | Y | Y | Y | — |
| **ESCI** | Y | Y | Y | Y | — | Y | Y | Y |
| **MATH** | Y | Y | Y | Y | Y | — | Y | Y |
| **PHYS** | Y | Y | Y | Y | Y | Y | — | Y |
| **PSYC** | Y | Y | Y | — | Y | Y | Y | — |

### 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 in first year, including the LPN-BScN bridging courses, 65 average in core courses (BIOL 115, 151, 152, ENGL 111, STAT 101); in second year, minimum grade of 65 in nursing courses; pass for all clinical practice portions of courses | Successful completion of all mandatory courses; minimum grade of 65 in nursing courses; pass for all clinical practice portions of courses | minimum grade of 65 in nursing courses; pass for all clinical practice portions of courses |
| B.Sc. Nursing with Advanced Major | average 75 in first year; average 80 in second year; grade of 75 in each NURS course; no nursing practice infractions in second year | average 80; grade of 75 in each NURS course; no nursing practice infractions | average 80; grade of 75 in each NURS course; no nursing practice infractions |
| B.Sc. Nursing with Honours | average 75 in first year; average 80 in second year; grade of 75 in each NURS course; no nursing practice infractions in second year | average 80; grade of 75 in each NURS course; no nursing practice infractions | average 80; grade of 75 in each NURS course; no nursing practice infractions |
| B.Sc. Nursing for Registered Nurses (program will be phased out) | 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 in year two |

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

### 7.1.3 Credit Patterns for Degree Options and Diploma

Req = Required; Elec = Electives

| Bachelor of Science | Science A | Science B | Science C | Arts X | Arts Y | Other Req | Approved Elec | Elec | — |
|---|---|---|---|---|---|---|---|---|---|
| B.Sc. Major, see notes 1-3 | 36 credits | 12 credits | 6 credits | 12 credits | 6 credits | — | 18 | 30 credits | — |
| B.Sc. Major with arts minor, see notes 1-3, 7, 10 | 36 | 12 | 6 | 24 | 6 | — | 18 | 18 | — |
| B.Sc. Major with science minor, see notes 1-3, 8, 10 | 36 | 24 | 6 | 12 | 6 | — | 6 | 30 | — |
| B.Sc. Advanced Major, see notes 1-3 | 42 | 12 | 6 | 12 | 6 | — | 18 | 24 | — |
| B.Sc. Advanced Major with BSAD, see notes 1-3, 11, 13 | 36 | 12 | 6 | 12 | 6 | BSAD 30<br>ECON 6 | 9 plus CSCI 3 | — | — |
| B.Sc. Advanced Major with arts minor, see notes 1-3, 7, 11 | 42 | 12 | 6 | 24 | 6 | — | 18 | 12 | — |
| B.Sc. Advanced Major with science minor, see notes 1-3, 8, 11 | 42 | 24 | 6 | 12 | 6 | — | 6 | 24 | — |
| B.Sc. Joint Advanced Major, see notes 1-3 | 42 | 36 | 6 | 12 | 6 | — | 12 | 6 | — |
| B.Sc. Honours, see notes 1-3 | 60 | 12 | 6 | 12 | 6 | — | 18 | 6 | — |
| B.Sc. Honours with minor in arts, see notes 1-3, 12 | 60 | 12 | 6 | 24 | — | — | 12 | 6 | — |
| B.Sc. Honours with minor in science, see notes 1-3, 12 | 60 | 24 | 6 | 12 | 6 | — | 6 | 6 | — |
| B.Sc. Joint Honours, see notes 1-3 | Total of 84 in A & B | | 6 | 12 | 6 | — | 12 | — | — |
| **Bachelor of Arts and Science** | **Core** | **Arts** | **Science** | **Arts/Science** | **Humanities** | **Elec** | **—** | **—** | **—** |
| BASc | 24 | 18 | 18 | 12 | 12 | 36 | — | — | — |
| BASc Honours | 30 | 18 | 18 | 12 | 12 | 30 | — | — | — |
| **Computer Science** | **CSCI** | **MATH** | **—** | **—** | **—** | **—** | **—** | **—** | **—** |
| Post-baccalaureate Diploma in Artificial Intelligence | 45 | 3 | — | — | — | — | — | — | — |
| **Human Kinetics** | **HKIN** | **Statistics** | **Science A** | **Science B** | **Arts X** | **Arts Y** | **Approved Elec** | **Elec** | |
| B.Sc. HKIN Major Kinesiology, see note 4 | 57 | 3 | 24 | 6 | 12 | 6 | 6 | 6 | — |
| B.Sc. HKIN Major Pre-Education | 60 | — | 24, see note 5 | 6 | 12 | 6 | 6 | 6 | — |
| B.Sc. HKIN Advanced Major or Honours Kinesiology, see note 4 | 57 | 3 | 24 | 6 | 12 | 6 | 6 | 6 | — |
| B.Sc. HKIN Advanced Major or Honours Pre-Education | 57 | 3 | 24, see note 5 | 6 | 12 | 6 | 6 | 6 | — |
| **Human Nutrition** | **HNU** | **BIOL** | **BSAD** | **CHEM** | **MATH/STAT** | **Arts X** | **Arts Y** | **Elec** | **ECON** |
| B.Sc. HNU, see note 6 | 57 | 12 | 3 | 12 | 3 | 12 | 6 | 15 | — |
| B.Sc. HNU Advanced Major, see note 6 | 57 plus HNU 491 | 12 | 3 | 12 | 3 | 12 | 6 | 15 | — |
| B.Sc. HNU Honours, see note 6 | 63 | 12 | 3 | 12 | 3 | 12 | 6 | 9 | — |
| B.Sc. HNU with BBA in Entrepreneurship | 51 | 12 | 51 | 12 | 3/3 | 12 | — | — | 6 |
| **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 - program will be phased out. | 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, 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, public policy 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.

Note 13 Science A can be biology, chemistry, computer science, Earth sciences, economics, mathematics, or physics.

### 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 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, or mechanical 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, normally in the second half of the first year, students are required to apply for a placeholder specifying their choices of programs in preferential order. The Dalhousie Faculty of Engineering notifies each student of the results of their application. 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 5.2 a of the MOU states, "Dalhousie shall treat students from each Associated University and from Dalhousie the same for purposes of admission in the third year of the programs at Dalhousie." Students who do not gain entry 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 that the institution would allow.

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.

The StFX Engineering Diploma program is an accredited professional program associated with Dalhousie University. To fulfill our commitments to Dalhousie and to the accreditation board, graduate attribute results for each student will be sent to Dalhousie. In addition, grades for students who apply for placeholders at Dalhousie Faculty of Engineering, and transcripts of students who have earned the Diploma from StFX and have a placeholder at Dalhousie University will be sent to Dalhousie. For more details, please see section 3.15.

### 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. The BASc degree is 120 credits. Students complete 24 credits in interdisciplinary courses on their program subject. Students will be required to complete a minimum of 18 credits from the Faculty of Arts and 18 credits from the Faculty of Science as well as 12 credits in the humanities.

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. See 9.11 for program requirements.

### 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 courses in biomedical sciences, social determinants of health, health equity, as well as a humanities requirement. See 9.20 for program requirements.

## 7.4 POSSIBLE PATHWAYS IN THE SCIENCES

### 7.4.1 Post-baccalaureate Diploma

The post-baccalaureate diploma is for students who have already completed an undergraduate degree. Students will typically complete a post-baccalaureate diploma in a field substantially different than their undergraduate field. The credential provides students with an advanced undergraduate level understanding of their program of study within two years. The number of credits required to earn a post-baccalaureate diploma can vary, depending on the program chosen. The Faculty of Science offers one post-baccalaureate diploma in artificial intelligence (through the computer science department). See chapter 9.

### 7.4.2 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.

### 7.4.3 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 BASc. 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.

### 7.4.4 Pre-Dental Studies

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

Academic requirements:

a) One full-year academic class in each of biology, general chemistry, physics, organic chemistry. (Each of these courses must include laboratory instruction.)

b) Two full-year academic courses (or four one-term courses) chosen from the humanities and/or social sciences.
c) One full-year (or two one-term) writing course, English.
d) One full-year university course (or two one-term courses) in vertebrate physiology and one university course (full-year or one-term) in each of introductory biochemistry and introductory microbiology. These courses should be at the second-year level or higher and applicants are encouraged to contact the Faculty of Dentistry for approval of selected courses.

#### 7.4.5 Pre-Veterinary Studies

The Atlantic Veterinary College is located at the University of Prince Edward Island. Applicants are required to complete prerequisite courses. Additional information is available at https://www.upei.ca/programs/doctor-veterinary-medicine

#### 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.

#### 7.4.7 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 Applied Computer Science**
**8.3 Master of Adult Education**
**8.4 Master of Education**
**8.5 Ph.D. in Educational Studies**
**8.6 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 Applied Computer Science (MACS)
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;
c) proof of English language proficiency when applicable.

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 to be eligible for scholarships and funding, applications must be received by February 15. 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 APPLIED COMPUTER SCIENCE

### 8.2.1 Admissions Procedures

Minimum 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.

### 8.2.2 Program Requirements

a) A minimum residence of 12 months.
b) Students must earn a total of 36 credits.
c) Candidates must satisfy degree requirements as determined by the program.

### 8.2.3 Cooperative Education

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 with an employer partner in industry, government, and not-for-profit across Canada. Master of Applied Computer Science (MACS) students can apply to Co-op Education in September of their first year of the program. MACS students complete professional development training, eight months of work, and a capstone course, COOP 530. See section 9.13 for further information.

## 8.3 MASTER OF ADULT EDUCATION

The M.Ad.Ed. program is, in general, 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.

### 8.3.1 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 special 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.

Applicants seeking entry under this special admissions provision should contact the department chair before applying.

Applications for admission should be sent to the university admissions office. This program has continuous intake; there is no admission deadline.

### 8.3.2 Program Requirements

Students must earn a total of 30 credits in graduate work. Those students who have successfully completed the Nova Scotia Community College Professional Development Program may apply to receive one course (3-credits) for ADED 535. Other applicants may request permission to transfer a maximum of one course (3 credits) prior to acceptance to the M.Ad.Ed. program.

There are two routes by which a student may complete the requirements for the M.Ad.Ed.: a course-based route or a combined course and thesis route. Students in the course-based route complete 30 credits in graduate education courses, whereas students in the thesis route complete 18 credits of graduate education courses and a 12-credit thesis (see section 9.1).

## 8.4 MASTER OF EDUCATION

### 8.4.1 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 related capacity for at least two years in a professional school, post-secondary institution or equivalent field;
b) met all other conditions.

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

### 8.4.2 Program Requirements

StFX offers the M.Ed. degree with a specialization in educational administration and policy, or in curriculum and instruction. In both streams, students must complete the specified core and 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, as well as a thesis worth 12 credits. Those in the course-based route must complete 36 credits in graduate education courses.

Concentrations, which are comprised of 15 credits of specified coursework, are offered in the following areas: Culturally Responsive Pedagogy, Early Elementary Pedagogy, Inclusion (Curriculum and Instruction,) Inclusion (Administration and Policy), Literacy, Mathematics, Mental Health Education, Outdoor Education and Physical and Health Education. A concentration is included in the student's official academic record and appears on any transcript issued.

## 8.5 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.nsphdeducation.ca/en/home/default.aspx

### 8.5.1 Admission Requirements and Procedures

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

Minimum admission requirements are:

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

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

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

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

### 8.5.2 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.

## 8.6 REGULATIONS

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

### 8.6.1 Program Types and Fees

Graduate programs at StFX are classified as:

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

### 8.6.2 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 |
| MACS | 12 months | 16 months or 2 years | 6 years |
| M.Ad.Ed. | N/A | 32 months | 32 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 8.6.7.

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

### 8.6.3 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.

### 8.6.4 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 StFX 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 |

### 8.6.5 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:

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

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

Students in the M.Ed. or MACS 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 for the given period when registered in six credits for the period May-June or for the period July-August.

### 8.6.6 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.

### 8.6.7 Extension

Students who have not completed their program requirements by the maximum time to completion (see section 8.6.2) 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 who are using the extension to complete a thesis will be charged an extension fee (the equivalent of 6-credit tuition) for the extension period. Students who are not completing a thesis but are using the extension period to complete course-work, will pay tuition at course enrolment. 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.

### 8.6.8 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.

### 8.6.9 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.

### 8.6.10 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.

### 8.6.11 Non-degree Graduate-level Students

Students without previous admission to a degree program may be permitted to register in graduate courses offered in the M.Ad. Ed., MA, MACS, 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.

### 8.6.12 Visiting M.Ed. and M.Ad.Ed. Students

Normally, only students who have been accepted into the StFX M.Ed. and M.Ad.Ed. programs are eligible to enrol in M.Ed. and M.Ad.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 six credits of M.Ed. courses, or up to three credits of M.Ad.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.

### 8.6.13 Transfer Credit

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

### 8.6.14 Letter of Permission

Once registered in the MA, MACS, 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. For the M.Ad.Ed. program, a maximum of three credits may be completed at another institution. These credits can be used to fulfil program requirements.

### 8.6.15 English Language Requirement

See section 1.5.

### 8.6.16 Thesis Regulations

**Master of Adult Education**

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

### 8.6.17 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://www.mystfx.ca/research-ethics-board/

### 8.6.18 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 and Statistics**
**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 Sport Management**
**9.37 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 (ADED)

M. Coady, 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 30 credits. Further details can be found on the department's web site at: https://www.mystfx.ca/adult-education-graduate-studies/ or in section 8.3.

### Core Courses

#### 535 Adult Education Foundations

This course provides an introduction to the scope, foundations, and practices of lifelong learning and adult education in Canada. Students will be able to identify and examine the uniquely critically oriented adult education traditions in Canada through conceptual definitions, education settings, historical movements, and social contexts. In addition to developing an understanding of the field, students will have the opportunity to explore their personal and professional relationships to adult education and lifelong learning, with application for their own practice, and gain insight into current and emerging trends in adult education and lifelong learning. Credit will be granted for only one ADED 535, ADED 500 or ADED 505. Three credits.

#### 540 Adult Learning Theory and Practice

The intention of this course is to introduce students to the main adult education theories that have dominated the literature of the field, and how these have come to shape our conceptual understandings and practices associated with adult education and learning. This course will introduce students to important theoretical developments in adult education, such as the concepts of andragogy, self-directed learning, perspective transformation, situated learning, experiential learning, and conscientization, as well as accompanying critiques from Indigenous, critical, and feminist perspectives. Credit will be granted for only one of ADED 540 or ADED 500 or ADED 505. Three credits.

#### 545 Critical Review of Literature in Adult Education

The literature on critical pedagogies connects knowledge to power and fosters empowering adult learning through the development of critical consciousness and praxis. Critical pedagogies invite students' experiences as material for reflection and include civil rights and anti-oppression; racial, cultural, gender, and sexualities diversity; Indigenous rights; disability rights; and labour and class. Students will review the research on critical pedagogies and listen and learn from a diversity of discourses in order to respond to a complex world and promote social, political, and ecological justice. Completion of a critical literature review on a topic of interest is required. Credit will be granted for only one ADED 545 or ADED 510. Three credits.

#### 550 Continuing Professional Education and Portfolio

The intent of the course is to introduce students to key concepts and processes of lifelong continuing professional education (CPE). The history of CPE, emergent critical debates (professional identity and professionalism, issues of collaboration, authenticity, power, ethics and leadership, etc.) and best practices in CPE (critically reflective practices, communities of practice, mentoring etc.) will be examined. Future trends and emergent formats such as virtual technology and networking will be explored. The completion of a professional portfolio is a requirement of this course. Credit will be granted for only one of ADED 550 or ADED 510. Three credits.

#### 560 Qualitative Research in Adult Education: The Practitioner Researcher

This course introduces students to the qualitative research paradigm, with a particular focus on the adult educator as researcher. The majority of published research in our field is qualitative. The course addresses the major debates and issues in qualitative research in adult education, as well as introduces students to the methodology and methods of qualitative research in adult education contexts. Students learn to develop practitioner research for adult education contexts. The completion of a research plan is a requirement of this course. Credit will be granted for only one of ADED 560 or ADED 520. Prerequisites: ADED 535, 540. Three credits.

#### 565 Reading and Critiquing Research in Adult Education

Learners will engage with academic research through a guided, purposeful approach so as to enhance both learner confidence and ability to understand peer-reviewed scholarship in the field of adult education. Learners will develop techniques to analyze and critique published research that applies directly to learners' professional life. The course will guide the learner through the process of research with a "consumer's" focus, preparing the learner to discern and utilize research in their own practice. The completion of a critical analysis of research studies is a requirement of this course. Credit will be granted for only one of ADED 565 or ADED 520. Three credits.

### Alternate Routes to Graduation

Course-based route:
a) complete 18 credits core courses
b) complete 3 credits defined electives
c) complete 9 credits electives

Thesis route:
a) complete 18 credits core courses
b) complete and submit an academic thesis - 12 credits (ADED 605)

### Defined Electives

Students complete one of the following courses:

#### 532 Transformative Learning: Theory and Practice

This course will focus on the student's personal and professional learning, using the theory of transformative learning, which is a key theoretical framework for understanding and interpreting learning in adults. As a conceptual lens, it allows educators to challenge the taken for granted dictums of society, education, and learning. Learners will examine the theory, from its beginnings in the late 1970s and continuing to present. Particular attention is given to the social transformation possibilities of the theory. The intention is to guide learners to discover the theory and to connect it to their educational practices. Credit will be granted for only one of ADED 532 or ADED 530. Cross-listed as EDUC 530. Three credits.

### 570 Critically Reflective Practice and Adults
This course explores the ways in which adult education and critical pedagogies inform the values, approaches, and methods of critically reflective practices. Through a combination of critical pedagogies and social justice movements from individual and social perspectives, students will gain familiarity with reflective practices across various contexts. Narrative construction, reflection on action, critical incidents, and emerging applications will be investigated in order to generate critical perspectives that shape reflective practice and allow adults to evaluate their lifelong learning. Credit will be granted for only one of ADED 570 or ADED 530. Three credits.

### Electives
Students in the course-based option, complete 3 of the following:

### 528 Emerging Issues in Community College Education
This course connects adult education with teaching and learning in a community college context. Through a lifelong learning lens emphasizing self-direction and solution-based approaches, course content addresses concepts, theoretical orientations and frameworks crucial for diverse and informed understanding about teaching and learning in Canadian community colleges. Critical perspectives illuminate historical and contemporary ways that student populations, non-formal/ experiential education, global digital technologies, and professional development and social justice functions and equity intersect and evolve in community college practices. Cross-listed as EDUC 528. Three credits.

### 531 Critical Issues in Health and Adult Learning
This course connects adult education and health with a focus on the evolution of health education, health promotion, and health literacy. Course content addresses health concepts, theoretical orientations, and frameworks (e.g. the Social Determinants of Health/SDoH) which are crucial for a diverse and informed understanding of health inequalities in Canada. Critically reflective work found in adult learning theory illuminates the ways in which knowledge translation/ mobilization, digital technologies, population-specific needs, clinical care, ethical, policy, interprofessional practices and other health-related concerns evolve and intersect to support health equity. Cross-listed as EDUC 531. Three credits.

### 555 Work, Learning, and Society
This course examines the intersection of adult education/ learning practices and human resources development in employment settings. Programs and strategies such as competency-based learning, digital platforms, assessment frameworks, portfolios, etc. will be investigated, as will forms of learning and the social, political, economic, and global factors shaping today's workplaces. Drawing on their own experiences, students will explore workplace learning approaches and applications, and consider the impacts of these on individuals, organizations, sectors, and society. The completion of a professional portfolio is a requirement of this course. Three credits.

### 569 Selected Topics
Students will explore in detail the theoretical underpinnings and practical implications of various topics and issues. Content will vary from year to year. Three credits.

### 575 Community Development and Adult Education
Exploring collective learning for social and economic progress, this course identifies historical and contemporary examples of adult education and community development. Learners in this course examine pedagogical theories and development practice; and assets, barriers, and strategies for inclusive and culturally responsive collective learning for development practice and movements. Critical perspectives illuminate historical and contemporary ways that citizens, popular education, digital technologies, and equity function, intersect and evolve in learning for and in community development. Three credits.

### 580 Global Issues in Adult Education
This course will focus on historic and current trends in adult education from a global perspective. With a view to developing a comparative understanding of adult education policy and conceptualizations of adult learning internationally, this course will introduce students to various issues related to adult education in diverse global contexts. Three credits.

### 585 Planning Programs for Adults
This course focuses on a core area of adult education, program planning theory and practice. The same social, cultural, political and economic factors that influence other human social endeavours are found in program planning; complex planning processes both influence and are influenced by various contexts, behaviours, locations and purposes. Students will engage with program planning's main theorists and practitioners and will be encouraged to apply theoretical understandings to their practice and in working in diverse contexts and learning communities. Three credits.

### 590 Arts-based Pedagogies in Adult Education: Theory and Practice
Arts-based methodologies/pedagogies provide communicative practices that allow inclusion of diversity for a vibrant pluralistic democracy. They foster critical thinking, offer means for expression, provide opportunities for citizens to listen and reflect on various perspectives, and promote community engagement. The arts provide avenues for exposing problems and outlining possibilities, release the imagination, expand vision, act as bridges between differences, and support resilience. Arts-based methodologies pedagogies are used in teaching and research (data collection and representation of findings). Three credits.

### 605 Thesis
In this thesis course, students complete a research project in adult education. The thesis generally follows a conventional, rigorous format that focuses on the research study begun in the ADED 560. This study becomes part of the knowledge base in the broader field of research on adult education. Credit wil be granted for only one of ADED 605 and ADED 600. Twelve credits.

## 9.2 ANTHROPOLOGY (ANTH)
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 archaeology focus courses, such as ANTH 243, 253;
c) 3 credits from social anthropology focus courses, such as 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 archaeology focus courses, such as ANTH 243, 253;
c) 3 credits from social anthropology focus courses, such as 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 archaeology focus courses such as ANTH 243, 253;
c) 3 credits from social anthropology focus courses such as, ANTH 218, 223, 233, 234;
d) ANTH 303, 304, 305, 455 (12 credits);
e) 30 additional ANTH credits, of which 12 must be at the 300/400 level;
f) ANTH 400 (6 credits).

### Honours in Anthropology with Subsidiary
Requirements include 48 credits as follows:
a) ANTH 111 and 112 (6 credits);
b) 3 credits from archaeology focus courses, such as ANTH 243, 253;
c) 3 credits from social anthropology focus courses, such as ANTH 218, 223, 233, 234;
d) ANTH 303, 304, 305, 455 (12 credits);
e) 18 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 4.3 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. Not offered 2022-2023.

### 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 101 or permission of the instructor. Three credits. Offered 2022-2023 and in alternate years.

### 233 Ethnographic Studies
This course explores the rich cultural diversity of human societies around the globe through an ethnographic lens. Using a variety of ethnographic works, students will analyse how anthropologists have represented this diversity. Course material will include classic and current texts about 'other' and 'own' societies, the representation of Indigenous peoples, ethnographic film, as well as portrayals of culture in new media. Prerequisite: ANTH 110 or 111/112 or DEVS 101 or permission of the instructor. Three credits. Not offered 2022-2023.

### 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 Indigenous peoples and settlers in areas of Indigenous rights, culture, law, governance, politics, environment, media, social development, gender, and health, and critically examine reconciliation strategies and pathways to self-determination. 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. Offered every year.

### 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. Not offered 2022-2023.

### 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. 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. Offered 2022-2023 and in alternate years.

### 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 participatory action and ethical research design. Prerequisite: ANTH 110 or ANTH 111/112 or permission of the instructor. Three credits. Offered every year.

### 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. Offered every year.

### 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. Not offered 2022-2023.

### 320 People and Development
This course examines how development policy and practice have affected target populations. Students will develop critical analytical skills and knowledge by considering 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. 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. Offered 2022-2023.

### 323 Topics in 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. The course explores themes of contemporary importance through socio-cultural anthropology, archaeology, linguistic anthropology and/or biological anthropology. Topics might focus on: Indigenous gender roles; cross-cultural sexualities; masculinity and pre-historic gendered hierarchies; etc. 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. Not offered 2022-2023.

### 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. Not offered 2022-2023.

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

Using theories and methods relevant to research respecting 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. Offered every year.

### 341 North American Archaeology

This course explores past and present Indigenous societies from North America and we examine 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. Offered 2022-2023 and in alternate years.

### 342 Ancient Mesoamerica

This course will use archaeological and ethnohistorical information to examine the people who lived in Mesoamerica (currently, Mexico, Belize, Honduras and Guatemala) prior to and at the time of early contact with Europeans. Students will use archaeological data to study the Aztecs, Maya, 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. Not offered 2022-2023.

### 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 253 or permission of the instructor. Three credits. Not offered 2022-2023.

### 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 2022-2023.

### 400 Honours Thesis Research

A required course for all senior honours students. Six credits. Offered every year.

### 415 Anthropology of HIV/AIDS

This course examines global HIV/AIDS from an anthropological perspective. Using a holistic and cross-cultural approach, students will think about how kinship systems, gender, class, sexual orientation, nationality, ethnicity and global economic and political structures affect how individuals in different populations learn about and give meaning to HIV/AIDS, the risks they face, and the degree to which they can protect themselves and receive treatment if infected. Prerequisite: ANTH 211 or 218 or DEVS 201/202 or permission of the instructor. Three credits. Not offered 2022-2023.

### 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. Offered 2022-2023.

### 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. Offered 2022-2023.

### 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. Not offered 2022-2023.

### 455 Anthropological Theory in Action

This course is a capstone seminar aimed primarily at honours students, but also will be of interest to students who wish to use their anthropological training in their future careers. This course builds on ANTH 303, which introduces students to the main anthropological frameworks of the past and present. Students will investigate contemporary theory more extensively. There are three principal objectives: to use anthropological theories to analyse current events and representations of current events; to learn how theory can be used to analyse information derived from anthropological and archaeological research; and to investigate how theory can assist marginalized communities in achieving their goals. Prerequisites: ANTH 303 and 12 additional ANTH credits or permission of the instructor. Three credits. Not offered 2022-2023.

### 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.

» **APPLIED FORENSIC PSYCHOLOGY** see 9.23 Psychology

## 9.3 AQUATIC RESOURCES, INTERDISCIPLINARY STUDIES IN (ISAR/AQUA)

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

| Advising Faculty | Department |
|---|---|
| D. Garbary, Ph.D. | Biology |
| M. Haller, Ph.D. | Anthropology |
| L. Harling Stalker, Ph.D. | Sociology |
| D. Lee, Ph.D. | Mathematics and Statistics |
| J. Braid, Ph.D. | Earth Sciences |
| P. Withey, Ph.D. | Economics |

Water, a dynamic natural resource, is used as a focal point around which students can examine our changing world in terms of climate change, environmental management, Indigenous connections to the natural world, erosion and flood events, adaptation of fisheries, cultural perceptions and ancient use, economic valuation, conservation and biodiversity, food production and procurement, public policy development, 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-based organizations, 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 and statistics; 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 101, 102 and AQUA 202, 298 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 and statistics; honours degree with a subsidiary in ISAR: 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) AQUA major program core courses: AQUA 101, 102, 202, 325, 400, 450; ESCI 171 or 173, 172; BIOL 112; ECON 101, 102; and BSAD 111;
b) 36 credits in the second major discipline, or 48 credits for public policy and social research majors, to include at least 18 credits of AR-designated courses in the second major;
c) a minimum of 12 credits of AR-designated courses from at least two of the participating academic departments other than the majors.

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

Students should 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 101, 102; BIOL 112; ECON 101, 102; ESCI 171 or 173, 172; ANTH 111, 112 or PSCI 101, 102 or SOCI 101, 102; 3 credits of science electives (eg. MATH 106 or 126, STAT 101)

Year 2 AQUA 202, 298; BSAD 111; ECON 201, 202; and two from ECON 211, 241, 281; 6 credits AR-designated courses for pairs; 3 credits science electives

Year 3 AQUA 325; 6 credits AR-designated ECON; 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; 9 credits ECON courses at the 300 and/or 400 level; AR-designated courses as required; arts and/or science electives

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

Year 1 AQUA 101, 102; BIOL 112; ECON 101, 102; ESCI 171 or 173, 172; ANTH 111, 112 or SOCI 101, 102; PSCI 101 or PGOV 101

Year 2 AQUA 202, 298; BSAD 111; 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; or PPSR with SOCI: SOCI 202 and 3 additional SOCI credits at the 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; or PPSR with SOCI: 3-6 credits SOCI at the 300 and/or 400 level

Year 4 AQUA 400, 450; as required to complete PPSR major, AQUA major, and pairs: PSCI courses at the 300 and/or 400 level; AR-designated courses; arts or science electives; plus, PPSR with ANTH: ANTH courses at the 300 and/or 400 level; or 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 101, 102; BIOL 112; ECON 101; ESCI 171 or 173, 172; MATH 106 or 126 and MATH 107 or 127; 6 credits science electives at the 100-level (CHEM 101 and 102 or CHEM 121 and 122 are recommended).

Year 2 AQUA 202, 298; BIOL 111 concurrently with 12 credits from: BIOL 201, 202, 203, 204 or 315; BSAD 111; 6 credits AR-designated arts electives for Arts X or Arts Y

Year 3 AQUA 325 or BIOL 307; 9 credits BIOL at the 300 and/or 400 level of which 3-6 credits must be AR-designated BIOL; BIOL 391 is recommended; STAT 231; 6 credits AR-designated courses; 6 credits arts electives for Arts X or Arts Y requirement; 3-6 credits Science courses to complete Science B (eg. CHEM, MATH/STAT, or ESCI) or as approved Science electives

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 and Major in Aquatic Resources

Year 1 AQUA 101, 102; BIOL 112; ECON 101; ESCI 171 or 173, 172; MATH 106 or 126 and MATH 107 or 127; 6 credits science electives at the 100-level (CHEM 101 and 102 or CHEM 121 and 122 are recommended

Year 2 AQUA 202, 298; BSAD 111; BIOL 203; ECON 102; ESCI 266, 272, 279; STAT 231; 3 credits AR-designated arts electives for Arts X or Y

Year 3 AQUA 325 or ESCI 376; ESCI 265, 277, 304 or 305; 3 credits ESCI at 300 or 400 level; 3 credits of BIOL, CHEM or MATH/STAT from the 200- to 400-level for science B; 3 credits AR-designated courses; 9 credits AR-designated arts electives for Arts X or Y; science electives, and/or open electives

Year 4 AQUA 400, 450; ESCI 304 or 305, and 3 credits ESCI at the 300 or 400 level; 3 credits of BIOL or MATH/STAT from the 200- to 400-level to complete science B; AR-designated courses as required; arts/science electives and/or open electives as required to fulfil degree pattern

### B.Sc. Major in Mathematics and Major in Aquatic Resources

Year 1 AQUA 101, 102; BIOL 112; ECON 101, 102; ESCI 171 or 173, 172; MATH 106 or 126 and MATH 107 or 127; 3 credits arts and/or science electives at the 100-level

Year 2 AQUA 202, 298; BSAD 111; 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 and/or ESCI) at the 200 to 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; as required to fulfill degree pattern: 6-9 credits MATH/STAT courses; 6 credits AR-designated courses; 9-12 credits arts and/or science electives

AQUA 101 and 102 can be taken by non-aquatic resources students. Non-Aquatic Resources students can enroll in AQUA 202 and/or 298 with permission. AQUA, 400 and 450 are restricted to students enrolled in the aquatic resources major.

### 101 Introduction to Freshwater Systems and Resources

This course introduces freshwater ecosystems and the links between human water use and freshwater resources. Students are asked to consider water-related challenges such as climate change, population growth/demand, eutrophication, and pollution. Examples highlight the interplay between humans and freshwater within the framework of the UN Sustainable Development Goals, Blue Economy, and current events. Topics include water as a unique substance, ecological principles, management practices, governance, groundwater, lakes, and rivers. Lab and field trips. Credit will be granted for only one of AQUA 101 or AQUA 100. Three credits.

### 102 Introduction to Ocean Systems and Resources

This course introduces ocean ecosystems and the links between human use and marine resources. Students are asked to consider challenges such as climate change, pollution, aquaculture and fisheries, sustainable use of species and ecosystems. Examples highlight the interplay between humans and oceans within the framework of the UN Sustainable Development Goals, Blue Economy, and current events. Topics include estuarine and ocean ecosystems, scientific principles, and resource management approaches. Lab and field trips. Credit will be granted for only one of AQUA 102 or AQUA 100. Prerequisite: AQUA 101 or permission of instructor. 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-requisites: AQUA 101/102 or 100. Three credits.

### 298 Selected Topics

The topic for 2022-2023 is Managing Water Resources in the context of the UN SDGs. Students will be introduced to the United Nations Agenda 2030 Sustainable Development Goals (SDGs) – a plan of action for people, planet, and prosperity. The investigation of water and its intersection with SDGs to achieve goals related to poverty, food security, gender and racial equity, inequalities, sustainable production and consumption, and climate action, among others, is the focus of this course. Water management, including issues of governance, environmental protection, and water-related ecosystems, will be discussed. Prerequisites: AQUA 101/102 or 100 or permission of the instructor. 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 complete one of BIOL 307, ESCI 375, ESCI 376. Not offered every year, equivalencies will be considered on an individual basis. No credit.

### 398 Selected Topics

The topic for 2022-2023 is Sustainability of Aquatic Resources. An interdisciplinary look at the dynamic relationship between aquatic resources and human activities. This course will demonstrate how humans rely on water throughout their daily lives and will explore the ways that marine and freshwater environments have been impacted. A main goal will be to investigate steps to mediate issues affecting the sustainable use of aquatic resources and assess the implications from social, economic, management, and ecosystem perspectives. Topics will include global concerns with emphasis on issues within Atlantic Canada. Three credits.

### 400 Work Experience/Student Internship

Students will spend the equivalent of one term, normally the summer between the junior and senior year, gaining hands-on experience in an aquatics-related work and/or volunteer setting. Placements may include fieldwork and/or laboratory research, aquatic resource businesses, community-based organizations, governance and public policy agencies, etc. 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 or 298 and 202. 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, species conservation (eg. North Atlantic right whales) oil and gas pipeline approvals, 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

Coures are 3 credits unless otherwise indicated.
Departmental prerequisites will apply.

Anthropology

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

Biology

| | |
|---|---|
| BIOL 201 | Animal Biology |
| BIOL 202 | Plant Biology |
| BIOL 203 | Introductory Ecology |
| BIOL 221 | Issues in Resource Management |
| BIOL 307 | Field Biology |
| BIOL 308 | Biology of Populations |
| BIOL 311 | Coastal Marine Ecology |
| BIOL 331 | Statistical Methods |
| BIOL 345 | Communities and Ecosystems |
| BIOL 360 | Global Change Biology |
| BIOL 407 | Integrated Resource Management |
| BIOL 468 | Restoration Ecology |
| BIOL 472 | Freshwater Ecology |
| BIOL 481 | Selected Topics: Restoration Ecology |
| BIOL 484 | Animal Behaviour |

Business Administration

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|---|---|
| BSAD 472 | Environmental Sustainability for Organizations |

Computer Science

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|---|---|
| CSCI 128 | Computing Literacy and Coding of Problem Solving |
| CSCI 135 | Computer Application Technology |
| CSCI 215 | Social Issues in the Information Age |
| CSCI 223 | Introduction to Data Science |

Development Studies

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|---|---|
| DEVS 201 | International Development: The Global South |
| DEVS 202 | International Development: Canada |
| DEVS 203 | Climate Change and People: Issues, Interventions, Citizen-led Actions and Solutions |

Earth Sciences

| | |
|---|---|
| ESCI 172 | Environment, Climate, and Resources |
| ESCI 173 | Natural Hazards |
| ESCI 266 | Hydrology |
| ESCI 272 | Understanding Climate Change |
| ESCI 273 | Heath and the Environment |
| ESCI 274 | Health Impacts of Global Change |
| ESCI 277 | The Earth in Everyday Life |
| ESCI 305 | Geochemistry |
| ESCI 365 | Geomorphology and Quaternary Geology |
| ESCI 373 | Remote Sensing |
| ESCI 374 | Geographic Information Systems |
| ESCI 376 | Environmental Earth Science Field Course |
| ESCI 377 | Earth Observing |
| ESCI 386 | Oceanography |
| ESCI 406 | Environmental Biogeochemistry |
| ESCI 465 | Hydrogeology |
| ESCI 472 | Climate Interactions |

Economics

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|---|---|
| ECON 201 | Intermediate Microeconomic Theory I |
| ECON 202 | Intermediate Macroeconomics I |
| ECON 211 | Local and Community Development Economics |
| ECON 241 | Canadian Economic Prospects and Challenges |
| ECON 242 | International Economic Prospects and Challenges |
| ECON 281 | Environmental Economics |
| ECON 301 | Intermediate Microeconomic Theory II |
| ECON 302 | Intermediate Macroeconomics II |
| ECON 305 | Economic Development I |
| ECON 306 | Economic Development II |
| ECON 381 | Natural Resource Economics |

History

| | |
|---|---|
| HIST 299 | Selected Topics: At the Ends of the Earth |

Mathematics

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|---|---|
| MATH 253 | Matrix Algebra |
| MATH 254 | Linear Algebra |
| MATH 287 | Natural Resource Modelling |
| MATH 367 | Differential Equations |
| MATH 387 | Mathematical Modelling |

Philosophy

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|---|---|
| PHIL 213 | Philosophy of Science |
| PHIL 251 | Critical Thinking |
| PHIL 333 | Environmental Ethics |
| PHIL 371 | Social and Political Philosophy |

Political Science

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|---|---|
| PSCI 221 | Canadian Political Institutions |
| PSCI 222 | Canadian Politics and Society |
| PSCI 241 | Business and Government |
| PSCI 251 | Foundations of Global Politics |
| PSCI 252 | Contemporary Global Politics |
| PSCI 291 | Violence, Conflict and Politics |
| PSCI 303 | Contemporary Politicial Arguements |
| PSCI 308 | Global Justice |
| PSCI 321 | Federalism and Intergovernmental Relations |
| PSCI 322 | Atlantic Canada |
| PSCI 324 | Provincial Politics |
| PSCI 325 | Indigenous Politics in Canada |
| PSCI 335 | Human Rights & International Justice |
| PSCI 351 | Canadian Foreign Policy |
| PSCI 353 | International Organizations |
| PSCI 354 | Global Political Economy |

PSCI 355 Global Issues

Public Policy and Governance Credits
PGOV 201 Public Policy
PGOV 301 Comparative Public Policy
PGOV 302 Public Administration
PGOV 307 Science and Public Policy
PGOV 399 Selected Topics: Learning from Disaster

Religious Studies
RELS 221 Religion & the Environmental Crisis
RELS 333 Religion, Violence and Peace

Sociology
SOCI 202 Research Principles & Practices
SOCI 207 Health Justice
SOCI 237 Social Justice
SOCI 243 Consumer Society
SOCI 247 Environmental Social Sciences I: Problems & Paradigms
SOCI 248 Environmental Social Sciences II: Power & Change
SOCI 301 Classical Social Theory
SOCI 302 Topics in Contemporary Theory
SOCI 307 Qualitative Research Methods
SOCI 312 Social Movements
SOCI 329 Climate Justice
SOCI 335 Indigenous Peoples in Canada
SOCI 341 Sociology of Agriculture
SOCI 364 Food and Society
SOCI 366 Coastal Communities
SOCI 397 Selected Topics: Climate and Justice
SOCI 380 Urban Sociology

Statistics
STAT 101 Introductory Statistics
STAT 231 Statistics for Students in the Sciences
STAT 311 Survey Sampling Design
STAT 331 Statistical Methods
STAT 333 Introductory Probability Theory
STAT 334 Mathematical Statistics
STAT 357 Regression Analysis

## 9.4 ART (ART)

C. Girard, Ph.D.
S. Gregory, Ph.D.
M. Sylliboy, BFA, M.Ed.

*Part Time*
S. Benton, BFA
K. Brown Georgallas, BFA
J. Fecteau, MFA
M. Gibson, MFA
L. Gillam, MFA
G, Lounsbury, BFA
A. MacLean, BFA
M. Nicholson, BA, B.Ed.S., B.Arch.
I. Pygott
W. Rogers, B.Ed.
B. Sparks, BFA, MA
O. Tetu
A. Tragakis, BFA
R. Young, BD Vis. Com., M.Ad.Ed.

Art courses may be used as electives, a pair, or minor. Please see the art department website at http://sites.stfx.ca/art/ for a list of 2022-2023 course offerings.

### Minor in Studio Art

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.

### Minor or Subsidiary in Art History

ART 141, 142, and 18 additional credits in art history courses. Students may take up to six credits of studio art courses for credit toward a minor or subsidiary in art history. Students may take no more than six credits from the following cross-listed courses for credit toward a minor or subsidiary in art history: ART/HIST 300, ART/PSCI 312, ART/ANTH/CELT 321, ART/CATH 331/332.

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.

### 101 Introduction to Drawing I

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.

### 102 Introduction to Drawing II

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-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 recommended. Three credits.

### 202 Introduction to Scenic Design

This course covers the stages in the development of scenic designs for theatrical productions, although the elements learned can be applied to a variety of other display-based mediums. While there will be some information disseminated in a lecture format the principal work in the class is based on a range of 'hands on' creative projects. These will be in class along with a weekly, larger, project. The course culminates with a major design project for a play chosen by the instructor. This project takes the place of a final exam and as the information received in class is cumulative, it can be worked on throughout the term. Prerequisite: ART 101, 102 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. Prerequisites: ART 101, 102. 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.

### 206 Art and Indigenous Pedagogy

Students will engage in creative inquiry and interdisciplinary art-making processes through Indigenous pedagogy. They will create art in response to readings, guest talks and through group work. An overview of Indigenous pedagogy and art practices and their potential as integral parts of Indigenous traditions will be explored through discussions, workshops and hands-on projects. Credit will be granted for only one of ART 206 and ART 298 (offered 2020-2022). Three credits.

### 211 Stained Glass Studio I

This course introduces the copper-foil method of stained glass. Students will create original designs, with encouragement and support to engage with their unique style preferences, perspectives, and cultures. They will learn basic technical skills to complete a two-dimensional stained glass artwork using materials (including coloured, textured glass) and equipment in the studio. Prerequisites: ART 101, 102, 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 inspired by their unique style preferences, life experiences, and perspectives. They will build upon and extend the technical skills learned in ART 211 to produce a three-dimensional stained glass art project, such as a lamp. Prerequisite: ART 211 or portfolio demonstrating stained glass design and studio skills. Three credits.

### 221 Batik Studio

"Batik" is the Javanese name for an ancient and contemporary art form originating in many parts of the world, notably Asia and Africa. Dyes and resist (such as melted wax, mud, or paste) are applied alternately to cloth to create permanent designs. After learning basic skills for mixing dyes and applying wax to cloth, each student will create original artworks in their own style, with encouragement to draw upon their perspective, identity and culture. Prerequisites: ART 101, 102, 115 or portfolio demonstrating drawing and design skills. Three credits.

### 222 Weaving Studio

Tapestry weaving has been practised by cultures around the world for over 2,000 years. In this course, students will first learn the basic techniques of tapestry weaving and later apply them to a small tapestry of their own design. Tapestry-woven cloth plays numerous cross-cultural roles: social, spiritual, political, economic, and artistic. These many facets of tapestry will be explored through a series of videos that highlight cultural traditions and international perspectives. 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 may 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 are crayon-like sticks of compressed pigment in either a chalk or wax binder. In this course, colour mixing and pastel techniques on a variety of papers will be explored as will the expressive potential of the medium. Students will complete a number of landscape, still life, and portrait paintings. Emphasis will be put on developing compositional skills using pastels. Prerequisites: ART 101, 102. 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 the 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. Prerequisites: ART 101, 102 or equivalent. Three credits.

### 259 Introductory Filmmaking

Students will learn elements of cinematic language, focussing on documentary film: the basic principles of storytelling, cinematography, editing, sound recording, and producing; how to operate as a one-person crew using their own equipment; and how to analyze films to understand cinematic vocabulary. Students must have access to a mobile device or camera that can shoot video and a computer that can run basic editing software. Additionally, students will expand their understanding of cinema through watching films, focusing on independent documentary works by Canadian filmmakers who are underrepresented in the industry (women, Indigenous, Black, People of Colour, and LGTBQ2S+). Credit will be granted for only one of ART 259 or ART 295 ST: Digital Video Production. 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.

### 265 Introductory Animation

In this course, students will learn the basics of animation. Projects include simple 2D 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.

### 269 The Body in Art -History and Theory

Intimately linked to identity and experience, the human body has constituted a wellspring of formal and conceptual explorations for artists across time and space. This thematic art history survey critically examines the relationship between ideas about the body and artistic representation. Students will use visual analysis and key concepts, like the Gaze and intersectionality, to study a wide range of artworks, from scientific illustrations to performances, that stem from a variety of cultural contexts. 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. No equipment is required, except for a smart phone. Credit will be granted for only one of ART 271 or ART 297 ST: Digital Photography. Three credits.

### 299 Selected Topics

The topic for 2022-2023 is Global Contemporary Art. This course will investigate art made between the late 1980s and the present day seen via a global perspective and the concept of globalization. The growing importance and diversity of art made around the world, other than in the Euro-American sphere, and the replacement of traditional centres of art-making with an astonishing array of alternative venues, make the art of our time both exhilarating and challenging. 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. Offered 2022-2023.

### 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. Not offered in 2022-2023.

### 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. Not offered in 2022-2023.

### 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
This course will be concerned with developing drawing to accurately reproduce plant forms. Non-flowering and flowering plant form and diversity will be covered. Prerequisite: ART 101, 102 (100) 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.

### 354 Women, Art & Gender: Rewriting Art History
Recentering women in the history of art, this course critically examines the structures that excluded them and the narratives that erased them. It looks at how gender has shaped the discipline of art history and at texts that envision more inclusive methods. Students will draw on their experiments with looking techniques to write about women's contributions to various visual and material cultures, from the discovery of butterfly metamorphosis to the secret "invention" of abstraction. Cross-listed as WMGS 354. 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 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. A key question is "Who is Jesus, and how shall we represent Him?" 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.

### 359 Intermediate Filmmaking
This course builds on ART 259. Students will learn key components of cinematic grammar (for example, tone, casting, and pacing) and will create projects, to which they will bring their unique creative vision. Students will also analyze films, primarily those created by underrepresented filmmakers (women, BIPOC, and 2SLGTBQ+). To take this course, students must have access to a mobile device that can shoot video and also a computer that can run basic editing software. Credit will be granted for only one of ART 359 and ART 386 (2021-2022). Prerequisite: ART 259. 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 (BIOL)

C. D. Bishop, Ph.D.
M.E. Galway, Ph.D.
D.J. Garbary, Ph.D.
V. Karunakaran, Ph.D.
R.F. Lauff, M.Sc.
J. Perry, 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.
J. Toxopeus, Ph.D.
R.C. Wyeth, Ph.D.

Senior Research Professors
J.A. Buckland-Nicks, Ph.D.
L. Graham, Ph.D.
W.S. Marshall, Ph.D.
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 121, 122; MATH 106 and 107 or 126 and 127; 6 credits in each of 2 different arts subjects for a total of 12 credits. See glossary for definitions of the humanities and social sciences. Students with a minimum high school average of 85 may consider a third science, usually PHYS 101, 102 or ESCI 171 and 172 instead of 6 credits of arts.

### Department Requirements

a) The biology core program is BIOL 111, 112, and four of the following courses: 201, 202, 203, 204 and 315. Students who do not take at least two or preferably three of these four courses in the second year will have reduced course selection in third and fourth year due to lack of prerequisites.
b) Students wishing to complete a pair or a 24 credit minor in biology should take BIOL 111, 112, and for the pair any two second year biology courses. BIOL 201, 202, 203, 204 are normally taken in the second year.
c) Biology majors, advanced majors and honours programs may include a 24 credit minor in any arts or other science subject.
d) 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.
e) BIOL 105, 115, 215, and 220 cannot be used as science A in biology major, advanced major or honours programs.
f) CHEM 101, 102 or 121, 122 is a prerequisite for BIOL 201, 202, 203 and 204.
g) 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 221, 222 in second year.
h) 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 BI0L 111, 112; and four of the following courses: 201, 202, 203, 204, 315; and 18 additional biology credits, of which 12 credits must be at the 300 or 400 level, to complete 36 credits for science A. BIOL 391 is recommended but not a required non-credit course taken in third year. Beginning in 2020-2021, students admitted to StFX who declare a major in biology must complete three credits of biology at the 400 level.

### 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, 405, 416, 417, 419, 452, 453, 454, 484
Ecology: BIOL 302, 308, 311, 315, 331, 342, 343, 345, 360, 407, 415, 468, 472, 474, 484
Cell and Molecular: BIOL 302, 304, 315, 317, 320, 331, 335, 395, 405, 411, 416, 417, 419, 452
Animal: BIOL 302, 304, 307, 308, 311, 315, 317, 320, 335, 342, 343, 360, 395, 405, 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, 415, 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 221/222) 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 221/222) 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/CSCI/ECON | BSAD 111, 102, 471; 12 credits from BSAD 221, 223, 231, 241, 261, 281; 9 additional BSAD credits; CSCI 135; 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 |
| Electives | 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.

### 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. Three credits and lab/tutorial.

### 220 Biological Perspective of Health and Environmental Issues
This course is restricted to students in particular degree programs, as outlined below. This course concerns 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; in the BASC programs; in the HKIN programs; and as an open elective in the B.Sc. in Nursing and the B.Sc in Human Nutrition. Direct all inquiries and override requests to Continuing and Distance Education. Online format delivery. 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. Prerequisite: BIOL 111. 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.

### 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 204 and one of BIOL 201, 202, 203. 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 or BIOL 251/252. 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 221/222(220) or CHEM 225 and 255. Open to human kinetics and health students upon completion of BIOL 204 and CHEM 221/222(220), or CHEM 225 and 255. 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, or 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.

### 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 at the 200-level; PSYC 230 recommended but not required. Three credits. Not offered 2022-2023.

### 381 Selected Topics
The topic for 2022-2023 is Biological Research Experience. An introduction to the fundamentals of biological research and ways of knowing about life, including two-eyed seeing. Students participate in interactive lectures and experiential learning activities in the laboratory and by field trips, conduct a semester-long group research project, and present their findings in written and oral forms. Prerequisites: BIOL 111, 112, and permission of the instructor. Three credits and lab.

### 382 Selected Topics
The topic for 2022-2023 is Evolutionary Medicine. Applying principles of evolutionary biology to medicine provides new insight into modern health challenges. This course introduces relevant core concepts, including human adaptation to past environments, human-pathogen coevolution, and why natural selection produces organisms that grow old and die. Case studies examine infectious and chronic diseases. Prerequisites: BIOL 204 and one of BIOL 201, 251, 252. Three credits.

### 391 Career Development Junior Seminar
Modular course helping students prepare for careers and programs that follow graduation. Various optional activities help in choosing a career, gaining admission to graduate or professional programs, getting involved in research, and developing transferable professional skills. Honours students are guided in choosing a supervisor and preparing for 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 221/222(220) or 255. Three credits and lab.

### 405 Comparative Endocrinology
This course provides an introduction to the major endocrine and neuroendocrine systems and their involvement in the control of physiological function in vertebrates. An emphasis will be on mammalian systems, however, examples from other vertebrate taxa will also be discussed. Areas of exploration will include the regulation of feeding and metabolism, ion homeostasis, stress, and reproduction. Prerequisites: BIOL 251 and 252 or BIOL 304. Three credits and a 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.

### 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.

### 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: permission of the instructor. Three credits.

### 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.

### 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 2021-2022 and in alternate years.

### 475 Honours Thesis I
Provides credit for background research and preparation of the Introduction to the Honours Thesis. Required for and restricted to honours students only, who must register in both BIOL 475 and 493. 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.

### 481 Selected Topics
The topic for 2022-2023 is 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. Credit will be granted for only one of BIOL 481 and BIOL 468. Prerequisites: BIOL 201, 202, 203; BIOL 345 recommended. Three credits.

### 491 Senior Seminar
Seminars on topics of major biological interest are presented by faculty members, staff, and visiting scientists. Provides an opportunity for deeper engagement with contemporary ideas from across all areas of biology. Required for all biology advanced major and honours students in their final year of study. Recommended but not required for major students in their final year of study. No credit.

### 493 Honours Thesis II
This course exposes undergraduates to original research, including the design of an investigation, data collection and analysis, and presentation of the findings. The course also provides in-depth training in critical thinking and communication skills that are broadly applicable following graduation. Preparation for the honours program begins in BIOL 391. For details, see the department website or contact the departmental coordinator of students. 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 involving experimental research not normally offered by the department. Three or six credits and lab.

## 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 (BSAD)

J. Alex, CPA, CA
D. Anthony, Ph.D.
T. Boyle, Ph.D.
L. Brennan, MBA
J. Fraser, CPA
M. Fuller, Ph.D.
J. Hood, MA
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
A. MacDonnell, Ph.D.
M. MacIsaac, MBA
R.F. Madden, MBA, FCPA, FCA
T. Mahaffey, Ph.D.
N. Maltby, Ph.D.
D. Mattie, M.Sc.
C. McLaughlin, Ph.D.
B. Morrison, Ph.D.
B. Mukerji, Ph.D.
R. McIver, B.Comm., CPA, CA
Y. Nguyen, Ph.D.
M. Oxner, Ph.D., CPA, CA, CFA
R. Palanisamy, Ph.D.
B. Parikh, Ph.D.
V. Vishwakarma, Ph.D.

*Part Time*
C. Boyd, LL.B.
B. Hatt, LL.B.
M. MacGillivray Case, LL.B.

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, our programs combine 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. 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.

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 63 BSAD credits must be earned at StFX.

The Post-baccalaureate Diploma in Enterprise IT Management is focused on designing, deploying, and managing information technology (IT) in organizations. The program is offered to students who have already earned an undergraduate degree from any area. Students in this program must successfully complete 48 credits of BSAD courses. Normally, post-baccalaureate students earn 24 credits per year for each of two years.

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). Students may also choose to complete a minor in disciplines outside business including sport management, see section 9.36.

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.

### Admission to the Post-baccalaureate Diploma in Enterprise IT Management

Admission to the Post-baccalaureate Diploma in Enterprise IT Management 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.

### 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.

### BBA in Entrepreneurship with B.Sc. in Human Nutrition

This five-year, two-degree program is for BBA students interested in alternative career paths who wish to pursue a degree in nutrition with a focus on entrepreneurship should follow the course pattern below. The double degree option will prepare BBA students to work within the food industry (product development and evaluation, food safety, etc.), marketing, or consumer affairs with various employers including their own start-ups, industry, not-for-profits and other related areas of practice. From the development of new plant-based food products, to eco-friendly packaging and emergency preparedness initiatives, food and health-related businesses remain among the most popular start-ups in Canada. To complete both degrees in five years the recommended course pattern involves:

| | |
|---|---|
| Year 1 | BSAD 111, 112; CHEM 101, 102; ECON 101, 102; MATH 105; STAT 101; 6 credits Arts X |
| Year 2 | BSAD 221, 223, 261, 231, 281, 241; BIOL 111, 215; 6 credits Arts X |
| Year 3 | BSAD 356, 332; 3 credits BSAD elective; HNU 142, 242, 262; BIOL 251, 252; CHEM 225, 255 |
| Year 4 | BSAD 456; HNU 146, 145, 351, 365, 384, 405, 475; 6 credits HNU electives |
| Year 5 | BSAD 352, 453, 458, 471; 3 credits entrepreneurship elective, 3 credits BSAD elective; HNU 328, 445; 6 credits HNU electives |

To obtain a second degree from StFX, students must complete a minimum of 30 additional StFX credits above the first-degree requirements (for a minimum total of 150 credits).

### BBA with Minor in Sport Management

BBA students may earn a Minor in Sport Management, consisting of 24 credits which replace one 12-credit pair plus the 12 credits of arts/science in the BBA degree pattern. Students earn the minor concurrently with their chosen major/advanced major/honours in one of the areas listed above. Course requirements and the normal course progression are as follows; see the Sport Management, section 9.36 for additional information.

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

### 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.

### Post-baccalaureate Diploma in Enterprise IT Management

The Post-baccalaureate Diploma in Enterprise IT Management (PBEITM) is a 2-year diploma program focused on designing, deploying and managing information technology (IT) in organizations. The diploma program utilizes the latest and most well-known technology solutions and tools.

The normal course sequence for the Post-baccalaureate in Enterprise IT Management is:

| | |
|---|---|
| Year 1 | BSAD 261, 281, 361, 382, 384, 385, 386, 389 |
| Year 2 | BSAD 383, 387, 467, 482, 483, 484, 485, 487 |

Students in the Post-baccalaureate Diploma in Enterprise IT Management can apply to complete Co-operative Education (Co-op).

### Co-operative Education Program in Post-baccalaureate Diploma in Enterprise IT Management

This optional academic program offers PB DIP ENITM students the opportunity to gain 4 months of professional, paid work experience in a range of opportunities in industry, government and not-for-profit across Canada. PB DIP ENITM students can apply to Co-op Education in the summer before starting their first year of the program in the fall semester. PB DIP ENITM students complete professional development training, one four-month work term, and a capstone course, COOP 530. See section 9.13 for further information.

### Affiliations with Professional Associations

The Schwartz School of Business maintains ongoing relationships with Chartered Professional Accountants (CPA) Atlantic and graduates may earn credit for all courses that serve as prerequisites which will allow for direct entry into the CPA Professional Education Program. The School is also affiliated by the Chartered Financial Analyst (CFA) University Affiliation Program. The CFA Institute affiliates select universities around the world that have embedded into their degree programs a significant percentage (more than 70%) of the CFA® Program Candidate Body of Knowledge. This recognition and affiliation signals that the degree's curriculum is closely tied to professional practice and is well suited to students preparing to sit for the CFA® examinations. 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 and other professional certification programs.

### 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 111, 112; 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, 344, 345, 346, 351, 358, 424, 425, 426, 427, 428, 450, 460.

**Enterprise Systems**

| | |
|---|---|
| Year 1 | BSAD 111, 112; ECON 101, 102; MATH 105; STAT 101; 12 credits arts/science electives |
| Year 2 | BSAD 221, 223, 231, 241, 261, 281; 12 credits arts/science electives |
| Years 3 & 4 | BSAD 382, 384, 385, 386, 471, 482, 483, 485; 15 credits BSAD electives; 12 credits arts/science electives; 9 credits open electives |

**Entrepreneurship**

| | |
|---|---|
| Year 1 | BSAD 111, 112; 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 332, 356, 456, 458, 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, 331, 333, 335, 352, 357, 358, 383, 386, 453.

**Finance**

| | |
|---|---|
| Year 1 | BSAD 111, 112; ECON 101, 102; ECON 271 or 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 323, 345, 348, 349, 444, 445, 449, 450, 453, 460, 497.

**International Business**

| | |
|---|---|
| Year 1: | BSAD 111, 112; 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 111, 112; 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 332, 362, 366, 367, 386, 427, 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 111, 112; 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, 482, 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 111, 112; 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 344, 345, 346, 351, 358, 450, 460 [plus sublist A: 425, 426, 427, 428].

**Enterprise Systems**

Year 1 BSAD 111, 112; 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 111, 112; 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 332, 356, 453, 456, 458, 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, 331, 333, 335, 352, 357, 358, 383, 386.

**Finance**

Year 1 BSAD 111, 112; ECON 101, 102; ECON 271 or 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 323, 345, 348, 349, 445, 449, 450, 453, 460, 497.

**International Business**

Year 1: BSAD 111, 112; 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 111, 112; 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 332, 362, 366, 367, 386, 427, 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 111, 112; 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, 482, 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 111, 112; 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 111, 112; 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 111, 112; 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 356, 391, 453, 456, 458, 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, 331, 333, 335, 352, 357, 358, 383, 386.

**Finance**

Year 1 BSAD 111, 112; ECON 101, 102; ECON 271 or 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 323, 345, 348, 349, 445, 449, 450, 453, 460, 497.

**International Business**

Year 1: BSAD 111, 112; 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, 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 111, 112; 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 332, 362, 366, 367, 386, 427, 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 111, 112; 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, 482, 495.

### BBA Joint Honours Degree

The normal course sequence for the BBA with joint honours in business administration and economics.

| | |
|---|---|
| Year 1 | BSAD 111, 112; ECON 101, 102; ECON 271 or 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.

### 111 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. Credit will be granted for only one of BSAD 111 and BSAD 101. Three credits and lab.

### 112 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. Credit will be granted for only one of BSAD 112 and BSAD 102. 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. Students will leave this course with the client focus central to effective marketing. The course introduces 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 introduces information technology and management in modern organizations. Key topics include innovation and competitive advantage through IT, enterprise systems, cloud technology and social media, business intelligence and analytics, 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 or PBEIT standing. 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 threats in order 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 leave the course with an enhanced understanding of customer personas and journeys by developing marketing strategies using cases, projects, and a simulation. Prerequisites: BSAD 231; 223 completed or concurrent. Three credits.

### 332 Research Methods and Insights

Research is about being curious and providing information needed for fact-based decision-making. This course examines the research process, including ethics approval, with a focus on both qualitative and quantitative data collection and analysis. Students will leave the course knowing how to use industry leading software tools such as Statista, Qualtrics, NVivo, and SPSS. Although the primary context is about understanding the customer experience (CX), the research process is applicable to all areas of business. Credit will be granted for only one of BSAD 332 or BSAD 391. Prerequisite: BSAD 231. Three credits.

### 333 Professional Sales: Effective Communication and Persuasion

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. Students will learn how to apply

concepts from psychology, sociology, and anthropology while exploring topics such as perception, motivation, attitude, culture, and reference groups. Students will complete exploratory consumer behaviour exercises and assignments and 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, capital structure, cost of capital and debt financing. 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 risks associated with financial institutions 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 placed on the management of these risks by different financial institutions. 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(prior to 2019). 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

Learn to think and act like an entrepreneur. This course provides the foundation for your entrepreneurial journey, covering topics such as the entrepreneurial mindset, problem discovery, customer discovery, business model development, and pitches. Throughout, you will be introduced to the theories and tools modern entrepreneurs use to design their ventures and be challenged to develop your own skills through class discussions and a term project. Cross-listed as HNU 471. Prerequisite: BSAD 102. 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. Prerequisite: BSAD 102. 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. Classes feature a mix of lectures and lively discussion, debates, and analysis of current events. 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 SMGT 322. Prerequisite: BSAD 261. Three credits.

### 366 Indigenous Business in Canada

A course that addresses contemporary successes and challenges in the doing of Indigenous business in Canada. The course covers such topics as the direct impact that history and policy, past and present, have on business and business education; meaningful consultation; cross-cultural relations; Indigenous models of management and leadership; the Truth and Reconciliation process and Calls to Action; colonization, decolonization, and indigenization processes; protection work towards climate just futures; and more. The course introduces students to the works of various Indigenous scholars and practitioners in business and business education. Prerequisite: BSAD 261. Three credits.

### 367 Gender and Management

Reviews the recent growth of women managers in today's organizational world. Students examine gender roles in organizations and identify some of the barriers women experience in reaching the top. The course explores the systemic discrimination facing women and presents potential management models for women and men. Cross-listed as WMGS 367. Prerequisite: BSAD 261. Three credits.

### 381 Operations Management

This course takes an integrated, systems-oriented approach to the operations function of manufacturing and service organizations. Students will explore operations decision-making using the underlying disciplines: behavioural, quantitative, economic, and systems. Prerequisite: BSAD 281. Three credits. Not offered 2022-2023.

### 382 Introduction to Enterprise Systems

This course introduces enterprise systems and its role in achieving effective business process integration. 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 S/4HANA enterprise systems will be used to illustrate course concepts, with students receiving exposure to SAP S/4HANA 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 Business Application Programming Using ABAP
This course introduces business application programming using the ABAP programming language. Topics include basic business programming concepts, variables, parameters, flow control, events, internal tables, SQL, external files, error handling, and code debugging. Professional programming techniques and best practices will be emphasized. Students will code management and drill-down report programs using data generated by an SAP S/4HANA enterprise system. The course assumes no prior knowledge of programming and is open to students in all Business streams. Prerequisite: BSAD 281. Three credits.

### 386 Project Management and Practice
This course introduces the project lifecycle and the internal and external influences of project success. Topics include project scope and plan, project costing and time techniques, risk management and mitigation, and effective project team management. 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 S/4HANA
Effective organization design is critical to enhancing the performance and innovativeness of today's complex and global companies. This course introduces organization design theory and practice. Through a case study, students will use SAP S/4HANA to undertake key organization and personnel management processes such as creating structures, departments, and positions, and performing recruitment and qualification management activities. This course is open to students in all Business streams and recommended for students interested in HR Management. Prerequisites: BSAD 261, 281. Three credits.

### 389 Technology and Change in Organizations
Technology is both an enabler and driver of change in organizations. This course uses a managerial perspective to explore the relationship between technology and organizational change. Emphasis is placed on selecting technological opportunities and understanding the organizational challenges that prevent technologies from being successful. Topics include Moore's Law and technological obsolescence, impact of various disruptive technologies on organizations, and the unintended consequences of technology and change (e.g., energy consumption, e-waste). Prerequisites: BSAD 261, 281. Three credits.

### 391 Foundations of Management Research
An introduction to academic research in business and management. Topics include positivist and interpretivist paradigms in management research; developing conceptual models and hypotheses; defining a thesis statement; conducting a literature search; evaluating research; and understanding the limitations of management research. The key deliverable will be a thesis proposal. Credit will be granted for only one of BSAD 391 or BSAD 332. Required for all honours students. Three credits.

### 424 Financial Accounting Theory
A study of the development of accounting theory and the relationship of theory to practice. Major contributions to accounting theory will be examined. Prerequisite: BSAD 323. Three credits.

### 425 Auditing
An examination of audit strategy, procedures, and risk, as well as reporting standards and ethical and legal considerations in the current business environment. Emphasis is placed upon the theory of auditing in the context of the attest function. Prerequisite: BSAD 323. Three credits.

### 426 Advanced Accounting I
Develops an understanding of the financial reporting process by examining theory and practice in the management of financial disclosure. The course also deals with the accounting treatment of inter-corporate investments and consolidations. Prerequisite: BSAD 324. Three credits.

### 427 Management Control Systems
Focuses on managing organizational performance to optimize the implementation of organizational strategies. Within an established framework, this course reviews the process through which an organization manages performance, and specific techniques that are used to control the implementation of strategy. Concepts are reinforced via case analysis. Prerequisite: BSAD 321. Three credits.

### 428 Advanced Accounting II
Examines such accounting topics as the financial reporting of foreign currency transactions, the translation of foreign operations, and the financial reporting of not-for-profit and public sector organizations. The reporting requirements for interim and segmented financial statements are also examined. Prerequisite: BSAD 426. Three credits.

### 431 Services Marketing
This course augments other marketing electives by focussing on (intangible) services. Services account for the majority 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 sectors as diverse as cloud service providers, insurance, sports, investment advice, entertainment, tourism, and healthcare. Course methods are experiential and include presentations, exercises, cases, and journals. Prerequisites: BSAD 331, 335. Three credits. Not offered 2022-2023.

### 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. Not offered 2022-2023.

### 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. Not offered 2022-2023.

### 436 Brand Management
This course covers brand strategy development processes and helps students understand ways to position or reposition brands across all consumer touch points including online conversations and social media. It will also cover key concepts such as brand risk, 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(2016-2018). Prerequisites: BSAD 331, 335. Three credits. Not offered 2022-2023.

### 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. Not offered 2022-2023.

### 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 understand 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.

### 450 Personal Taxation

The Canadian economic environment is characterized by taxation legislation that impacts the financial decisions and cash flow planning of individual Canadians. The course examines the tax implications, as required by the *Income Tax Act*, on personal financial decisions. Credit will be granted for only one of BSAD 450 and BSAD 454. Prerequisite: BSAD 241. 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 261. Three credits.

### 452 Comparative International Strategy

The course examines topics at the intersection of international business and strategic management. This includes market variation; foreign market entry; and business strategies drawn from different theoretical perspectives set in a future-oriented context. Course methods may include a CEO panel interview experience, lectures, curated readings, guest speakers, and a variety of individual and team-based elective assignments. Prerequisites: BSAD 261; completion of second year BBA program. Three credits.

### 453 Entrepreneurial Finance

Entrepreneurial finance is designed for students who aspire to start or expand an entrepreneurial firm as well as others who anticipate working with the Small and Medium Sized Enterprise (SME) sector such as lenders, investors, accountants or suppliers. Students will learn about identifying appropriate financing sources and strategies across the venture lifecycle of the development, launch, survival, growth and maturity stages. Prerequisites: BSAD 241, 261. 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 261. Three credits.

### 458 New Venture Development

Entrepreneurship is a dynamic way of thinking and acting that capitalizes on opportunities with innovation to create value and solve problems. This is a course about entrepreneurship and the related aim to create and extract value centered around your idea for a new business, social enterprise or project. Students will develop a proposal and plan for a new venture via an applied, project-centred experiential course. Prerequisite: BSAD 261 or permission of instructor. Three credits.

### 460 Corporate Taxation

The Canadian corporate economic environment is characterized by taxation legislation that impacts the financial performance, cash flow, investment valuations and structure of transactions of corporations operating in Canada. The course examines the tax consequences of corporate financial decisions as required by the *Income Tax Act* including corporate taxes, HST/GST and investment tax credits. Credit will be granted for only one of BSAD 460 and BSAD 454. Prerequisite: BSAD 241. 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 or SMGT 322. 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. Three credits. Not offered 2022-2023.

### 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. Not offered 2022-2023.

### 471 Strategic Management

This is the capstone course in business and is required of all students. The course takes a strategic approach to industry and firm analysis, alternative development, and implementation planning, through the lens of corporate, business, functional and operational levels of strategic management. From the perspective of senior executives, students study the sources of sustainable competitive advantages to enhance firm performance and growth. Case methods feature prominently and result in an in-depth team-based strategic analysis and a case-based individual examination. Prerequisites: BSAD 241; fourth-year standing. Three credits.

### 472 Environmental Sustainability for Organizations

This course explores the relationship between organizations and the natural environment. Throughout, we build towards an assertion that when the internal functions of an organization are aligned to reach organizational sustainability goals, which are in turn aligned with global goals, we will be set on a more sustainable trajectory (that must be continually revisited as new information and knowledge emerges). The course explores topics such as the tragedy of the commons, environmental policy, sustainability leadership and strategy, operationalizing and measuring sustainability, and communicating sustainability. Cross-listed as CLEN 302. Prerequisite: BSAD 261. 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. Topics discussed range from environmental, social and governance (ESG) performance to financial investing to the responsibility infrastructure which includes the UN Global Compact, Sustainable Development Goals and more. Classes feature seminar discussions, guest speakers, service learning 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 Decision Intelligence and Analytics
Making insightful and ever-faster decisions from data can add agility and strategic advantage to organizations. Data analysts use a mix of best practices, specialized technology, and creative problem solving to derive actionable insights from diverse data sources. This course introduces decision intelligence and analytics, and related concepts, best practices, and software used by data analysts, IT professionals, and digital marketers. This course is open to students in all BBA streams and recommended for students in marketing or enterprise systems. Prerequisites: BSAD 281; third or fourth-year standing. 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 S/4HANA Implementation
This course provides a practical understanding of ERP configuration with reference to SAP S/4HANA. The course familiarizes students with ERP 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. Not offered 2022-2023.

### 487 Advances in Information Technology
This course will explore from a managerial perspective recent technological advances and their implications to information systems design, deployment, or management. Topics may include the distributed enterprise, cloud and edge computing, blockchain, autonomic systems, hyper automation, composable applications, and digital transformation strategies. Prerequisites: BSAD 281; third or fourth-year standing. Three credits.

### 492 Consulting Project for Advanced Majors
Students work as a team of business consultants to provide a solution to a real-world client. Students interact with the client to understand the organization and articulate the problem or opportunity, then propose, validate, plan and present a solution. Students apply and integrate knowledge and skills learned from throughout the business program and gain practical experience in dealing with clients. Required for and restricted to all advanced majors in entrepreneurship, enterprise systems, international business, management and leadership, and marketing with fourth-year standing. 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 in 2022-2023 is Social Media Marketing and Analytics. Social media has changed the way we communicate and how we interact with brands. Marketers are increasingly using social media to increase brand awareness, generate leads and build meaningful relationships with consumers. This course focuses on developing a social media marketing strategy with the use of analytics to inform and modify those strategies. Students will explore specifics of marketing in multiple social networks, develop their own personal social media brand, and develop and execute a social media marketing strategy. Prerequisite: BSAD 335 or permission from the department chair. Three credits.

### 496 Selected Topics
The topic in 2022-2023 is Innovations in Marketing. This course will focus on current marketing issues, trends, and challenges. Topics in any given year could include social media, advanced digital topics including SEO, SEM and various IT tools, marketing metrics/analytics, personal branding, brand risk and equity, and/or green marketing. Prerequisites: BSAD 331, 335 or permission from the department chair.

### 497 Selected Topics
The topic for 2022-2023 is Financial Modeling for Equities. Based on the theory and practice of financial and investment management, the course focuses on developing flexible computer-based models using excel that are used by analysts to value equities. The course covers a variety of techniques, such as sensitivity and scenario analysis and is offered as a computer lab. Prerequisites: BSAD 342, 344, (both completed or concurrent with fourth year standing).

## 9.7 CATHOLIC STUDIES (CATH)
W. Sweet, Ph.D., D. Th., D.Ph., FRSC, Interim Co-ordinator

| Advising Faculty | Department |
|---|---|
| L. English, Ph.D. | Adult Education |
| L. Groarke. Ph.D. | Philosophy |
| J. Khoury, Ph.D. | English |
| M. McGillivray, Ph.D. | English |

Catholic Studies, like all humanities programs, offers an understanding of humanity – our history, cultures, and values. What makes our program unique is that we acknowledge the 2000-year symbiotic relationship of Catholicism, and Christianity generally, not only to the history of the West, but throughout the world. Our program offers a multi-disciplinary exploration of the diverse ways in which the Catholic traditions inform culture, institutions, and identity, from the earliest days to the contemporary world. Our interdisciplinary courses in history, artistic culture, theology, literature, and philosophy seek to understand and explore critically the institutions associated with Roman Catholicism.

### Major Program
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.

### Minor Program
24 credits of CATH.

### 101 The Catholic Story
An introduction to Catholic studies, the course focuses on a survey of major developments in the history of the Catholic Church: Early Christianity, the Papacy, Ecumenical Councils, Mission, Internal Reforms, Reformation and Counter-Reformation, the Enlightenment, World Wars, and the Catholic Church today. Intertwined in this chronology are several themes: Freedom, Faith and Reason, Concepts of History, Sacraments, Spirituality, and Faith. Credit will be granted for only one of CATH 101 or CATH 100. Three credits.

### 102 The Catholic Imagination
Through a study of key texts of the Catholic intellectual tradition, students will investigate and examine themes such as: persecution, martyrdom, sin, moral life, death, faith, and divine love. Texts used will draw from different historical periods, a range of genres (autobiography, drama, poetry, fiction and non-fiction prose), and various types of authors (male, female, saints, mystics, religious, and secular). Credit will be granted for only one of CATH 102 or CATH 100. Three credits.

### 241 Sin and Salvation
This course will study the themes of sin and salvation as they appear in the Bible, in literature, and in two great theological controversies, the Pelagian controversy of the 5th century, and the Protestant Reformation of the 16th century. Three credits. Not offered in 2022-2023.

### 245 Christ in the Catholic Tradition
This course will examine the person, nature, and work of Christ as these are understood in the Catholic tradition. Topics and texts will include: the Bible, theological works from different historical periods, literary presentations of Christ, and artistic depictions of Christ. Three credits. Not offered 2022-2023.

### 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.

### 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.

### 298 Selected Topics
The topic for 2022-2023 is Catholicism in Canada. This course will explore the rich and diverse history of Catholics and the Catholic Church in Canada, from its early origins as a missionary force during the ancien régime in the 17th and 18 centuries, to its uncertain place within a Protestant British Empire and early Canadian state, and to its role in an increasingly secular society in the 21st century. 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. Not offered 2022-2023.

### 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. Not offered 2022-2023.

### 341 Social Justice and the Catholic Traditions
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. Not offered 2022-2023.

### 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. Courses are 3 credits unless otherwise indicated.

Art
ART 251 Medieval Art
ART 252 Baroque Art
ART 371 Italian Renaissance Art I
ART 372 Northern Renaissance Art
ART 373 Italian Renaissance Art II
ART 435 Seminar in Italian Renaissance Art

Celtic Studies
CELT 230 Celtic Christianity

English
ENGL 207 World Masterpieces II: Medieval and Renaissance
ENGL 388 Heroic Literature of the Middle Ages
ENGL 389 Chaucer's Contemporaries

French
FREN 318 Classical French Theatre
FREN 319 Literary Works of the grand siècle (Les Moralistes)
FREN 410 Medieval French Literature
FREN 415 Renaissance French Literature

History
HIST 363 Reformation Europe

Philosophy
PHIL 245 Philosophy of Religion
PHIL 361 Early Medieval Philosophy
PHIL 362 Philosophy in the High Middle Ages

Religious Studies
RELS 212 Christianity
RELS 311 New Testament
RELS 312 Old Testament/Hebrew Bible
RELS 317 Paul and His Interpreters
RELS 325 Early Christian Women
RELS 363 Roman Christianity
RELS 365 Spirituality in Medieval Christianity

## 9.8 CELTIC STUDIES (CELT)
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 - Celtic culture has left many traces in other medieval cultures and literatures (e.g., literature about King Arthur, Saint Brendan, and Irish computus-texts). It has also influenced modern popular culture, ranging from Tolkien to *Game of Thrones* and *The Wheel of Time*. Celtic music is popular the world over, and interest in Gaelic language and culture is growing; Gaelic is currently being taught as core language in Nova Scotia schools to more than 500 students. The Celtic Studies program focuses primarily on the Gaelic language, history, and culture of Scotland, Nova Scotia, and Ireland, and we offer both BA and MA degrees

Graduates have pursued advanced degrees in Celtic or related field; have found employment in the region involving Gaelic, for example as teachers, in museum settings or in the tourism industry; or have ended up in an international career.

Students may count courses in Celtic history (CELT 131, 132, 321, 331, 332) as courses in the Department of History.

### Minor Program
24 credits of CELT.

### Major Program
Major candidates are required to complete CELT 101, 102, 201, 202. See also chapter 4.

### Honours Program
Honours candidates are required to complete: CELT 101 and 102; 131 and 132, or 327 and 328; 201 and 202; 300; 491 (thesis); plus 30 credits CELT.

### Master of Arts
The Master of Arts degree may be offered in Celtic studies. See chapter 8.

### 101 Gaelic Language and Culture I
This course is an introduction to the Gaelic language and culture of Scotland and Nova Scotia for students with no prior knowledge of the language. Students will learn the basics of spoken and written Gaelic as well as aspects of Gaelic culture rooted in the language. Credit will be granted for only one of CELT 101 and CELT 100. Three credits. Offered 2022-2023.

### 102 Gaelic Language and Culture II
Through a variety of written, oral, and audio-visual activities, students will build on listening, speaking, reading, and writing skills from the first semester acquire a more advanced foundation in Gaelic grammar. Discussion of select Gaelic customs, practices, and traditions from Nova Scotia and Scotland will form part of this course. Credit will be granted for only one of CELT 102 and CELT 100. Prerequisite: CELT 101 or permission of instructor. Three credits. Offered 2022-2023.

### 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 and mythology. Acceptable as a course in history. Three credits. Offered 2022-2023.

### 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 2022-2023.

### 201 Gaelic Language and Culture III

Building on the communication skills and grammatical concepts learned at the 100 level, students will work on acquiring greater comfort and fluency in the language in the context of Gaelic culture in Nova Scotia and Scotland. Resources from the song and storytelling tradition will be used. Credit will be granted for only one of CELT 201 and CELT 200. Prerequisite: CELT 102 or permission of instructor. Three credits. Offered 2022-2023.

### 202 Gaelic Language and Culture IV

Through a variety of written, oral, and audio-visual activities from Gaelic Nova Scotia and Scotland, students will build on their listening, speaking, reading, and writing skills acquired in CELT 101, 102, and 201. Students will also acquire a more advanced foundation in Gaelic grammar. Credit will be granted for only one of CELT 202 and CELT 200. Prerequisite: CELT 201 or permission of instructor. Three credits. Offered 2022-2023.

### 220 Celtic Paganism

This course examines the religious practices and beliefs of the ancient Celtic peoples that we can glean from archaeology, classical sources, place-name evidence, and the mythology in medieval Irish and Welsh narrative tradition. Other topics include syncretism, adaptation of pagan festivals into Christian holidays, the persistence of elements of paganism into the Christian era, and neo-paganism today. Cross-listed as RELS 219. Three credits. Not offered 2022-2023.

### 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 and the modern use of the term "Celtic Christianity". Cross-listed as RELS 229. Three credits. Offered 2022-2023.

### 300 Third-Year Scottish Gaelic

An advanced-level course with emphasis on attaining fluency. The course will concentrate on the Gaelic of Nova Scotia with readings from local publications. The class will also work on transcribing recordings of local speakers. Prerequisites: CELT 100, 200. Six credits. Not offered 2022-2023.

### 319 Celtic Music

This course is an examination of traditional music from the six Celtic countries with emphasis on Scotland, Ireland, and Cape Breton, including Gaelic song, bagpipe, fiddle, and harp music. We will also explore the development of the "Celtic Music" genre in North America. Credit will be granted for only one of CELT 319, CELT 219 or CELT 253. Cross-listed as MUSI 319. Three credits. Offered 2022-2023.

### 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 ART 321. Three credits. Offered 2022-2023.

### 323 Medieval Manuscripts: from Book of Kells to Book of Hours

Medieval manuscripts often took years of effort to complete. How were these works of art and scholarship created, and by whom? This course focuses on how medieval manuscripts were put together, and on how to transcribe manuscript texts in various languages spoken on the British Isles and Ireland, including Gaelic, Old English, French, Welsh, and Latin (no knowledge of these languages required). Cross-listed as ENGL 324. Three credits. Offered 2022-2023.

### 325 The Celts in Popular Culture

Banshees, leprechauns, fairies, magic, shamrocks, and white-robed druids cutting mistletoe by moonlight: these are only some of the popular images associated with the Celtic peoples. This course will explore the complexities of identity and the popular perception of Celtic culture, broadly defined, by examining various media including film, novels, and video games. Credit will be granted for only one of CELT 325 and CELT 361 (2013-2014). Three credits. Offered 2022-2023.

### 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. Offered 2022-2023.

### 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 2022-2023.

### 331 Scottish History

This course examines the (Gaelic) history of Scotland from earliest times to the present. Topics include the Dalriadic Scots and the kingdom of Alba, the Gaelic church, the Kingdom and Lordship of the Isles, rise of the clans, 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. Offered 2022-2023.

### 332 The Scots in North America

This course will follow the fortunes of the Gaels of the Highland diaspora. Emphasis is 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. Offered 2022-2023.

### 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 2022-2023.

### 349 Medieval Medicine

This course examines the history of medicine in Western society, with emphasis on medieval Ireland, Wales and Scotland. Course topics include specific diseases, including the plague and dancing mania; and cures, including diet, charms and surgery. This course is of 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 2022-2023.

### 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. Offered 2022-2023.

### 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 2022-2023.

### 491 Honours Thesis

The topic for the thesis depends on the interest of the students and the areas of research of the thesis supervisor and might include topics related to medieval Gaelic or Welsh language, literature, medieval medicine, textual edition, early modern Gaelic, modern Gaelic , and Gaelic history and folklore. Student are required to contact their prospective supervisor in their third year to discuss potential thesis topic. Credit will be granted for only one of CELT 491 adn CELT 490. Restricted to students in the honours program. Six credits.

### 499 Directed Study

A directed study course in advanced topics in Celtic studies. Possible topics include: Old Irish, Middle Welsh, Advanced Scottish Gaelic, Gaelic poetry, medieval Celtic law. Consult with the department chair. See section 3.5. Three or six credits.

## GRADUATE COURSES

Contact the Department Chair for additional information.

### 521 – Old Irish I

This course focusses on acquiring Old Irish grammar for the purposes of translating early Irish texts and obtaining a foundation in the historical and linguistic basis of the modern Gaelic languages. Emphasis will be placed on discussing written exercises and/or translations of Old Irish texts, mastering grammatical concepts, as well as demonstrating an understanding of prepared readings on Old Irish grammar. Three credits. Offered as directed study in 2022-2023.

### 522 – Old Irish II

This course, which is a continuation of Old Irish I, focusses on acquiring further Old Irish grammar, and on translating basic Old Irish saga-texts and poetry. Three credits. Offered as directed study in 2022-2023.

## 9.9 CHEMISTRY (CHEM)

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

Lab Instructors
S. Boucher, B.Sc.
P. Budicky, B.Sc., MBA
S. Bursey, B.Sc.
H. Fraser, B.Sc.
J. Fraser, B.Sc. B.Ed.

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, 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 https://www.mystfx.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.

### Minor

24 credits of CHEM.

### 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, 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); 6 credits honours thesis (490); 3 credits CHEM electives; 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 or CHEM 121. 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 or CHEM 122. 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 120, CHEM 101 or CHEM 100. 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 or CHEM 120. 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(arts), 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 or 121/122. 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 or 121/122; MATH 106/126 and 107/127 or 121/122. 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 or 121/122. 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 222 completed (recommended) or concurrent or CHEM 225 or 220. 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 or 121/122. Three credits and lab.

### 321 Intermediate Organic Chemistry
A continuation of CHEM 221/222, 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 221/222 or 220. Three credits and lab. Not offered 2022-2023.

### 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 221/222 or 220, PHYS 121/122. 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 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 tutorial.

### 341 Inorganic and Theoretical Chemistry I
An introduction to molecular symmetry and group theory and its applications to vibrational spectroscopy. Also included are basic coordination chemistry of the transition metals, including discussion of some common inorganic techniques, as well as electronic magnetic properties of transition medal compounds. Prerequisite: CHEM 245. Three credits and lab.

### 342 Inorganic and Theoretical Chemistry II
Electronic and magnetic properties of transition metal compounds. Introduction to organometallic chemistry, homogeneous and heterogeneous catalysis, inorganic reaction kinetics and mechanisms and bio-inorganic chemistry. Prerequisite: CHEM 341; CHEM 232 recommended. Three credits and lab.

### 355 Advanced Biochemistry
The course focuses on the biosynthesis and metabolism of important biological molecules. Topics include lipids, amino acids, nucleotides, other carbohydrate metabolism pathways, and plant hormones. Prerequisites: CHEM 221/222 or 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.

### 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 modelling 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 221/222 or 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 221/222 or 220; CHEM 421 recommended. Three credits and lab.

### 423 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. Credit will be granted for only one of CHEM 423 or CHEM 471(offered in 2018-2019) Prerequisites: CHEM 221/222 or 220 (completed or concurrent), CHEM 231. Three credits. Offered 2022-2023.

### 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 2022-2023.

### 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. Not offered 2022-2023.

### 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 221, 222, 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 221/222 or 220 or 225. Three credits and tutorial/lab.

### 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 221, 222, 255. Three credits and lab. Not offered 2022-2023.

### 462 Topics in Analysis and Spectroscopy
Topics are typically selected from the following: NMR, fluorescence, FTIR, Raman, methods used for surface analysis, capillary electrophoresis, mass spectrometry, flow injection analysis and process analytical chemistry. Lab experiments will be carried out to complement the course work. Prerequisites: CHEM 361, 362 (completed or concurrent). Three credits and lab. Not offered 2022-2023.

### 471 Selected Topics in Chemistry
This course examines current specialized chemistry topics not normally covered in other courses. Three credits. See section 3.5.

### 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.

### 490 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. Credit will be granted for only one of CHEM 490 and CHEM 493. Restricted to students in the honours program. Six 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 |
| 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 (CLAS)
D. Al-Maini, Ph.D., Co-ordinator
S. Baldner, 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.

### 216 Classical Latin Texts
In this course, students who have learned Latin grammar and vocabulary, begin to ready 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.

### 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.

## 9.11 CLIMATE AND ENVIRONMENT (CLEN)
A. MacDougall, Ph.D., Co-ordinator

| Advising Faculty | Department |
|---|---|
| H. Beltrami, Ph.D. | Canada Research Chair in Climate Dynamics |
| L. Brennan, MBA | Business |
| K. Burnett, Ph.D. | Development Studies |
| D. Risk, Ph.D. | Earth Sciences |
| N. Verberg, Ph.D. | Sociology |
| P. Withey, Ph.D. | Economics |

The Bachelor of Arts and Science in Climate and Environment is an 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.

### Bachelor of Arts and Science in Climate and Environment
a) 24 credits of core courses: CLEN 101, 102, 201, 202, 301, 302, 401, 402.
b) BIOL 112; ECON 101; SOCI 101, 102; CSCI 161 or MATH 106.
c) ESCI 265; SOCI 202.
d) 18 credits in arts: some credits from requirement (b) and (c); remaining credits from designated courses.
e) 18 credits in science: some credits from requirement (b) and (c); remaining credits from designated courses.
f) 12 credits in arts or science: credits from designated courses.
g) 12 credits from humanities designated courses.
h) 36 credits of open electives.
i) 100-level restriction: maximum of 30 credits at the 100-level of designated or required courses, not including core courses.
j) 300- and/or 400-level requirement: a combined minimum of 24 credits of 300- and/or 400-level courses in the designated, required or core courses.
k) In addition to the 12 credits of humanities, a minimum of 24 credits of arts courses. Designated, required, and elective courses may be used to complete arts requirements.
l) A minimum of 24 credits of science courses. Designated, required, and elective courses may be used to complete science requirements.
m) 12 credits must be courses with laboratory components at the 200-level or above. Designated, required, and elective courses may be used to complete laboratory requirements.

### Bachelor of Arts and Science with Honours in Climate and Environment
The requirements are the same as those for the program above, with the following exceptions:
a) CLEN 490 is required as part of the core courses, for a total of 30 credits in the core.
b) There are 30 credits of open electives.
c) The honours program requires a combined minimum of 18 credits of 300- and/or 400-level courses (including CLEN 490).

### Major
Typical Course Pattern:

| | |
|---|---|
| Year 1: | CLEN 101, 102; BIOL 112; CSCI 161 or MATH 106; ECON 101; SOCI 101, 102; 6 credits designated courses; 3 credits humanities |
| Year 2: | CLEN 201, 202; ESCI 265; SOCI 202; 9 credits designated courses; 3 credits humanities; 6 credits open electives |
| Year 3: | CLEN 301, 302; 6 credits designated courses; 3 credits humanities; 15 credits open electives |
| Year 4: | CLEN 401, 402; 6 credits designated courses; 3 credits humanities; 15 credits open electives |

### Honours
Typical Course Pattern:

| | |
|---|---|
| Years 1, 2 & 3: | same as program above |
| Year 4: | CLEN 401, 402, 490; 6 credits designated courses; 3 credits humanities; 9 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, only cross-listed or designated courses at the 200-level or above can be counted toward the minor. No more than six credits of CLEN 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.

### 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 origin, operation and history of Earth's climate system including the atmosphere, ocean, ice and weather systems. Specifically, it focuses on understanding the processes determining Earth's climates covering greenhouse gases, clouds, atmosphere and ocean circulation, emergence and complexity. 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
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 Science and Public Policy

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. Prerequisites: PGOV 101 or 3 credits PSCI; ECON 101, or permission of the coordinator. Three credits.

### 302 Environmental Sustainability for Organizations

This course explores the relationship between organizations and the natural environment. Throughout, we build towards an assertion that when the internal functions of an organization are aligned to reach organizational sustainability goals, which are in turn aligned with global goals, we will be set on a more sustainable trajectory (that must be continually revisited as new information and knowledge emerges). The course explores topics such as the tragedy of the commons, environmental policy, sustainability leadership and strategy, operationalizing and measuring sustainability, and communicating sustainability. Cross-listed as BSAD 472. Prerequisites: CLEN 201, 202. 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 atmospheric systems. Simple intuition-building mathematical models are used to explore climate phenomena including: atmospheric structure, the greenhouse effect, seasons, Milankovic cycles, and long-term planetary climate stability. Prerequisites: CLEN 101 or ESCI 172; MATH 106 or; PHYS 101 or 121; ESCI 265 or 246 or CSCI 161; or permission of the coordinator. Three credits and lab. Not offered 2022-2023.

### 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 and air pollution. Prerequisites: CLEN 101 or ESCI 172, PHYS 101 or 121, ESCI 246 or 265 or ENGR 224/STAT 231 or permission of the coordinator. Three credits and lab. Not offered 2022-2023.

### 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.

## DESIGNATED AND REQUIRED COURSES

Course are three credits unless otherwise indicated.
Departmental prerequisites will apply.

### Arts Courses

Foundational courses

| | |
|---|---|
| ECON 101 | Introductory Microeconomics |
| ECON 102 | Introductory Macroeconomics |
| PGOV 101 | Modern Challenges in Public Policy and Governance |
| PSCI 101 | Introduction to Power and Politics |
| PSCI 102 | Introduction to Comparative and Global Politics |
| SOCI 101 | Foundations of Sociology |
| SOCI 102 | Key Issues in Contemporary Sociology |

Demography and Overconsumption

| | |
|---|---|
| SOCI 243 | Consumerism |
| SOCI 364 | Food and Society |

Issues in Environment and Sustainability

| | |
|---|---|
| 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 |

Socio-Political Perspectives

| | |
|---|---|
| DEVS 303 | Topics in Globalization and Development |
| DEVS 321 | People and Development |
| PSCI 325 | Indigenous Politics |
| SOCI 202 | Social Research Methods |
| SOCI 307 | Qualitative Research Methods |
| SOCI 329 | Climate Justice |

Resource Management and Policy

| | |
|---|---|
| ECON 281 | Environmental Economics |
| ECON 381 | Natural Resource Economics |
| SOCI 248 | Environmental Social Science II: Power and Change |

Special Topics

| | |
|---|---|
| AQUA 398 | Selected Topics: Sustainability of Aquatic Resources |
| PGOV 399 | Selected Topics: Learning from Disaster: Catastrophe and Change |
| DEVS 392 | Selected Topics: Agricultural Systems and Development |

Co-operative Education

| | |
|---|---|
| COOP 405 | Work Term and Integrated Learning |

### Science Courses

Foundational courses

| | |
|---|---|
| BIOL 111 | Introductory Cell Biology |
| BIOL 112 | Diversity of Life |
| CHEM 101 | General Chemistry I |
| CHEM 102 | General Chemistry II |
| CSCI 161 | Introduction to Programming |
| ESCI 171 | Understanding the Earth |
| or ESCI 173 | Natural Hazards |
| MATH 106/126 | Calculus I |
| MATH 107/127 | Calculus II |
| 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 |

Chemistry, Monitoring and Contaminants

| | |
|---|---|
| CHEM 265 | Basic Analytical and Environmental Chemistry |
| ESCI 305 | Geochemistry |
| ESCI 406 | Environmental Biogeochemistry |

The Climate System

| | |
|---|---|
| CLEN 303 | Climate Dynamics |
| CLEN 304 | Regional Weather and Climate |
| CLEN 403 | Advanced Topics in Climate Dynamics |
| ESCI 472 | Ocean-Atmosphere Interactions |
| PHYS/ESCI 278 | Introduction to Atmospheric Physics |

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 265 Data Analysis in Earth and Environmental Sciences
ESCI 275 Earth in Everyday Life
ESCI 276 Earth History and Crustal Materials
ESCI 304 Sedimentology and Stratigraphy
ESCI 365 Geomorphology
ESCI 377 Earth Observing

Issues in Environment and Sustainability
BIOL 201 Animal Biology
BIOL 221 Issues in Resource Management
ESCI 273 Health and the Environment
ESCI 274 Health Impacts of Climate Change

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 376 Environmental Earth Science Field Course
ESCI 377 Earth Observing

Resource Management and Policy
BIOL 407 Integrated Resource Management
HNU 405 Food Availability

Water Resources
AQUA 201 Rivers, Lakes and Freshwater Governance
AQUA 202 The Ocean's Commons and Society
AQUA 298 Selected Topics: Managing Water Resources
ESCI 266 Hydrology

Co-operative Education
COOP 405 Work Term and Integrated Learning

**HUMANITIES**
CATH 322 Contemporary Issues in Christianity & Science
DEVS 303 Topics in Globalization and Development
ENGL 100 Introduction to Literature and Critical Writing
ENGL 111 Literature and Academic Writing I
ENGL 112 Literature and Academic Writing II
ENGL 223 Creative Writing: Nature, Ecology, Climate Change
ENGL 248 Climate Fiction and Environmental Literature
HIST 111 Introduction to Global History 1300-1795
HIST 112 Introduction to Global History from 1789
HIST 121 Global Race & Ethnicity I, 1300-1776
HIST 122 Race/Ethnicity in Global History, 1776-Present
HIST 132 Global History, Illicit Cargos and the Making of the Modern World
HIST 141 Empire & Plague 1300-1800
HIST 142 Revolution: Global from 1750
HIST 255 History of Colonial Latin America
HIST 326 History of Cuba from Independence to the Revolution
HIST 346 American Social Movements, 1865-1945
HIST 347 American Social Movements, 1945-Present
HIST 355 The Sixties: A Social History
PHIL 100 Introductory Philosophy
PHIL 213 Philosophy of Science
PHIL 251 Critical Thinking
PHIL 331 Introduction to Ethics
PHIL 333 Environmental Ethics
PHIL 342 Logic
PHIL 372 Philosophy of Law
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 (CSCI)

J. A. Delamer, Ph.D.
I. Gondra, Ph.D.
J. Hughes, Ph.D.
M. King, Ph.D.
J. Levman, Ph.D.
M. Lin, Ph.D.
O. M. Soufan, Ph.D.
T. Smith, Ph.D.
L. Yang, Ph.D.

Senior Research Professor
W. MacCaull, 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 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. The Department of Computer Science also offers a Post-Baccalaureate Diploma in Artificial Intelligence (PB DIP AI) as well as both a research-based Master of Science (M.Sc.) in Computer Science and a course-based Master of Applied Computer Science (MACS). Students must meet the general requirements of both the faculty and the department in which they are registered.

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 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 major, advanced major and honours students CSCI 128, 135(235), may be available only as approved or open electives. Students must choose a concentration and satisfy all the requirements for the concentration. The computing concentration is the traditional computer science degree.

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 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 Minor, Major or Advanced Major concurrently with a Diploma in Engineering

PB DIP AI
M.Sc.
MACS

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: CSCI 125, 161, ENGR 147; CSCI 275, BSAD 384.

### Minor or Subsidiary in Computer Science
Students pursuing a minor or subsidiary 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 15 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; STAT101or 231 and an additional 18 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; STAT101 or 231.

### Advanced Major in Computer Science (Computing Concentration)
In addition to the core requirements, students must take CSCI 263, 355, 368, 375, 485; MATH 253; 3 credits of STAT, plus an additional 3 credits of CSCI at the 300- or 400-level. BA students require an additional 3 credits chosen from CSCI. B.Sc. students require an additional 9 credits chosen from CSCI.
Typical Course 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 355, 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; STAT101 or 231, STAT 331; MATH 253 or 223 and 12 credits chosen from CSCI. In addition, BA students must take 3 credits, and B.Sc. students must take 9 credits, chosen from: CSCI 215, 225, 335, 340, 355, 364, 455, 467, 495, MATH 254, STAT 357(435), 445.
Typical Course Pattern:

| | |
|---|---|
| Year 1 | CSCI 161, 162; MATH 106 or 126/112 (B.Sc. or BA) or MATH 101, 102 (BA) |
| Year 2 | CSCI 223, 255, 263, 275, 277; MATH 223 or 253; STAT101 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 111, 112, 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, 490; MATH 253 or 223; 3 credits STAT; 6 credits chosen from CSCI 455, 467, 487, 495; and an additional 15 credits of CSCI electives.
Typical Course 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, 490, 491 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, 490; STAT 331; MATH 253 or 223; 3 credits STAT; 9 credits chosen from: CSCI 225, 340, 355, 364, 467, MATH 254, STAT 357, 445; and an additional 15 credits of CSCI electives. Students are encouraged to take as many courses from the previous list as possible.
Typical Course 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, 223, 255, 263, 275, 277; MATH 223 or 253; STAT101 or 231 |
| Year 3 | STAT 331; additional CSCI/MATH/STAT courses |
| Year 4 | CSCI 455, 490, 491, 495; 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.

### Post-Baccalaureate Diploma in Artificial Intelligence (PB DIP AI)
This diploma in artificial intelligence is a two-year credential for individuals who have graduated from an undergraduate degree in a field that is not computer science and have one programming course. Students complete 48 credits of computer science courses normally taken over two academic years. A recognized statistics course must be completed prior or before year two to be awarded the diploma. General requirements are outlined in chapter 7.

| | |
|---|---|
| Year1 | CSCI 162, 215, 223, 225, 255, 263, 277, 350; 3 credits STAT*<br>*Students are only required to complete 3 credits of statistics if they have not completed a recognized statistics course prior to being admitted to the program. If required to complete a statistics course, we recommend students take STAT 224 or 231. |
| Year 2 | CSCI 275, 340, 444, 485, 495; two of CSCI 345, 364, 455, 527; 3 credits MATH/STAT/CSCI elective at the 200-level or above. |

### Master of Science (M.Sc.)
This research-based M.Sc. program is designed to equip graduate students with the necessary skills to either work in industry or to continue with academia in a research career. The focus is on research under the supervision of a faculty member. Students must earn a total of 36 graduate credits. Course work counts for 12 credits. Research and thesis work count for 24 credits. Graduate Seminar - 0 credits. General requirements for graduate degrees are outlined in chapter 8. For specific requirements, consult the department chair or visit department website.

### Master of Applied Computer Science (MACS)
The MACS is a course-based master's program designed to equip graduate students with the necessary skills to work in industry. Students have the flexibility to select from numerous elective courses to meet their professional interests and aspirations. Students complete 36 credits of graduate-level courses. Students have the option to complete an elective, project-based course in a workplace environment. General requirements for graduate degrees are outlined in chapter 8. For specific requirements, consult the department chair or visit department website.

Students must complete 10-11 CSCI courses at the 500-level. Each course is worth the equivalent of 3 credits, with the exception of CSCI 594: Computer Science Graduate Seminar, which is a mandatory 6 credits and taken during the student's first Fall semester, and CSCI 595 Project, an optional experiential project-based course, which is also worth 6 credits. To complete the program, students must complete 1 mandatory course (CSCI 594) and 9-10 elective courses totalling 36 credits.

| | |
|---|---|
| Year 1 | CSCI 594; 12 additional CSCI credits at the 500-level. |
| Year 2 | 18 CSCI credits at the 500-level (or 15 CSCI credits at the 500-level if 3 of the credits is CSCI 595) |

### 128 Computing Literacy and Coding for Problem Solving

This course introduces coding for everyday problem solving. Programming fundamentals are introduced with an intuitive programming language and a simple programming environment. The students will obtain first-hand experience with live coding examples and exercises. Students from all disciplines can learn to develop their programming abilities without any prior knowledge. B.Sc. Advanced Major and Honours students may only count this course as an approved or open elective. Students who have received credit for CSCI 161 or equivalent are not permitted to enrol in CSCI 128. 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, 147 or INFO 255. Three credits and a two-hour lab.

### 162 Programming and Data Structures

Continuing from the material in CSCI 161, this course covers memory management and data abstraction via classes and objects, and introduces the linear data structures lists, stacks, and queues. Structured programming is encouraged via modular development. Credit will be granted for only one of CSCI 162 and INFO 256. Prerequisite: CSCI 125 or 161 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.

### 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.

### 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. Not offered 2022-2023.

### 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. Prerequisites: CSCI 255, CSCI 223 or 275; or permission of chair. Three credits.

### 345 Computer Graphics

Covers fundamental mathematical, algorithmic, and representational issues in computer graphics. Topics include graphics programming, geometrical objects and transformations, 2-D and 3-D data description, manipulation, viewing projections, clipping, shading and animation. Prerequisites: MATH 253; CSCI 255. Three credits and a two-hour lab. Offered 2022-2023 and in alternate years.

### 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. Prerequisite: CSCI 161 or with permission of department chair. Three credits.

### 355 Algorithm Design and Analysis

The development of provably-correct algorithms to solve problems and their analyses. Topics include basic algorithm design techniques such as greedy, divide-and-conquer, and dynamic programming, and network flows. Intractability and NP-completeness. 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.

### 361 Natural Language Processing

This course presents students with methods to automatically analyze text written in a natural language. It explores traditional statistical methods for natural language processing before focusing on more modern techniques such as embedding-based models. This course represents approaches and their applicability across different tasks, such as, sentiment analysis, machine translation, and document classification. Students are expected to code solutions for assignments and a final project. Prerequisite: CSCI 255; 223 recommended. Three credits.

### 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. Not offered 2022-2023.

### 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.

### 435 Algorithms and Complexity
This course provides an introduction to some fundamental areas of research in algorithms and computational complexity theory. Flow networks and randomized, approximation, parameterized, and online algorithms and complementary techniques in hardness of approximation and lower bounds are presented. This course is a broad exploration of these topics to provide a well-rounded introduction to modern theories in algorithms and theoretical computer science. Prerequisite: CSCI 355 or permission of the chair. Three credits. Offered 2022-2023 and in alternate years.

### 444 Machine Learning
This course covers modern technologies in computational machine learning. Validation of machine learning algorithms will be taught alongside computational design considerations for the creation of reliable and robust machine learning models. Machine learning techniques will be taught in detail from a computational technology perspective, including decision trees, bootstrapping, bagging, super learners, AdaBoost, artificial & convolutional neural networks and methods for minimizing error on unseen data. Classical learning techniques will also be presented. Prerequisites: CSCI 161, STAT 224 or 231 or 101 or permission of department chair. Three credits.

### 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. Not offered 2022-2023.

### 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. Offered 2022-2023 and in alternate years.

### 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 https://www.mystfx.ca/computer-science/ 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. Offered 2022-2023 and in alternate years.

### 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 2022-2023.

### 491 Senior Seminar
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.

### 490 Honours Thesis
Students will prepare and present a thesis based on original research conducted under the supervision of a faculty member. Credit will be granted for only one of CSCI 490 and CSCI 493. Restricted to students in the honours program. Required for honours students. Six 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 in each group: CSCI 455, 522; CSCI 485, 523; CSCI 364, 524; CSCI 356, 541; CSCI 495, 545; CSCI 350, 546; CSCI 340, 547; CSCI 467, 561; CSCI 345, 562; STAT445, CSCI 555; CSCI 444, 525.

### 521 Real Time Systems
This course covers analysis techniques and development methodology for real-time systems. Topics include: real-time process and control, soft and hard real time systems, real-time scheduling algorithms, schedulability analysis theory, resource access control, real-time operating systems, real-time communications, performance analysis, requirement specification and system specification, verification of real-time systems, and formal development process of time critical real-time systems. Three credits.

### 522 High Performance Computing
This course is designed for graduate level parallel computing courses. This is not only a course which is linked to real parallel programming software, but also a course which covers many theoretical aspects on architectures, algorithms and applications. This course concentrates on parallel program to be executed not only on special multiprocessor systems or supercomputers, but also on networked workstations (Linux) or PCs using freely available parallel software tools such as Message Passing Interface (MPI) and Parallel Virtual Machine (PVM). Some emerging topics such as cluster computing, grid computing, cloud computing, peer-to-peer computing, as well as multicore systems will be introduced. Three credits.

### 523 Software Engineering
This course covers major concepts in software engineering. The fundamental characteristics of the software life cycle as well as tools and techniques for development and maintenance of large software systems will be presented. A major objective of this course is to give the student real-life software development experience. This objective is accomplished through the student's participation on a team that will develop a single software product over the course of the term. Product development will follow the full software life cycle from requirements analysis through product delivery. The focus will be on an object-oriented development strategy. Three credits.

### 524 Mobile Application Design/Development
Mobile applications are software applications designed to run on mobile devices. The Android mobile platform has become one of the most popular platforms used by millions of devices around the world. This course introduces App development for the Android OS. The course covers the Android system, fundamental components of Android Apps, how to create user interfaces in Android, and how to create Android Apps that use databases, location, and networking, multimedia and/or other services. Three credits.

### 525 Machine Learning Design
This course covers modern technologies in computational machine learning with advanced applications in deep learning. Validation of machine learning algorithms will be taught alongside computational design considerations for the creation of reliable and robust machine learning models. Technologies taught will include autoencoders, deep learning for segmentation (U-Nets etc.), recurrent neural networks, long short-term memory learning machines and explainable artificial intelligence. Classical machine learning techniques will also be presented for breadth of background. Three credits.

### 526 Embedded Systems
This course will study embedded programming with a focus on wireless sensor networks, and the state of the art in mobile communication research. Students are expected to present research papers from the recent literature, and to learn

TinyOS programming with NesC and application development in MICA2 platform. Three credits.

### 527 Big Data
The emphasis of this course is to introduce big data technology. Course topics include reliable and big data storage, efficient big data processing and analytics, and important Spark APIs. Students will gain abilities to design highly scalable systems that can store, process, and analyze a big volume of unstructured and/or semi-structured data in batch mode and/or real time. Three credits.

### 528 Advanced Data Analytics
The course will introduce advanced algorithms for structured data analytics and their applications in real-world problems. Course topics include classification, cluster analysis, association analysis, and anomaly detection. Students will learn these algorithms with hands-on implementation and gain abilities to derive value from collected data by applying the advanced data analytics algorithms. Three credits.

### 529 Mobile Robotics
This course will introduce basic concepts and techniques used within the field of mobile robotics. Classical motion planning algorithms, such as A* and RRT will be taught. During this course, machine learning models related to robotics will also be taught. The fundamental challenges for autonomous intelligent systems will be analyzed and an approximation method to calculate a solution will be discussed. The concepts taught will include Bayesian filters, Kinematics, Sensors, Markov Decision Process, POMDP and Reinforcement Learning. Three credits.

### 531 Reinforcement Learning
This course will introduce the fundamentals of Reinforcement learning and Deep learning techniques. The course will cover the Tabular solution methods, such as the finite Markov Decision Processes and Temporal-Difference learning. It will also cover approximation solution methods, as on-policy and off-policy approximations. By the end of the course, new deep-learning techniques will be introduced. Strong fundamentals in calculus and data structure are recommended. Restricted to MACS and MSc-CSCI students. Three credits.

### 541 Theory of Computing
This course focuses on three areas central to the theory of computation: automata, computability and complexity, to investigate the question: What are the fundamental capabilities and limitations of computers? We study automata (models of computation) e.g., finite state machines, pushdown automata and Turing machines and the languages recognized by them. We investigate complexity theory, to classify problems as easy or hard and computability theory to classify problems as solvable or not. Three credits.

### 542 Representation & Reasoning
This course provides a survey of general methods for analyzing knowledge about the real world and mapping it to a computable form. Principles of knowledge representation and their role in adapting logic and ontology to the task of constructing computable models of an application domain are introduced. Methods for representing dynamically changing processes and events are presented. Ways of dealing with vague, uncertain, imprecise or inconsistent facts are discussed. Three credits.

### 543 Specification and Verification
Topics covered include: introduction to formal methods; propositional and predicate logic; verification and model checking; Hoare-style program verification; modeling systems; specification using temporal (e.g., CTL, LTL), and other modal logics; various model checkers; partial order reduction; compositional reasoning and abstraction; automated theorem proving using tableau; problems/challenges to effective verification of large scale systems. Three credits.

### 544 Computational Logic
This course focuses on automated theorem proving. We start with a rigorous treatment of propositional and first order calculus (with equality) and the method of natural deduction, giving a thorough investigation of the soundness and completeness proofs and decidability. Then we compare and contrast several automated theorem proving methods such as tableau, resolution, sequent style calculus and rewrite systems. Extensions to other logics will be discussed. Students will implement one of the automated theorem proving methods. Three credits.

### 545 Artificial Intelligence
This course covers advanced core concepts in artificial intelligence (AI). Topics covered include intelligent agents, uninformed and informed (heuristic) search, logical and probabilistic knowledge representation, logical and probabilistic inference, essentials of machine learning, neural networks, reinforcement learning, and evolutionary computation. Project requires and in-depth study of a topic related to AI. Three credits.

### 546 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.

### 547 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 emphasised for course assignments/projects. Three credits.

### 550 Approximation Algorithms
Approximation algorithms are efficient algorithms that are guaranteed to compute solutions such that the value of the solution is provably close to the optimum. This course provides an introduction at the graduate level to the area of approximation algorithms, highlighting key algorithm design techniques for approximation algorithms and the complementary study of hardness of approximation for hard optimization problems. Three credits.

### 554 Matrix Computation
Through the use of lectures, discussions, the text, assignments, and labs, this course will familiarize students with the advanced knowledge of triangular systems, positive definite systems, banded systems, sparse positive definite systems, general systems; Sensitivity of linear systems; orthogonal matrices and least squares; singular value decomposition; eigenvalues and eigenvectors; and QR algorithm with their applications. Three credits.

### 555 Data Mining and Machine Learning
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 includes 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. Three credits.

### 561 Computer and Network Security
The objective of the course is to provide a broad overview of issues and approaches, while exposing students to recent advancements in computer and network security. This course will cover the theory and practice of computer and network security. While covering the theory of computer communication security, the course will focus on using and in some cases implementing various algorithms as well. Three credits.

### 562 Computer Graphics
Fundamental mathematical, algorithmic and representational issues in computer graphics. Graphics programming. Geometrical objects and transformations. 2-D and 3-D data description and manipulation. Viewing, Projections, Clipping, Shading, Animation. Three credits.

### 563 Advanced Database Systems
Explores advanced and evolving issues in database management systems. Topics include advanced database design and normalization, database implementations and optimizations, advanced and embedded SQL, ODBC and JDBC, XML, data warehousing, and emerging database trends. A major project is a key component of the course. Three credits.

### 564 Constraint Processing and Heuristic Search
The course will examine combinatorial problem solving and optimization with constraint processing and heuristic search methods for a variety of real world applications. It contains two main parts. The first part covers basic and advanced search techniques and the second part studies constraint processing techniques and constraint programming. Three credits.

### 594 Computer Science Graduate Seminar
This seminar course prepares graduates for industry or academia by developing knowledge and skills that will be applicable in a variety of professional contexts. Among these skills will be professional communication with industry and non-industry audiences, social and ethical issues in the field, grant and proposal writing, job search skills, research skills, and current innovations in research. The course is facilitated by computer science faculty members and includes presentations by invited experts. Pass/Fail. Six credits.

### 595 Project
The main objective of this course is to give the student real-life software development experience. The student will work with an industry or academic partner and develop a computing solution to a real-world problem. The student will be responsible to manage the project from development to execution. The student will gain practical experience on methods, languages, and tools in software design and development. Six credits.

### 598 Research
Six credits.

### 599 Thesis
Eighteen credits.

## 9.13 CO-OPERATIVE EDUCATION (COOP)
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 academic program. Currently, Co-operative education is an option for seven undergraduate, one graduate, and one post-baccalaureate diploma program.

### Co-op Education in Undergraduate Programs
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 May. Admission to the program is based on academic requirements and 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. For students joining the program in third year, the student must meet our first year average requirement and a minimum overall second-year average of 70%. 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.

International students may apply for the co-op program if they have a valid study permit. The co-op work permit is required for international students to go on co-op work term and can be obtained from Immigration, Refugees and Citizenship Canada (IRCC). Students should be aware that work permit processing timelines can be lengthy (6-8 months). If you have not submitted your co-op work permit application by the date indicated by the Co-op Education program or obtained a valid co-op work permit, you will not be able to participate in the co-op job search and will probably extend the length of your academic studies if you wish to complete the co-op program.

Students enrolled in the program complete their professional development training within the first four months in the 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 the mandatory professional development training and required assignments 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. Within the first month of being in the program, the co-op office and academic advising will help you make a work term plan that is right for you. The co-op office will use this work plan to direct student when they need to secure their work terms. 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 co-op work term requirements. 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 rules will apply. Students who want to 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. In addition, a co-operative education designation will be displayed in the degree awarded section of their official transcript. 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 discusses career development. Students discover the skills they need for future employability. Through career management strategies, students will establish goals that will enable them to achieve their career goals and develop career resiliency. Topics covered 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. Pass/fail. 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. Pass/fail. No credit.

### 130 Enhancing Your Engagement in the Workplace
Landing a job can be 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 and assists students with developing interview strategies that will lead to employment success. Students are introduced to relevant workplace topics that will assist with better or promote positive transitions into the workplace. Prerequisites: COOP 110, 120. Pass/fail. 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. Pass/fail. No credit.

### 405 Co-operative Education Work Term and Integrated Learning
After the final work term, students reflect on their co-op experience. This course is 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 BASc 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.

### Co-op Education in Graduate and Post-baccalaureate Diploma Studies
Currently, Co-op Education is an option for students enrolled in the Master of Applied Computer Science (MACS) and Post-Baccalaureate Diploma in Enterprise IT Management (PB DIP ENITM).

Once students have confirmed acceptance into their program, the co-op education office will notify students by email of the co-op application process by mid-summer. Admission to the Co-op Education program is based on the academic

requirements of the MACS/PB DIP ENITM programs. Students will apply for the Co-op Education program in September before the posted deadline via the online application form. Students are notified by their StFX email of their acceptance into the program and the professional development-training schedule. Students who begin their program in January are not eligible for the Co-op Education program.

The co-op work permit is required for international students to go on co-op work term and can be obtained from Immigration, Refugees and Citizenship Canada (IRCC). In order to obtain a co-op work permit, students must have a valid study permit and be enrolled in the StFX Co-op Education program. Students should be aware that work permit processing timelines could be lengthy (6-8 months). Students must submit their co-op work permit application by the date indicated by the Co-op Education program or they will not be able to participate in the co-op job search. To be eligible to start a work term, students must obtain a valid co-op work permit.

Students' degree programs and registration will be monitored and academic averages will be assessed by term and 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. For continuation in the Co-op Education program, MACS students must achieve a passing grade of 60% in their academic courses, maintain an average of 70% throughout their master's program, be actively engaged with the Co-op Education program, and be registered in a minimum of 9 MACS credits per term while completing co-op requirements. PB DIP EITM students must achieve a passing grade of 60% in their academic courses, maintain an average of 70% throughout their diploma program, be actively engaged with the Co-op Education program, and be registered in 12 credits per term while completing co-op requirements. Failing to meet any one of these requirements will result in the student becoming ineligible to continue with the Co-op program.

Students enrolled in the program complete their professional development training within the fall semester of joining the co-op education program. The professional development training assist students' success within the program and their work term. Students must successfully complete mandatory professional development training to be eligible for co-op work terms.

MACS students complete 8 months of work (summer and fall) which begin in the summer after first year. PB DIP ENITM students complete one work term in the summer between first and second year. 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 towards the program. The co-op education program begins and ends on an academic term.

While on work term, students complete mandatory work term assignments and are monitored/evaluated by the Co-op Program staff and their direct reporting manager at the workplace. To complete a work term successfully, Co-op students must obtain at least a satisfactory grade on their performance evaluation and complete all co-op assignments with quality and submitted on time.

Students may withdraw from the co-op education program by completing the online withdrawal from found on the co-op education program Moodle page. There will be no refund on 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 want to 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. In addition, a co-operative education designation will be displayed in the degree awarded section of their official transcripts.

### 500 Developing Professional Identity and Workplace Effectiveness I

This seminar addresses workplace readiness topics (i.e. emotional intelligence, reflection, workplace identity) that will assist students with the transition from school to the workplace. Students discover and nurture their professional identity in order to facilitate co-op work experience. Pass/fail. No credit.

### 501 Developing Professional Identity and Workplace Effectiveness II

This seminar addresses workplace topics (e.g. bullying, harassment, conflict management, onboarding, performance management, negotiation) that will assist students with the transition from academics to the co-op workplace. Prerequisite: COOP 500. Pass/fail. No credit.

### 510 Co-operative Education Work Term I

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 work term manager 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. Prerequisites: COOP 500, 501. Pass/fail. Three credits.

### 520 Co-operative Education Work Term II

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 work term manager 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. Restricted to MACS co-op students. Prerequisites: COOP 500, 501, 510. Pass/fail. Three credits.

### 530 Co-operative Education Integrated Learning

Following the completion of work term requirements, students reflect, discuss and report on their co-op experience. MACS prerequisites: COOP 500, 501, 510, 520. PB DIP ENITM prerequisites: COOP 500, 501, 510. Pass/Fail. No credit.

## 9.14 DEVELOPMENT STUDIES (DEVS)

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

| Advising Faculty | Department |
|---|---|
| N. Allen, Ph.D. | Political Science |
| K. Burnett, Ph.D. | Development Studies |
| S. Chattopadhyay, Ph.D. | Development Studies and Women's and Gender Studies |
| S. Dodaro, Ph.D. | Economics |
| S. Vincent, Ph.D. | Anthropology |
| R. Wyeth, Ph.D. | 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 core, 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. Prerequisites: DEVS 201, 202 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.

### 315 Gender and Development

This course will examine a number of ways to understand what gender and development mean, and the ways in which the two intersect. For instance, the course will explore such questions as, how can thinking intersectionally change the practices of development and of international institutions of development?; and, how local and gendered actors respond to development policies? Sub-themes in the course include women and work, gender and health, empowerment, environment, sustainable development, and others. Credits will be granted for only one of DEVS 315 and DEVS 391(ST: Gender and Development). Cross-listed as WMGS 315. Prerequisite: WMGS 100 or DEVS 201 and 202. Three credits. Not offered 2022-2023.

### 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. Offered every year.

### 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, or 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.

### 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
Courses are three credits unless otherwise indicated.
Departmental prerequisites will apply.

Anthropology
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|---|---|
| ANTH 218 | Anthropology of Health & Illness |
| ANTH 223* | Anthropology of Globalization |
| ANTH 234 | Introduction to Indigenous Anthropology |
| ANTH 310 | Anthropology of Tourism |
| ANTH 320* | People and Development |
| ANTH 323 | Feminist Anthropology |
| ANTH 332 | Mi'kmaq Studies |
| ANTH 415 | Anthropology of HIV/AIDS |
| ANTH 425 | Power and Change |
| ANTH 435 | Advanced Indigenous Issues |

Aquatic Resources
| | |
|---|---|
| AQUA 201 | Rivers, Lakes and Freshwater Governance |
| AQUA 202 | The Ocean's Commons and Society |

Biology
| | |
|---|---|
| BIOL 221 | Issues in Resource Management |
| BIOL 345 | Communities and Ecosystems |
| BIOL 407 | Integrated Resource Management |

Business Administration
| | |
|---|---|
| BSAD 352* | Social Entrepreneurship |
| BSAD 357 | International Business |
| BSAD 358 | Business Ethics |

Catholic Studies
| | |
|---|---|
| CATH 341 | Catholic Social Thought |

Earth Sciences
| | |
|---|---|
| ESCI 272 | Global Change and Climate System |
| ESCI 273 | Health and the Environment |
| ESCI 274 | Health Impacts of Global Climate Change |

Economics
| | |
|---|---|
| ECON 211* | Local & Community Development Economics |
| ECON 241 | Canadian Economic Prospects and Challenges |
| ECON 281 | Environmental Economics |

| | |
|---|---|
| ECON 305* | Economic Development I |
| ECON 306* | Economic Development II |
| ECON 361 | Human Resources and Labour Economics |
| ECON 365 | International Trade |
| ECON 366 | International Payments and Finance |
| ECON 381 | Natural Resource Economics |

English

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|---|---|
| ENGL 245 | Postcolonial Literature |
| ENGL 347 | Literature of Africa and the African Diaspora |

History

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|---|---|
| HIST 228 | History of Maritime Provinces, Pre-Confederation |
| HIST 229 | History of Maritime Provinces, Post-Confederation |
| HIST 233 | French Imperialism |
| HIST 255 | History of Colonial Latin America |
| HIST 256 | History of Modern Latin America |
| HIST 257 | Canada and the Global South |
| HIST 283 | Making Britain Great |
| HIST 303 | The Working Class in Early Canadian Society |
| HIST 304 | The Working Class in Modern Canada |
| HIST 317 | Canadian Women and Gender History: From Colony to Nation |
| HIST 318 | Canadian Women's and Gender History: Modernity |
| HIST 322 | Canadian Immigration, Race & Ethnicity to 1896 |
| HIST 326 | Cuba from Independence to Revolution |
| HIST 337 | History of Modern Mexico |
| HIST 347 | American Social Movements, 1945-Present |
| HIST 355 | The Sixties: A Social History |
| HIST 360 | Gender & Sexuality in Modern European Empires |
| HIST 374 | The People's Republic of China |
| HIST 462 | Seminar in Latin American History |

Human Nutrition

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|---|---|
| HNU 405 | Food Availability |

Interdisciplinary Studies

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

Philosophy

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|---|---|
| PHIL 333 | Environmental Ethics |
| PHIL 371 | Social and Political Philosophy |

Political Science

| | |
|---|---|
| PSCI 211 | Comparative Politics I |
| PSCI 212 | Comparative Politics II |
| PSCI 241 | Business and Government |
| PSCI 251 | Foundations of Global Politics |
| PSCI 252 | Contemporary Global Politics |
| PSCI 291 | Violence, Conflict and Politics |
| PSCI 315 | Democratization |
| PSCI 316 | Dictatorships |
| PSCI 322 | Atlantic Canada |
| PSCI 325 | Indigenous Politics in Canada |
| PSCI 335 | Human Rights & International Justice |
| PSCI 344 | Citizenship and Identity |
| PSCI 345 | Women and Politics |
| PSCI 353 | International Organizations |
| PSCI 354* | Global Political Economy |
| PSCI 355* | Global Issues |
| PSCI 358 | International Security |
| PSCI 363 | Politics of East Asia |
| PSCI 371* | Political Economy of Development |
| PSCI 372 | Iran and the Muslim World |
| PSCI 391 | Democratization & Development in Latin America |
| PSCI 395 | Mexican Politics |

Nursing

| | |
|---|---|
| NURS 364 | Social Justice and Health |

Sociology

| | |
|---|---|
| SOCI 203 | Gender (6 credits) |
| SOCI 212 | Social Dissent |
| SOCI 217 | Race and Identities |
| SOCI 242 | Technology & Society |
| SOCI 243 | Consumer Society |
| SOCI 247 | Environmental Social Science I: Problems & Paradigms |
| SOCI 248 | Environmental Social Science II: Power and Change |
| SOCI 254 | Social Class as Lived Experience |
| SOCI 209 | Social Inequality in Canada |
| SOCI 309 | Power and the State |
| SOCI 328 | Social Inequality |
| SOCI 335 | Canada's Indigenous Peoples |
| SOCI 356 | Intercultural Relations: Contexts & Controversies |
| SOCI 360 | Social Policy (6 credits) |
| SOCI 364 | Food and Society |
| SOCI 366 | Coastal Communities |
| SOCI 424 | Women and Work |
| SOCI 433 | Advanced Problems in Environment and Society |

Spanish

| | |
|---|---|
| SPAN 255 | Cultural Production & Human Rights in Latin America |

Women's and Gender Studies

| | |
|---|---|
| WMGS 203 | Gender (6 credits) |
| WMGS 217 | Race and Identities |
| WMGS 345 | Women and Politics |
| WMGS 364 | Social Justice and Health |

Notes: *Cross-listed as DEVS courses.
Other courses, not listed here, may be considered designated courses with permission of the development studies co-ordinator (selected topics courses or on a development theme or issue).

## 9.15 EARTH SCIENCES (ESCI)

H. Beltrami, Ph.D.
J. Braid, Ph.D.
L. Kellman, Ph.D.
D. Risk, Ph.D.

Senior Research Professor
A. Anderson, Ph.D.
M.J. Melchin, Ph.D.
B. Murphy, Ph.D.

We are intimately connected to the physical Earth - its land, plants and animals, and atmosphere; the materials that fill our homes and offices; the energy that powers our movements; the food that we eat; and the technology that powers our innovations. Earth and environmental sciences provide a multidisciplinary approach to understanding Earth's systems employing physical, chemical, biological, and mathematical methods to study the Earth's materials, dynamics, evolution and environment.

The Earth is complex and has changed dramatically over its 4.6-billion-year history. Earth Scientists study these changes as they apply to the movement of continents, the formation and destruction of mountains, changing climate and the evolution of life. Catastrophic events such as Earthquakes and volcanic eruptions influence our lives today but have also had a dramatic impact on the evolution of our planet over billions of years.

Scientists in this field study and interpret the Earth's evolution as revealed by its atmosphere, ocean and fresh waters, soils, rocks, minerals, and fossils; explore and develop valuable resources; and evaluate and measure the environmental changes arising from human activities. This degree prepares students for post-graduate studies, as well as a wide range of careers in geology, climatology, environmental science, resource exploration, renewable energy development, government, industry, and financial institutions where Earth Sciences knowledge is vital for investments and economic planning.

Options in the B.Sc. are geoscience, environmental science and Earth science, joint programs, and non-specialist courses for students interested in acquiring a better understanding of our planet. An important component of the instruction includes exercises involving real data acquisition and analysis in the field and lab, and the development of data analysis skills.

### Department Requirements

Recommended course selections for major, advanced major and honours Earth sciences programs are shown below; deviation from the recommended content requires 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, and advancement and graduation requirements. Students wishing to pursue a career in Earth sciences or a related field and who wish to register as a Professional Geoscientist (PGeo) in the future should follow the geoscience program stream and should ensure they have consulted the appropriate professional body to identify the current knowledge requirements. The advanced major and honours are designed to include most if not all the current

PGeo knowledge requirements. Students intending to pursue PGeo should also meet with a departmental advisor in the first term of year one and once a year in subsequent years.

### Geoscience Stream

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

Foundations: CHEM 101/102 or 121/122; 6 credits of PHYS 101, 102, 121, 122 and/or BIOL 111, 112

Fundamentals: ESCI 171,172, 245, 265, 277, 279, 303, 304, 375; 9 credits ESCI at the 300-400 level

Advanced major program must follow all requirements and complete ESCI 301, 302, 305, 365, 377, 491

Honours program must follow advanced major requirements and complete ESCI 435, 493, 499, 9 credits of ESCI electives (or other science courses approved by the department chair)

### Earth Science Stream

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

Foundations: CHEM 101/102 or 121/122; 6 credits of PHYS 101, 102, 121, 122 and/or BIOL 111, 112

Fundamentals: ESCI 172, 171 or 173, 245, 265, 266, 272, 277, 279, 375 or 376; 15 credits ESCI electives at the 300-400 level

Advanced major program must follow all requirements and complete ESCI 303, 304, 305 or 377, 491; 6 credits ESCI electives

Honours program must follow advanced major requirements and complete ESCI 435, 493, 499; 12 credits of ESCI electives (or other science courses approved by the department chair).

### Environmental Science Stream

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

Foundations: BIOL 112; CHEM 101/102 or 121/122; PHYS 101 or 121, 203; 9 credits from CHEM 265, CLEN 303 or 304, CSCI 161, ESCI 245, MATH 287, PHYS 102 or 122, STAT 231

Fundamentals: 6 credits from two of the following groups: ESCI 172, 273 or 274; CLEN 101, 102; ESCI 171 or 173, and ESCI 265, 266, 272, 277, 279, 376; 9-15 credits ESCI electives or approved Science A courses at the 300-400 level to meet degree requirements

Advanced major program must follow all requirements and complete ESCI 365, 377, 406, 472, 473, 491; 6 credits ESCI electives or approved Science A courses

Honours program must follow advanced major requirements and complete ESCI 493, 499; 6-12 credits of ESCI electives or approved Science A courses to meet degree requirements.

### Joint Honours and Joint Advanced Major Programs

Joint honours and joint advanced major programs are offered in biology, chemistry, computer science and mathematics/statistics. Joint advanced major program is offered with the department of physics. For general information on course patterns see section 7.1. Students should consult the appropriate department chair or program co-ordinator.

### 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.

### 173 Natural Hazards

An introduction to the processes leading to natural hazards such as earthquakes, volcanic eruptions and tsunamis. This course will explore the geophysical and geological processes behinds such events, their impacts on human society, the historical reasons of why some of these events collide with human settlements more often than others, historical and present occurrences, and how to potentially minimize negative consequences from these catastrophic events. Three credits.

### 245 Structural Geology

An introduction to the deformation of the earth's crust, mechanisms and concepts of deformation; classification and interpretation of folds; faults, fractures. Students will learn interpretation of geologic structure through the stereographic analysis of three-dimensional structures, creation of geological maps, and map interpretation. Prerequisite: ESCI 171 or 173 or permission. 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: One of ESCI 171, 172, CLEN 101, 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. Prerequisite: One of ESCI 172, CLEN 101, 102, AQUA 101, 102; or permission. 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 or permission. 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 in geoscience or Earth science streams. 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 land use change, and global water resources. Cannot be used as a science credit by students in geoscience or Earth science streams. Three credits.

### 277 The Earth in Everyday Life

This course will explore the relationships between the earth, human evolution and modern society. Students will investigate advancement and evolution in our attempts to harness and understand the earth from historic metallurgy, indigenous ways of knowledge to modern mining. Students will explore geological and environmental components of different parts of our daily lives including food, cell phones and water. 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 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 101/102 or 121/122. Three credits. Not offered 2022-2023.

### 279 Earth History and Crustal Materials
An overview of the evolution of planet Earth from its origin some 4.5 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 and composition of the Earth's crust by learning origin, composition, classification and identification of igneous, sedimentary, and metamorphic rocks. Laboratory study of rocks in hand sample. Prerequisites: ESCI 171 or 173 or permission. Three credits and lab.

### 301 Genesis of Igneous Rocks
An advanced treatment of the rheological properties of magma, fluid dynamics, crystal growth, crystal-melt-fluid equilibria, igneous rock suites and their genesis, petrogenetic modeling. Applications of thermodynamic principles and phase equilibria to the genesis of igneous rocks. Prerequisites: ESCI 276, 303. Three credits and lab. Not offered 2022-2023.

### 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 276, 303. Three credits and lab. Not offered 2022-2023.

### 303 Crystal Chemistry and Mineralogy
The course provides a broad introduction to the subject of mineralogy with review of the most common silicate mineral and non-silicate minerals, a study of crystallography and symmetry and the relationship of plate tectonics to mineral formation. Students will also investigate the optical properties of minerals in both theory and practice and the application of microscopic techniques. Prerequisites: ESCI 275, 276. Three credits and lab. Not offered 2022-2023.

### 304 Sedimentology and Stratigraphy
Study of sedimentary facies analysis and interpretation of ancient depositional environments, petrology of clastic and carbonate sedimentary rocks, sequence stratigraphy, methods of stratigraphic analysis and correlation in surface and subsurface settings, petroleum systems, and tectonics of sedimentary basins. Prerequisite: ESCI 276 or permission. Three credits and lab.

### 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. Prerequisite: ESCI 276. Three credits and lab.

### 365 Geomorphology and Quaternary Geology
Covers landform processes and development; glaciation and glacial deposits; slopes and mass movements; drainage basin form and process; Quaternary stratigraphy, paleoclimatology, and paleoecology. Prerequisite: ESCI 171 or 172 or 173. 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, maps; basic field mapping techniques; systematics of rock and mineral identification. Includes a 10-day introductory field camp, normally held at the beginning of third year. Prerequisites: ESCI 245, 276. 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, geochemical, biogeochemical, hydrological, geophysical, 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 266, 272/CLEN 202. Three credits.

### 377 Earth Observing
An introduction to the methods of acquiring, processing, and mapping spatial data for the study of natural processes or human factors. This practical hands-on course covers: satellite and airborne (including by Unmanned Aerial Vehicle or UAV) remote sensing applications and imagery; geographic positioning systems and techniques; computational and data processing tools; and mapping using Geographic Information Systems (GIS). Prerequisite: ESCI 265 or CSCI 161. Three credits plus hands-on laboratory component involving field and in-class assignments.

### 406 Environmental Biogeochemistry
An advanced examination of selected topics in environmental geochemistry and biogeochemistry, including chemical cycling and transformation in atmospheric, soil and aquatic environments. Topics may include stable isotopes, redox processes, heavy metals, sulfur, carbon and reactive nitrogen. Prerequisites: ESCI 266 or with permission. Three credits and lab. Not offered 2022-2023.

### 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 245, 301, 302, 303, concurrent if necessary. Three credits and lab. Not offered 2022-2023.

### 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. Prerequisites: ESCI 245, 301, 302, 303, 304. Three credits and lab. Not offered 2022-2023.

### 472 Climate 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 265; 272 or CLEN 202; or permission. Three credits and lab.

### 473 Sustainable Energy Systems and Infrastructure
Societies' dominant forms of energy systems are changing as we move from fossil fuels and toward renewables. This course provides a broad science-based treatment of energy systems and the energy transition, covering: forms of energy, including resources and renewables; the science of energy extraction and conversion; understanding climate footprints; decarbonization and the energy transition; smart energy systems; and the roles of energy policy, regulation, and economics. Prerequisite: ESCI 272 or permission of the instructor. Three credits and lab. Not offered 2022-2023.

### 476 Advanced Geological Field Methods
A seven-day field camp in Southern Spain. Students will complete independent mapping, field analysis and observation of important geological processes. Field trips to the Iberian pyrite belt, Neves Corvo mine and the suture of Pangea. Prerequisites: ESCI 375, 301, 302, 303, 304. Three credits and lab. Not offered 2022-2023.

### 491 Senior Seminar
This course will foster discussion and analysis of current topics in Earth sciences. No credit.

### 493 Senior Thesis
Restricted to honours students. Three credits.

### 499 Directed Study
Designed for advanced students interested in fields of study not normally covered in courses. The research may be field-, laboratory- or library-based. Under the supervision of a faculty member, students will plan and conduct research 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 (ECON)

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

a) ECON 101, 102, 201, 202;
b) 12 credits ECON

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

### BA Major Program

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

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

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

### BA Advanced Major Program

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

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

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

Candidates for a major or advanced major in economics may take a minor in business administration by fulfilling the normal requirements for the major or the advanced major degree and completing 24 credits in BSAD. The student will normally complete BSAD 111, 112; 12 credits from 221, 223, 231, 241, 261, 281 and six credits of BSAD electives.

### BA Honours Program

a) ECON 101, 102, 201, 202, 301, 302, 371, 372, 493, 494; 30 credits ECON electives with at least 18 credits at the 300 or 400 level;
b) a thesis supervised by a department member;
c) 6 credits of calculus.

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

### BA Honours with a Subsidiary Subject

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

The Department of Economics offers the following programs:
BA Honours in Economics and Aquatic Resources
BA Honours in Economics and Political Science
BA Honours in Economics and History
BA Honours in Economics and Mathematics, Statistics & Computer Science

When economics is the primary subject, not the subsidiary subject, students are required to complete:

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

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

a) ECON 101, 102, 201, 202, 301, 302;
b) normally 18 credits ECON electives with at least 6 credits at the 300 or 400 level;
c) ECON electives may include ECON 493 with approval of the department chair;
d) A course in quantitative methods (ECON 371; 372; STAT 101, 224, 231) is strongly recommended.

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

Students must include ECON 401, 402, 471 as ECON electives.

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

ECON 401, 402, 471 are recommended as ECON electives. Depending on the nature of the individual thesis, joint supervision by an economist and a mathematician may be appropriate.

### BBA Joint Honours

In conjunction with the Department of Business Administration, the Department of Economics offers a joint honours program in business and economics. See section 5.1 for degree regulations.

### B.Sc. Advanced Major in Economics

See degree regulations in chapter 7. Degree requirements are:

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

### B.Sc. Honours in Economics

See degree regulations in chapter 7. Degree requirements are:

a) ECON 101, 102, 201, 202, 301, 302, 371, 372, 401, 402, 471, 493, 494 and 21 credits ECON electives with at least 9 credits at the 300 or 400 level;
b) a thesis supervised by a department member;
c) a minimum of 12 credits in MATH, including 6 credits of calculus.
d) the 18 credits of approved electives are normally taken in math or science subjects;
e) PHIL 213 is recommended.

Note: ECON 101 and 102 are prerequisites for all other courses unless otherwise stated. Students lacking other prerequisites may request department approval to enrol in a course.

### 101 Introductory Microeconomics

This course provides an introduction to microeconomic concepts and methodology. Students will learn about basic concepts such as scarcity and opportunity cost, and economic efficiency. The other central themes of the course include theories of supply and demand; the theory of production and costs, the functioning and the performance of competitive markets versus monopolies and oligopolies; labour markets and the markets for public goods. Three credits.

### 102 Introductory Macroeconomics

The second half of introductory economics provides an introduction to macroeconomic concepts. The course examines pressing problems and issues in the Canadian economy and the world. Students will learn about alternate economic systems, national income accounting and the components of the national economy; the role of money in the economy; inflation; unemployment; international trade and trade policy; and the role of government in managing the economy. Three credits.

### 201 Intermediate Microeconomic Theory I

An introduction to the basic concepts of microeconomic theory, this course examines the demand-supply model, consumer theory, production theory, and the purely competitive model, using numerical examples and graphs as aids. 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.

### 242 International Economic Prospects and Challenges

This course covers policy issues and problems in the International economy. Topics include: standard international trade theory; barriers to trade (tariffs, quotas, and subsidies); exchange rate policy; immigration and emigration; trade wars; international monetary, economic and political unions; inequality and standards of living; income and purchasing power. 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.

### 297 Selected Topics

The topic for 2022-2023 is Experimental Economics. The course will cover laboratory and field experiments used by economists to test economic theories and to study public policy issues. Topics will include whether individual decisions in real world settings are consistent with economic theory, how individuals respond to incentives and how governments can encourage socially desirable behaviour. The course will cover famous experiments whose results have contributed to public-policy debates, in particular regarding labour market discrimination, education, public finance and health care. 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, mis-specified structures, multicollinearity, heteroskedascity, and serial correlation are presented. Students will be exposed to STATA or other relevant econometric software. The course requires some proficiency in calculus and basis statistics. Prerequisites: MATH 107 or 127 or ECON 271; STAT 101 or 231 or permission of the instructor. Three credits.

### 372 Econometrics II
This course is a continuation of ECON 371 and deals with various estimation methods, including least squares and maximum likelihood, specification tests, dynamic models and simultaneous equation models as well as limited and qualitative dependent variables. Students will be exposed to MATLAB or other matrix-based analytical software. Prerequisite: ECON 371. Three credits.

### 381 Natural Resource Economics
Examines the role of natural resource industries in the Canadian and world economies, including minerals, oil and gas, forest resources, fisheries and endangered species, and water resources. The course introduces students to the use of economic tools in analyzing problems of renewable and non-renewable resource management. Topics include welfare and inter-temporal analysis of resource exploitation; ownership and property rights issues in resource use and management; the nature of resource markets; resource taxation; biodiversity conservation; and sustainability. Prerequisites: ECON 201; MATH 106 or 126 recommended. Three credits.

### 391 Public Finance I: Expenditures
An analysis of the role of government in the economy, focusing on expenditure and with emphasis on the Canadian situation. Starting with an introduction to the public sector, the course covers: the rationale for government participation in the economy; the growth of the public sector over time; the theory of collective decision-making; cost-benefit analysis; fiscal federalism; specific spending programs. Prerequisite: ECON 201. Three credits.

### 392 Public Finance II: Taxation
An analysis of the role of government in the economy, focusing on revenue and with emphasis on the Canadian situation. Starting with an introduction to taxation and tax policy, the course covers: individual income taxes; corporation taxes; consumption; value-added and sales taxes; property and other taxes; tax reform; the revenue side of fiscal federalism; and the international dimensions of taxation and taxation policies. Prerequisite: ECON 201. Three credits.

### 401 Advanced Microeconomics
An advanced treatment of micro-economic concepts and topics, such as consumer choice and demand analysis, production technology and cost, market structure and pricing, factor markets and shares, general equilibrium and economic welfare. Credit will be granted for only one of ECON 401 or ECON 412. Prerequisites: ECON 301; MATH 107 or 127 or ECON 271. Three credits.

### 402 Advanced Macroeconomics
An advanced treatment of macroeconomic theory and how macroeconomic policy is conducted. The course offers deeper insights into economic growth processes, business cycles, international macroeconomic stabilization policies, and alternative approaches to building macroeconomic models. Students are introduced to the use of two-period models. Credit will be granted for only one of ECON 402 or ECON 411. Prerequisites: ECON 302; MATH 107 or 127 or ECON 271. Three credits.

### 415 Introduction to Game Theory
Game theory is the mathematical analysis of strategic interactions between players, such as competing firms, nations at war, or between a job-seeker and employer. This course will sharpen your ability to think strategically, and to apply game theory with clarity and precision. Applications of game theory to the real world will be studied. Prerequisite: ECON 201. 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 (EDUC)
C. Barker, Ph.D.
E. Carter, M.Ed.
D. Dias, Ph.D.
O. Ferguson, Ph.D.
A. Foran, Ph.D.
C. Gilham, Ph.D.
G. Hadley, Ph.D.
M. Husband, Ph.D.
L. Kearns, Ph.D.
L. Lunney Borden, Ph.D.
L. MacDonald, Ph.D.
W. Mackey, Ph.D.
K. MacLeod, Ph.D.
L. McKee, Ph.D.
J. Mitton, Ph.D.
A. Murray Orr, Ph.D.
J. Orr, Ph.D.
D. Robinson, Ph.D.
I. Robinson, Ph.D.
M. Sylliboy, M.Ed.
E. Throop-Robinson, Ph.D.
J. Tompkins, Ed.D.
A. Tucker, Ph.D.
W. Walters, Ph.D.
D. Young, Ph.D.

*Part Time*
S. Barker
C. Boulter, Ph.D.
E. Cormier, M.Ed.
A. McNeil-Wilson, M.Ed.
L. Oakes, M.Ed.
M. Olson, Ph.D.
G. Patterson, M.Ed.
R. Power, M.Ed.
R. Upshaw

Senior Research Professor
R. White, 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 2022-2023**

| | |
|---|---|
| Tuesday, September 6 | B.Ed. registration |
| Wednesday, September 7 | Year 1 orientation day (Crystal Cliffs) |
| Thursday, September 8 | First day of classes for B.Ed. program |
| Wednesday, September 14 | Last date to change first-term courses |
| Thursday, October 27 | Fall pause day |
| Tuesday, November 8 | Last day of classes for B.Ed., first term |
| Wednesday, November 9 | B.Ed. Building Bridges for Practicum |
| Monday, November 14 | First day of first-term B.Ed. practicum |
| Tuesday, December 20 | Last day of first-term B.Ed. practicum |
| Wednesday, January 11 | First day of classes for B.Ed., second term |
| Friday, January 13 | Last date to change second-term courses |
| Thursday, February 16 | Winter pause day |
| Thursday, March 9 | Last day of classes for B.Ed., second term |
| Friday, March 10 | B.Ed. Synthesis Day (Annual Council) |
| March 13-17 | B.Ed. mid-term recess |
| Monday, March 20 | First day of second-term B.Ed. practicum |
| Wednesday, April 26 | Last day of second-term B.Ed. practicum |

### Elementary Program

Year 1 (E1) EDUC 411, 412A, 412B, 414, 433, 435, 439A, 439B, 471, 472;
Year 2 (E2) EDUC 413, 415, 416, 434, 436, 463, 481, 482; 6 credits EDUC electives.

### 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 457A and B, 425A and B, and EDUC 444(or 407). 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 457A in the fall of year one, EDUC 457B in winter year one; EDUC 425A in the fall of year two and EDUC 425B in winter year two; and EDUC 444(or 407) 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.

#### 412A C & I in Early Elementary Mathematics (E1)

This course includes an examination of the early elementary school mathematics program (grades Primary – 3), 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.

#### 412B C & I Upper Elementary Mathematics (E1)

This course includes an examination of the upper elementary school mathematics program (grades 4 – 6), 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.

### 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

### 406 Classroom Management
Teachers often report that they feel inadequately prepared to work with the complex behaviours students can present with in classrooms. This course will explore this pressing issue, and provide evidence-informed interventions and strategies for effective classroom management. The course will enable an understanding of the impact of the classroom environment on students' behaviour, as well as basic classroom strategies, structures, and routines. It will also enable an exploration of classroom management styles as well as the management of more complex student behaviours. Credit will be granted for only one of EDUC 406 or EDUC 469(ST: Classroom Management). Three credits.

### 407 Outdoor Education: Winter Pursuits
This course is designed to prepare pre-service teachers to effectively teach Outdoor Education in school settings. The goal is to prepare teachers to integrate physical activity in winter environments that are age and grade appropriate, cross curricular, taking into account safety procedures, and in-field assessment practices. Students will experience a range of outdoor pursuits: Nordic skiing, snowshoeing, archery, and winter camping. This course will focus on inclusive strategies for all abilities. Credit will be granted for only one of EDUC 407 or EDUC 469(ST: Outdoor Experiential ED). Three credits.

### 408 Learning Disabilities
This course provides students with an opportunity to acquire the knowledge, skills, and attitudes needed for teaching pupils with learning disabilities in the primary and secondary school system. Adaptations to curriculum and associated instructional strategies will be explored as part of classroom practices. Credit will be granted for only one of EDUC 408 or EDUC 469(ST: Learning Disabilities). Three credits.

### 417 Curriculum and Instruction for Diversity
This course provides preservice teachers with an overview of curricular approaches and content for representing the cultural diversity of Canadian society in the elementary curriculum. Multicultural, anti-racist, feminist and Aboriginal approaches to curriculum content, teaching, assessment, classroom management and learning are emphasized. Three credits.

### 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 Comprehensive School Counseling (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. Students will experience a range of outdoor pursuits: canoeing, kayaking, navigation, Geocaching, orienteering, hiking and backpacking, core camping, and mountain biking. 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 and 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.

### 449 Teaching Clothing and Textiles
This course will be an introduction to strategies and methods useful in teaching clothing and textiles as part of the family studies course offerings at the junior and senior high levels. The practical, hands-on emphasis of the public school FST program will be mirrored in this course. The focus will be on the outcomes as outlined in the Nova Scotia Curriculum documents for Textile Art and Design 7, Textile Production 10 and Textile Technology 12 and will examine activities suitable for students in grades seven to twelve. Students are expected to participate in interactive classes and labs where they will practice the required skills necessary to become competent with the skills and be able to deliver this curriculum in our public schools. 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.

### 457A Curriculum and Instruction in Lower Early Elementary Health and Physical Education
This course is designed to introduce beginning specialist pre-service teachers to the theoretical knowledge, practical experiences, and professional responsibilities of a successful early elementary physical education teacher. This course focuses upon the following P-3 physical education and health education curriculums, the impact of physical activity upon children, the skill themes instructional model, physical literacy assessment, culturally relevant pedagogy, applications of the spectrum of teaching styles and unit planning. Three credits.

### 457B Curriculum and Instruction in Upper Elementary Health and Physical Education
This course is designed to introduce beginning specialist pre-service teachers to the theoretical knowledge, practical experiences, and professional responsibilities of a successful upper elementary physical education teacher. This course focuses upon the following 4-6 physical education and health education curriculums, inclusion of children with various diversities and disabilities, the Teaching for Personal and Social Responsibility (TPSR) and cooperative learning instructional models, physical literacy critiques, culturally relevant pedagogy, and year planning. 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 public 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.

### 468 Teaching Mathematics in Middle Schools
Students will learn the process, content, and assessment of middle school mathematics. They will make connections, communicate, reason mathematically, and complete problems. Students will explore strategies for the development of conceptual understanding through multiple representations. Three credits.

### 469 Selected Topics in Education
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-kindergarden to grade two. Students in this course will focus on various approaches to teaching mathematics to young children, with emphasis on exploring strategies for the development of conceptual understanding through multiple representations including concrete models, pictures, symbols, words and contextual situations. Three credits.

### 404B Curriculum and Instruction in Upper Elementary Mathematics II

This course includes an examination of the elementary school mathematics program focusing on appropriate content and pedagogy for grades three to six. Students in this course will focus on various approaches to teaching mathematics to children in upper elementary, with emphasis on exploring strategies for the development of conceptual understanding through multiple representations. Three credits.

### Certificate in Outdoor Education

This program is designed to 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. In addition, to EDUC 405A - 405J, students will also complete EDUC 464.

### 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 normally required to complete a residential component during the month of July following acceptance into the program. During this residential component, students will normally complete EDUC 505 and EDUC 534. 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 for those students completing a thesis.

| 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.

### 502 Education of African Nova Scotian/African Canadian Learners I
In this course, students will explore in detail the theoretical underpinnings and practical implications of various topics and issues regarding the educational experience of African Nova Scotian/African Canadian Learners. Course content will vary from year to year. Three credits.

### 504 Education of African Nova Scotia/African Canadian Learners II
This course will provide participants with a deeper and broader understanding of African Nova Scotian cultural assets and learning materials. The course will examine African Nova Scotian people, their history, heritage, culture, traditions and contributions to society. 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 Contemporary Theories and Trends in Inclusive Education
This course examines emerging theories, practices and trends in inclusive education, including changing student needs and student-centered strategies for addressing them. Participants will learn about evidence-based approaches to implementing inclusive education in diverse contexts, including differentiation, Universal Design for Learning, Multi-Tiered Systems of Support, and culturally responsive practices. Three credits.

### 514 Teaching Diverse Learners in Inclusive Settings I
In this course, participants will learn about evidence-based instructional strategies for teaching diverse learners, including multi-tiered supports. Emphasis will be placed on the development and implementation of Tier 2, small group programming and supports for literacy and numeracy, including high leverage practices and instructional resources. 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 Diverse Learners in Inclusive Settings II
In this course, participants will learn about the development and implementation of intensive, individualized, Tier 3 programming and supports for diverse learners. Emphasis will be placed on evidence-based instructional strategies and resources for students with complex needs. 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.

### 522 Inclusion in Early Elementary Contexts
Students will explore in detail the theoretical underpinnings and practical implications of various topics and issues in inclusive education. Course content will vary from year to year. Three credits.

### 524 Mentorship Models and Practices
This course will promote teacher understanding of the theoretical underpinnings of mentorship. In addition, teacher candidates will examine the research and literature as it applies to mentoring, and more specifically, to mentoring in education. Mentorship will be addressed from the perspective of the mentor and the protégé, both in a broader context and focused on the discipline of physical education. Course content will be approached theoretically and experientially. Three credits.

### 525 Treaty Education
Participants will develop a deeper and broader understanding of the treaties signed between First Nations and the Crown in Mi'kmaki. Participants will become familiar with the Treaty Education Curriculum Framework and its four overarching questions: "Who are the Mi'kmaw historically and today? What are the treaties and why are they important? What happened to the treaty relationship in Nova Scotia? What are we doing to reconcile our shared history to ensure justice and equity?" Three credits.

### 526 Pedagogy and Practice
The focus in the course is to explore how children and young people experience life and school, and how adults see the world of the child from the adult perspective. The course will position the significance of seeing, and being seen, as central to pedagogical-relational practice and how pupils experience being students. The course is a philosophical examination of relationality (child and adult, student and teacher) by exploring current and ancient pedagogical traditions. Credit will be granted for only one of EDUC 526 and EDUC 569(ST: Pedagogy and Practice). Three credits.

### 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 aesthetics, 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 Foundations of Curriculum
This course examines the philosophical foundations, criteria, and principles underlying the choice of subjects and curricula in educational institutions. Three credits.

### 538 Literacies: Models and Perspectives
This course will examine the ways literacies are produced, communicated and acquired, and provide an overview of pedagogies that can support a diversity of learners on the complex landscape of contemporary social contexts. 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 Inclusive Assessment Practices I
In this course, students will learn evidence-based approaches to literacy assessment for diverse learners, including culturally responsive practices. Participants will critically examine classroom-based assessments and formal, individualized assessments. Participants will also learn how to administer, interpret, and utilize a Level B literacy assessment in educational programming for diverse learners. Three credits.

### 554 Inclusive Assessment Practices II
Students will learn evidence-based approaches to mathematics assessment for diverse learners, including culturally responsive practices. Participants will critically examine classroom-based assessments and formal, individualized assessments. Participants will also learn how to administer, interpret, and utilize a Level B mathematics assessment in educational programming for diverse learners. Three credits. 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 Leadership of Inclusive Schools
This course examines leaders' roles and responsibilities in inclusive education, including program planning processes, school teams and partnerships, culturally responsive practices, and inclusive education policies and initiatives. Emphasis is placed on communication and collaboration in working with diverse students, families, and partner agencies, and building school capacity for inclusive education. 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 administrated by the Inter-University Doctoral Administrative Committee (IDAC). Applicants are admitted to one university and graduate from that home institution of record.

Doctoral students can focus their studies on one or more of six interrelated themes: curriculum studies, educational foundations and leadership, inclusive education, lifelong learning, literacies, and the psychological aspects of education. Applicants are encouraged to review the research interests of education faculty members at all three participating universities, available at their respective websites. An average of 14 students normally will be admitted each year: six at MSVU, four at St FX and four at Acadia.

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

**9001 Foundations of Educational Inquiry**
This course examines the purpose, process, nature and ideals of education. Students will engage with enduring educational philosophical and theoretical traditions and perspectives, the history of educational thought and the philosophy of education, in particular. A variety of foundational perspectives provides deeper understandings of the theoretical and methodological underpinnings of education. Co-requisite: EDUC 9002. Three credits.

**9002 Methodological Perspectives on Educational Research**
This course examines of the importance of methodological paradigms in educational research (building on the foundations of educational inquiry). Students investigate ontological assumptions; epistemological views; the role of logic, sound evidence and justified beliefs; axiology (values and biases); and rhetorical (research reporting structures) components of educational inquiry. Co-requisite: EDUC 9001. Three credits.

**9003 Doctoral Seminar: Contemporary Educational Theory**
This course explores how educational philosophy, research paradigms and theories are manifested in contemporary educational research debates and dialogues. Through an intensive examination of a range of theories that inform studies in education, students gain an advanced and comprehensive understanding of contemporary educational theory within the Canadian and international contexts. Prerequisites: EDUC 9001, 9002. Co-requisite: EDUC 9004. Three credits.

**9004 Focused Educational Studies**
This course will provide for focused exploration of research topics that reflect the research interests of the current roster of doctoral students. In a seminar setting, individual students will study the research and theoretical literature in the educational area(s) that inform their research interests. Prerequisites: EDUC 9001, 9002. Co-requisite: EDUC 9003. Three credits.

**9005 Advanced Research Seminar: Focus on Methods**
Students will gain detailed knowledge and technical expertise related to methods appropriate for their particular research question(s), aligned with their chosen philosophical and methodological orientations. Issues related to particular research design processes will be addressed. Prerequisites: EDUC 9001, 9002. Three credits.

**9006 Special Topics Educational Studies**
Three credits.

**9007 Special Topics Educational Studies**
This course provides students with an opportunity to explore selected topics in educational studies related to the literature associated with their research area. Prerequisites: EDUC 9001, 9002. Three credits.

**9008 Independent Study**
Three credits.

**9009 Independent Study**
The curriculum for this course will be determined by the supervisor of the course in consultation with the student and other faculty members, as necessary. Prerequisites: EDUC 9001, 9002. Three credits.

**9010 Comprehensive Examination: Research/Scholarly Portfolio**
Students will develop and orally defend an extensive scholarly portfolio demonstrating sufficient breadth, depth, creativity and engagement to undertake substantive research in their field. The portfolio will demonstrate students' knowledge and competence in each of five areas: general knowledge of educational theoretical traditions and trends, in-depth knowledge of their specific focal area, research and methodological knowledge and competence, professional competency in their focal area, and teaching competency in their professional area. The portfolio is created concurrently with EDUC 9001, 9002, 9003, 9004, 9005 and any EDUC 9006, 9007 and/or EDUC 9008. Nine credits. Pass/Fail.

**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. Prerequisite: EDUC 9010. Eighteen credits. Pass/Fail.

## 9.18 ENGINEERING (ENGR)

F. Comeau, Ph.D., P.Eng.
B. MacDonald-MacAulay, P.Eng.
E.C. Oguejiofor, Ph.D., P.Eng., FEC

*Part Time*
P. Doiron, P.Eng.
R. Jonkers, Ph.D., P.Eng., PMP, MBA, MBB

### Diploma in Engineering

Program requirements are found in chapter 7. Year 1 is common except for the writing courses. 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; CSCI 161; ENGR 121, 122, 128, 132, 136; 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: ENGR 298; CSCI 162; one of ENGR 212, 216, 227, 231, 235, 238, 246; CHEM 225
Mechanical: ENGR 212, 231, 235
Mineral Resources: ENGR 212, 216, 235

### Bachelor of Science with a Diploma in Engineering

Students may earn the engineering diploma and a B.Sc. degree 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.

For up to date information, please visit the department website: http://www.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. 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. 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 147 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.

### 253 Engineering Modeling and Optimization

This course introduces students to operations research models and methodologies to optimize the design, development and operation of engineered systems. The course focuses on formulating, building and solving optimization models primarily using Microsoft Excel. Topics covered include linear programming, assignment models, transportation and network models, project management, decision analysis & risk, queueing models, and nonlinear optimization. Credit will be granted for only one of ENGR 253, ENGR 298 (2021-2022), ENGR 252, CSCI 335, MATH 335. Restricted to engineering students. Prerequisite: CSCI 161. Three credits and a two-hour lab per week.

## 9.19 ENGLISH (ENGL)

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.

### Department Requirements

ENGL 111, or 100, or equivalent is required for entrance to all other ENGL courses. A student should have either ENGL 111 and 3 credits at the 200 level, or ENGL 100 and 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 third year for advice on thesis and senior seminar requirements.

### Minor Program

24 credits of ENGL.

### Major Program

a) 3 credits from ENGL 100, 111 or equivalent
b) ENGL 215
c) 9 credits from pre-1800 offerings
d) 3 credits from Canadian or Postcolonial
e) either 18 credits ENGL electives if ENGL 111 is completed or 15 credits ENGL electives if ENGL 100 is completed
f) Major students normally require at least 9 credits of ENGL before enrolling in a 300- or 400-level with at least 18 credits at the 300/400 level.

### Advanced Major Program

a) 3 credits from ENGL 100, 111 or equivalent
b) ENGL 215
c) 9 credits from pre-1800 offerings
d) 3 credits from Canadian or Postcolonial
e) either 18 credits ENGL electives if ENGL 111 is completed or 15 credits ENGL electives if ENGL 100 is completed
f) 6 credits of senior seminars in the 4th year
g) Students must also write an advanced major thesis in their final year in a 300- or 400-level course, normally in the fall term. Advanced major students normally require at least 9 credits of English courses before enrolling in a 300-or 400-level, and at least 18 credits at the 300/400 level.

### Honours Program

a) 3 credits from ENGL 100, 111 or equivalent
b) ENGL 215
c) 3 credits literary theory or cultural studies
d) 9 credits from pre-1800 offerings
e) 3 credits from Canadian or Postcolonial
f) 6 credits of senior seminars in the 4th year
g) 6 credit honours thesis
h) either 27 credits ENGL electives if ENGL 111 is completed or 24 credits ENGL electives if ENGL 100 is completed, and at least 18 credits at the 300/400 level

### Honours with a Subsidiary Subject

Honours (ENGL) with a subsidiary subject requires 48 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, but do so as a 300-level course.

### Humanities Colloquium

The humanities colloquium is an optional and interdisciplinary way of studying three first-year courses, usually ENGL 100, HIST 101, 102, and PHIL 100. See section 4.4 for further information.

### English Department Courses

The English Department offers its courses in a three-year rotation. Below is what courses are expected to be offered (subject to revision) in each of the next three academic years to help with degree planning. Descriptions of each course are available on the next page. Longer descriptions of each course are available on the English Department's website: https://www.stfx.ca/academics/arts/english. Courses designated (P) fulfil the pre-1800 degree requirement). Courses designated (PCAN) satisfy the Canadian/Postcolonial requirement. Please note: ENGL 100 or 111/112, or equivalent is required for entrance to all other ENGL courses.

First year students interested in English (regardless of eventual major) will normally enroll in ENGL 111 in the first term and any 200 level course in the second term. Students taking ENGL 111 in the second term will be eligible for any 200 level ENGL courses in subsequent academic years.

Courses offered in 2022-2023:

| | |
|---|---|
| ENGL 100 | Introduction to Literature and Critical Writing |
| ENGL 111 | Literature and Academic Writing I |
| ENGL 201 | Science Fiction and Fantasy |
| ENGL 205 | Shakespeare Today |

ENGL 215 Principles and Practices of Literary Criticism
ENGL 223 Creative Writing: Nature, Ecology, Climate Change
ENGL 233 Children's Literature: 1865 to the Present
ENGL 236 Children's Film and Television
ENGL 261 Hollywood Cinema
ENGL 267 Introductory Creative Writing
ENGL 271 Gothic Fiction The 18th and 19th Century Gothic Novel
ENGL 275 Shakespeare and Sex
ENGL 276 Shakespeare on War and Peace
ENGL 278 Short Turns: the Short Story in Canada
ENGL 279 What's Canadian about Canadian Literature?
ENGL 290 The Canterbury Tales
ENGL 308 Milton and His Time
ENGL 314 Contemporary Literary Theory
ENGL 322 Intermediate Creative Writing
ENGL 353 Tolkien and the Inklings
ENGL 356 18th-Century Novel and Poetry
ENGL 365 Canadian Fiction
ENGL 391/491 ST: Inconceivable
ENGL 397/492 ST: Global Intimacies and the "World" Novel
ENGL 497 Advanced Major Thesis
ENGL 499 Directed Study

Courses expected to be offered in 2023-2024:
ENGL 111, 204, 210, 213, 215, 219, 223, 227, 233, 240, 248, 249, 257, 267, 282, 277, 282, 297, 301, 304, 314, 329, 338, 339, 365, 379, 388, 391,397, 400, 491, 492, 497, 499.

Courses expected to be offered in 2024-2025:
ENGL 111, 201, 208, 212, 215, 224, 226, 232, 254, 258, 259, 261, 272 278, 279, 280, 298, 302, 309, 314, 322, 347, 355, 388, 391, 397, 398, 400, 491, 492, 497, 499.

### 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.

### 111 Literature and Academic Writing I
This course provides students with the key skills needed to succeed at university. You will learn how to write argumentatively; how to build a question or problem from a close-reading of a literary work; how to develop that argument by presenting and analyzing evidence; how to engage in scholarly debate; how to do university-level research. Credit will be granted for only one of ENGL 111, 100 or 110. Three credits. Individual sections are organized by reading topic as indicated below:
ENGL111: 11 Hope
ENGL 111:12 The Most Important Course of Your University Career
ENGL 111:13 Best Laid Plans
ENGL 111:14 Labyrinths and Rabbit-Holes
ENGL 111:15 Reading Between the Lines: An Introduction to Genre & Narrative
ENGL 111:16 Reading Between the Lines: An Introduction to Genre & Narrative
ENGL 111:18 The Monster and the Monstrous
ENGL 111:19 Escape by Metaphor
ENGL 111:20 Stories about Early Adulthood
ENGL 111:25 Transformation
ENGL 111:26 Transformation
ENGL 111:31 Losing It!
ENGL 111:32 True Stories
ENGL 111:33 Escape by Metaphor
ENGL 111:34 What Does it Mean to Be Human?
ENGL 111:35 What Does it Mean to Be Human?

### 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.

### 204 Shakespeare on the Page, Stage and Online
In its first printing, Hamlet's famous speech runs "To be, or not to be, Ay there's the point." This course explores how Shakespeare's plays make meaning in different material and digital contexts: in print and manuscript, in performance on stage and screen, and online. Topics covered will include the history of printing Shakespeare's works, their early reception, current editorial practices, and how that informs performances of Shakespeare's plays. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 205 Shakespeare Today
Who was Othello's first wife? What would happen if Shakespeare's characters teamed up to murder their creator? In this course, students read Shakespeare's plays paired with adaptations, which could include films, graphic novels, plays, poems, and prose texts. Students will interrogate ideas of high- and low-brow culture and literary canon and learn to think critically about literature, adaptation, popularity. What does Shakespeare mean to us today? Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 207 Literature and Myth: World Masterpieces II
We will begin with a short overview of myth as defined in literary theorists from Aristotle to Freud and Jung, say, and then focus on literary works in three genres, prose, poetry, and drama, for example. We would discuss the concept of the sacrifice of the innocent hero in, for example, the Osiris narrative, St. John's Gospel, *Beowulf*, Milton's *Paradise Lost*, and *Hamlet*. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits

### 208 Sex, Love, and Literature
In 2021-2022 this course will consider how modern culture, from the eighteenth century to the present, imagines sex and love. Readings will involve stories of happy and unhappy love, impossible love, unrealized love, sexual fantasies, desire and its frustration. Material covered will range from major modern novels addressed to the complexities of sexuality and desire, to recent film and television. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 210 Bodies and Words
What does it mean to put bodies into narrative? How does literature figure the body and how have literary forms and figures been taken up in other fields concerned with bodies? To answer these questions, the course will draw both on literature and other fields (medicine, psychology, the use of science to support racialized or racist discourse) that have scripted bodies in a variety of ways. Topics will vary from year to year. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 212 Blindness and Insight in Shakespeare's Tragedies
Hamlet, Othello, King Lear and The Tempest examine how the desire to know the truth leads to tragedy. Who killed old King Hamlet? Is my wife having an affair? Which of my daughters loves me most? How does one dispel the desire for vengeance over one's oppressors? One never discovers the truth, so one acts blindly, which brings unbearable suffering. But suffering brings insight: the reader is instructed how to live with patience and equanimity. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 213 Adaptation: Canadian Myths, Film, and Popular Stories
Thomas King reminds us, "you have to watch out for the stories that you are told" because "the truth about stories is that that's all we are." But what happens when the stories we are told—histories, myths, and popular stories of forebearers—only help us to lie to ourselves about our values, past, and identities? This course examines multiple genres, including fiction, film, and theatre, in order to examine how stories effect change. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 214 Contemporary Film
This course will examine contemporary cinema from various national locations. Attention will be paid to the development of film genres, to formal issues, the state of different national cinemas, and links between contemporary film and twentieth-century cinema. The course will provide an introduction to film studies, in particular the history of film and major distinctions that have developed in thinking about film form. Not offered 2022-2023.

### 215 Principles and Practices of Literary Criticism
This course builds on the skills acquired in first year English. We will broaden our understanding of what literature is and how it works. We will develop our abilities to see how different approaches to texts allow us to understand their formal, gendered, historical, political, psychological, racial and sociological impacts. We will expand our practical skills by: enlarging our critical vocabularies; sharpening our argumentative writing abilities; and increasing our proficiency with sources and databases. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 218 New British Fiction
This course will consider contemporary British and Irish fiction, focusing especially on fiction of the last five years. We will be concerned in particular with the following questions: what is the role of experimentation in the literature of this period? How does recent fiction think about sexuality and sexual identity? About racial, ethnic, and national identity? What relationship is there between the recent evolution of British fiction and pressing contemporary political issues? Credit will be granted

for only one of ENGL 218 or ENGL 350. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 219 How to Tell a Story

Chefs on Top Chef, athletes on ESPN Stories, corporate brand spokespersons, politicians and orphaned wizards: despite their differences, all these persons are tasked with telling stories. But what makes one narrator more compelling than another? How does the order and speed in which a story gets told affect its meaning? Does knowing one's audience matter? Grasping how narrative works is crucial to understanding why only some stories capture attention. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 223 Creative Writing: Nature, Ecology, Climate Change

This course will require students to write fiction, poetry, and personal essays on the topics of Nature, ecology, conservation, and climate change. Students will be required to conduct research in these areas and apply it to their personal views and convictions. Students will conduct individual and collective in-class editing of their submitted written work on a weekly basis. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 224 Short Stories, Big Effects

This course will explore the development of the short story, from Poe to today. We will examine the formal features of short story (e.g. length, effect); the distinctiveness of the genre (as opposed to the tale, flash fiction, the novella, the novel); the genre's development in different national contexts; and its ongoing importance for contemporary culture. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 226 From Tablets to Tablets: Texts and Technology

This book history course examines how texts have been disseminated over time in order to demonstrate how material contexts affect textual meaning. Topics might include changing practices and ideas of authorship, publication, and reading. Evidence considered could span from early textual objects (clay tablets) to today's technologies (computers, tablets, phones). Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 227 Writing From "Here": The Literature of Atlantic Canada

This course will consider the rich literature of the Atlantic region with particular focus on the many and diverse voices (including African Nova Scotian, Mi'kmaw, Scottish and Irish Gaelic, and Acadian in translation) emerging in the post-Centennial era of Atlantic Canada. Various genres including poetry, novels and short story along with art and film will be encountered. Students will be encouraged to participate actively in discussion and original research. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 232 Why Care About Literary Characters?

Why do we develop such strong attachments to literary characters? They aren't real. Their stories don't continue. They don't interact with us. And yet often keep them closer to us than people we know. In this course, we will try to sort out why characters – from Emma to Harry Potter – matter so much in both our imaginary, real and virtual lives. Credit will be granted for only one of ENGL 232 and ENGL offered in 2017-2018. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 233 Children's Literature: 1865 to the Present

Using the landmark publication of Lewis Carroll's *Alice's Adventures in Wonderland* as a starting point, this course provides a critical survey of children's literature in Britain, America, and Canada. Students will examine different types of media that may include novels, picture books, graphic novels, comics, and digital content. Credit will be granted for only one of ENGL 233 or ENGL 234. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 236 Children's Film and Television

Children's film and television are highly lucrative and competitive fields. This course will survey landmarks in children's media across the world, looking at questions of adaptation, suitability, merchandising-driven story, and franchising. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 240 Literature of the Middle East

This course will introduce students to the rich literary heritage of various countries in the Middle East. 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.

### 248 Climate Fiction and Environmental Literature

This course introduces students to some of the central texts and debates in two connected fields: environmental literature, a longstanding, rich facet of the literary field sometimes also identified as "ecofiction," and climate fiction (cli-fi), a recent, currently booming sub-section of environmental literature. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 249 Detective Fiction and Film

This course examines a figure who haunts modern culture from the nineteenth century to the present—the detective. Ranging from Poe's important nineteenth-century detective stories, to Sherlock Holmes, to present-day fiction and film, course discussions will consider why the detective develops as a cultural phenomenon in this period, how the figure of the detective changes over time, and what cultural problems detective fiction addresses. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 253 Coffeehouse Culture of 18th Century England

A course exploring a variety of works through the lens of the 18th-century coffeehouse. Focusing primarily on the periodical literature of the time—*The Tatler, The Spectator, The Plain Dealer and The Female Spectator*—and novels and poetry, the course will consider themes like conversation, urban space, taste and culture, consumerism, gender fashioning, and the private subject made public. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 257 The 21st Century American Novel

This course will introduce students to recent formal and generic developments in the American novel and situate these trends within the history of the novel as a literary form. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 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.

### 259 Gender, Literature and Culture

What makes gender meaningful and what has literature got to do with it? How do literary works and other cultural texts (film, television, music, social media) represent and / or transform gender in a given time and place? What can such works tell us about how gender is imagined, experienced, circulated, challenged? This course will address these questions by studying selected texts in the context of historically-specific understandings of masculinity, femininity and non-binary identities. Cross-listed as WMGS 259. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 261 Hollywood Film

This course will examine Hollywood film from its origins to the present, focusing on the period that has come to be known as the era of "classical Hollywood cinema" (1927-1960). The course will provide an introduction to film history and to the analysis of film. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 262 Imagination, Dream and Vision in English Literature

This study of the emerging power of the imagination in English literature focusses on the importance of dreams and visions as loci or places in narratives that are invested with ethical significance. As images of the divine, sacred world diminish in stories over time, writers adopt a more a secular consciousness, exploring the creative power of the mind as it manifests itself in the dreams and visions of the modern world. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 267 Introductory Creative Writing

Students are introduced to the techniques of writing creatively in the genres of poetry, short stories, drama, etc. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 268 Marriage, Murder, Justice: Law and Literature

Why do literary works feature stories about legal dramas? Why has the law turned to literature to understand how narrative affects the rendering of justice? In this course we will read texts to examine how law and its interpretation make the rendering of justice difficult in cases involving marriage contracts, race, gender, and intention. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 269 Me You Us Them: Self & Society

What defines individualism? How does one become self-reliant? Is selfishness inherently wrong? What do I owe society and what can it demand of me? How are group attachments – national, racial, gendered – formed and maintained? These are questions that novelists, poets, and essayists take up with intensity. This course examines why everyone – from Joe Biden to Donald Trump to philosophers to political pundits – turn to literary works for answers to how best to organize ourselves. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 270 The Romantic Gothic: Poetry and Short Fiction
This survey of the emergence of the Gothic in poetry and short fiction by various 19th-century authors will examine how social and cultural anxieties about the female body, social degeneration and the criminal underworld, marriage, the advancement of science and medicine, and other spectres that haunt us are translated into literature about the supernatural, doppelgangers, and madness. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 271 Gothic Fiction: The 18th and 19th Century Gothic Novel
Repressed, libidinal desires and dark, psychological fears are explored through plots involving isolated castles, labyrinths, ghosts, doppelgangers, and the uncanny, as writers react against the Age of Reason with overwrought emotion, melodrama, and terror. We will study four Gothic novels - The Castle of Otranto, Vathek, Zofloya, and The Private Memoirs and Confessions of a Justified Sinner - to learn about the techniques, conventions, and aims of Gothic literature and the cultural forces that produced it. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 272 Melancholy and Madness
A survey of how the psychological and physical states of melancholy feature in literature through language, imagery, metaphor, and by gender. Medical treatises, plays, poems, and novels present melancholy variously as consciousness of the existence of the soul, a sensitivity for the human condition, a rich source of creative inspiration, or the "black dog" of overwhelming despair. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 275 Shakespeare and Sex: Love and Lust
The Victorians censored Shakespeare. A rediscovery of his sexual references tells us not only about Elizabethan England's sexual mores, but also about its diversity of thought around sexuality. We discover that the Renaissance was much more open and accepting of different sexualities than we might think. The course will discuss the relationship between love and sex, the nature of desire, the perception of sexuality, the question of consent, perceptions of gender, and perceptions of sexual diversity. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 276 Shakespeare on War and Peace
Shakespeare was a serious political thinker. We will study his political thought through a close reading of five plays. We will discuss themes such as political ambition; the nature of the political regime and its influence on the public; monarchy and republicanism; the relationship between politics and violence; the causes of political success and decline; the relationship between philosophy and politics and between politics and religion; and the relationship between private and public virtues. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 277 Shakespeare's Subversive Poetry: A Study of his Narrative Poems, Sonnets, and Love Lyrics
Shakespeare's poetry breaks with tradition by rejecting the formal, thematic, and mythical conventions of the past. Here we find inversions of gender roles, including aggressive and seductive heroines; lengthy and entirely empathetic portrayals of victims of sexual violence; and provocative meditations on love that have gone wildly out of control. These poems focus on the complex nature of human desire in a manner that anticipates our own plight in the modern world. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 278 Short Turns: The Short Story in Canada
The short story is the literary form that has arguably won Canadian Literature the highest sustained international recognition both critically and popularly. This course will engage in in-depth analysis of profound expressions of the construction of the self (or selves) in the modern world. Various voices and narrative modes in dialogue with such questions will be encountered, arising in works from writers of diverse backgrounds and social strata. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 279 What's Canadian about Canadian Literature?
Margaret Atwood asks "What's Canadian about Canadian literature, and why should we be bothered?" This course tackles this question by examining a variety of forms, such as Canadian fiction, film, art, poetry, music, and drama from the 20th and 21st centuries. Stories define what it means to live in Canada or identify as Canadian. This class concentrates on how the stories we tell shape our own sense of who we are and where we belong. Three credits.

### 280 Introduction to Contemporary Multiethnic Literatures in the United States
This course will provide students with an introduction to contemporary African American, Asian American, Native American and Indigenous, and Latino/a literatures in the U.S. The course will frame the literary material with examinations of current debates (and their historical antecedents) regarding race, racism, race and culture, and the politics of multiethnic literatures, and race in the age of neoliberal diversity management and multiculturalism. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 282 Literatures of Global Justice: Human Rights, Asylum, Self-Determination
Can literature help us see others as equal human beings? From abolitionist literature to contemporary narratives about asylum seekers and refugees, literature has long been a means of advancing claims for justice and fostering understanding across global divides. Focusing primarily on twentieth- and twenty-first century texts from around the world, and covering a range of topics from colonialism, gendered oppression, to conflict and displacement, and environmental racism, this course will ask how literature serves justice. 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.

### 298 Selected Topics
Three credits.

### 301 European Film
This course will examine European film, addressing prominent movements (such as German Expressionism, Italian Neorealism, the French New Wave), major directors, national traditions, and crucial periods for the development of European cinema. Students will be introduced to major formal and historical distinctions that have developed in the history of thinking about cinema. Prerequisite: 9 credits ENGL. Three credits.

### 302 The Fantastic: Genre and Form
The Course of Cthulhu: Race, Misogyny and Cosmic Horror following Lovecraft. Can H. P. Lovecraft's influential work in horror and science fiction be salvaged? This course will try to answer that question. Pre-requisite: 9 credits ENGL. 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: 9 credits ENGL. 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.

### 309 Film Noir
This course will consider the evolution of film noir, focusing on the classic period of film noir, the 1940s and 1950s, and the crime films from this period that have come to be seen as defining film noir. Class discussions will also address the hard-boiled crime fiction of the mid-twentieth century that was intrinsic to the development of the noir aesthetic, as well as later developments of noir cinema. Prerequisite: 9 credits ENGL. Three credits.

### 314 Contemporary Literary Theory
This course introduces students to current directions and interests in literary and cultural criticism, including eco-criticism, theories of film and visual culture, gender and sexuality, psychology, and digital culture. Besides reading relevant theoretical texts, we'll examine works of contemporary television and film, literary texts, and contemporary music. Credit will be granted for only one of ENGL 314 or ENGL 445. Prerequisite: 9 credits of ENGL; ENGL 215 recommended. Three credits.

### 315 Fashion and Fetishism
This course will consider how fashion and fetishism are intrinsic to the literature and culture of modern societies in the nineteenth- and twentieth centuries. Class discussions will consider: the ways in which fiction and poetry mutate as the dynamics of fashion become important for the literary culture this period; the relationship between fashion and fetishism; the role of gender in the dynamics of fashion and fetishism; the importance of fashion for twentieth-century visual art. Prerequisite: 9 credits ENGL. Three credits.

### 316 How to Judge a Book By its Cover
In this course, we will "read" the material contexts and paratexts of literature that influence how we think about the books and texts we read. We will discuss book history, anthologies, and the literary canon. This course offers a broad overview of the

importance of paratexts-from advertisements to indices-from the middle ages to the present. Students will analyze texts from a book historical perspective, considering how presentation affects reception and meaning. Credit will be granted for only one of ENGL 316 and ENGL 397(offered 2019). Prerequisite: 9 credits ENGL. Three 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 creative writing in ENGL 231. Prerequisite: ENGL 100, 110 or equivalent; three credits creative writing. Three credits.

### 324 Medieval Manuscripts: from Book of Kells to Book of Hours

Medieval manuscripts often took years of effort to complete. How were these works of art and scholarship created, and by whom? This course focuses on how medieval manuscripts were put together, and on how to transcribe manuscript texts in various languages spoken on the British Isles and Ireland, including Gaelic, Old English, French, Welsh, and Latin (no knowledge of these languages required). Cross-listed as CELT 323. Three credits. Offered 2022-2023.

### 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. Prerequisite: 9 credits ENGL. Three credits. Not offered 2022-2023.

### 329 Studies in Women Writers: Feminisms and Their Literatures

How do the struggles feminists engage in inform literary works? An introduction to diverse feminist debates within their historical, cultural and political contexts, this course explores the relationships between particular feminisms and the literary texts that exemplify or extend them. The particular focus on a feminist struggle and corresponding body of literary works will vary, depending on the instructor. Cross-listed as WMGS 329. Prerequisite: 9 credits ENGL. Three credits.

### 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. Not offered 2022-2023.

### 338 Performing Canada

What is performance and why/how do we study it? In this class, students explore how performance impacts all of our identities. Considering that Nova Scotia was the site of the first documented performance in what we now call Canada, this course investigates theatre as history-making and nation-building acts. Introducing students to theatrical forms such as vaudeville, minstrelsy, and verbatim theatre, this course simultaneously considers how theatre influences social justice issues of race, culture, and gender. Credit will be granted for only one of ENGL 338 or ENGL 366. Prerequisite: 9 credits ENGL. Three credits.

### 339 Cultural Theory and Popular Culture

This course introduces students to the classical texts of and contemporary developments in cultural theory. The course will practically apply these theories through the study of popular culture. Students will learn the basics of cultural analysis and familiarize themselves with what theorists have come to understand as the "critique of everyday life." Credit will be granted for only one of ENGL 339 and ENGL 318. Prerequisite: 9 credits ENGL. Three credits.

### 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. Not offered 2022-2023.

### 347 The Aftermath of Slavery & 21st Century Black Literature: Reading 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 2022-2023.

### 353 Tolkien and the Inklings

"Inkling Relevance." This course will read work by Tolkien and C. S. Lewis with their continued relevance in mind, for what their work says about politics (especially the rise of fascism), racism, the environment, feminism, and more. Texts will include their correspondence and lectures, and reference to later authors influenced by them. Prerequisites: 9 credits ENGL. 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 modelled 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. Not offered in 2022-2023.

### 356 18th-Century Novel and Poetry

This course will explore, through a variety of lenses, the novel Tristram Shandy, a fictional autobiography that ends four years before the man writing it is born. Bawdy, digressive, philosophical, provocative, sentimental and silly, Tristram Shandy explores how we attempt to connect with one another when words just aren't enough. Can writing, reading, and conversation save us from solitude and despair? Is laughter the best medicine? Prerequisite: 9 credits ENGL. Three credits.

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

### 378 Human Scale: Contemporary American Literature

*Human scale* is the practice of measuring and designing things to match the physical and cognitive characteristics of humans. But what happens when the world falls out of scale? When cities become too large to be knowable? When the internet makes information seem infinite? When the size of multinational corporations no longer resembles persons? We will read detective and sci-fi novels and watch films on architecture and design to understand post-1960's changes in scale. Prerequisite: 9 credits ENGL. Three credits.

### 391 Selected Topics

The topic for 2022-2023 is Inconceivable. See ENGL 491 for course information. Prerequisite: 9 credits ENGL. Three credits.

### 397 Selected Topics in Literature I

The topic for 2022-2023 is Global Intimacies and the "World" Novel. See ENGL 492 for course information. Prerequisite: 9 credits ENGL. Three credits.

### 398 Selected Topics in Literature II

Three credits.

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.

### 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.

## SENIOR SEMINARS

### 491 Selected Topics I

The topic for 2022-2023 is Inconceivable. The inconceivable, a range of fascinating contemporary novels propose, can be understood as a strategically-policed boundary that constrains our imagination and that limits social and environmental progress. In this class, we will examine how literature today grapples with the problem of the inconceivable and with its own relation to and importance for our imagination. Prerequisites: third-year standing and 15 credits ENGL. Three credits.

### 492 Selected Topics II

The topic for 2022-2023 is Global Intimacies and the "World" Novel. How do novels help us think about the kinds of forces that bring people from across the globe into new kinds of proximity, even intimacy? Does it make sense to speak of a "world" novel? What would set such a novel apart from any other novel that circulates in a global literary market? Can novels figure a common life? Prerequisites: third-year standing and 15 credits English. Three credits.

### 497 Advanced Major Thesis
Advanced major students write a thesis as part of the senior seminar. See chapter 4. No credit.

### 499 Directed Study
In consultation with the department and with approval of the chair, students may undertake a directed study program in an approved area of interest, which is not available through other course offerings. See section 3.5. Three or six credits.

» **FRENCH** see 9.26 Modern Languages

» **GERMAN** see 9.26 Modern Languages

## 9.20 HEALTH (HLTH)

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. Several courses that students can take to fulfill the degree requirement cover topics in the MCAT exams

Students are required to meet with the program coordinator or an academic advisor every year to assess their academic progress and complete a declaration form.

HLTH 111, 112, 201, 202, 203, 301, 302, 401, and 412 are restricted to students enrolled in the BASc in Health program.

### Bachelor of Arts and Science in Health
a) 24 credits of core courses: HLTH 111, 112, 201, 202, 301, 302, 401, 412.
b) BIOL 111, 112; CHEM 101, 102; PSYC 101, 102; SOCI 101, 102.
c) 18 credits in arts: 12 credits from (b); remaining credits from designated courses.
d) 18 credits in science: 12 credits from (b); remaining credits from designated courses.
e) 12 credits from either of the arts or science designated courses, including 6 credits from HLTH203, STAT101.
f) 12 credits from health humanities and health ethics designated courses, to include a minimum of 3 credits from health ethics options.
g) 36 credits of open electives.
h) 100-level restriction: maximum of 30 credits at the 100-level of designated or required courses (not including core courses or STAT 101).
i) 300- and/or 400-level requirement: a minimum of 24 credits of 300- and/or 400-level courses in the designated or core courses.
j) In addition to the 12 credits of health humanities, a minimum of 24 credits of arts courses. Designated, required, and elective courses may be used to fulfill these required credits.
k) A minimum of 24 credits of science courses. Designated, required, and elective courses may be used to fulfill these required credits.
l) 12 credits must be courses with laboratory components at the 200-level or above. Designated, required, and elective courses may be used to fulfill these required credits.

### Bachelor of Arts and Science with Honours in Health
The requirements are the same as those for the program above, with the following exceptions:
a) HLTH 490 is a required core course, for a total of 30 credits.
b) There are 30 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).

### Major in Health
Typical course pattern:

| | |
|---|---|
| Year 1 | BIOL 111, 112; CHEM 101, 102; HLTH 111, 112; PSYC 101, 102; SOCI 101, 102; |
| Year 2 | HLTH 201, 202, 203; STAT 101; 6 credits from arts or science designated courses; 3 credits from humanities designated courses; 9 credits open electives |
| Year 3 | HLTH 301, 302; 6 credits health humanities; 6 credits from arts or science designated courses at the 300- and/or 400-level; 12 credits open electives |
| Year 4 | HLTH 401, 412; 3 credits health humanities, 6 credits from arts or science designated courses at the 300- and/or 400-level; 15 credits open electives |

### Honours in Health
Typical course pattern:

| | |
|---|---|
| Years 1, 2 & 3 | same as program above |
| Year 4 | HLTH 401, 412, 490; 3 credits health humanities; 6 credits arts or science designated courses at the 300- and/or 400-level; 9 credits open 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 an open elective. See section 9.13 for further information.

### 111 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. Credit will be granted for only one of HLTH 111 and HLTH 101. Three credits.

### 112 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. Credit will be granted for only one of HLTH 112 and HLTH 102. Prerequisite: HLTH 101 or 111. Three credits.

### 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 methods course (exception PSYC 291). Corequisite: STAT 101 and second year BASc in Health status. Three credits and lab.

### 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. Cross-listed as ANTH 218. Prerequisite: ANTH 111/112 or HLTH111/112 or permission of the instructor. Three credits.

### 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, 203. 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. Prerequisites: HLTH 201, 202. Three credits.

### 394 Selected Topics

The course will cover a selection of arts-focused selected topics related to health, such as mental health and addiction, grief and dying, and translating science. Topics will vary by year. Three credits.

### 395 Selected Topics

The course will cover a selection of science-focused selected topics related to health, such as aging and disability. Topics will vary by year. Three credits.

### 397 Selected Topics

The course will cover a selection of science-focused selected topics related to health, such as data analytics and visualization for health research. Topics will vary by year. Three credits and lab.

### 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 412. Students will be required to participate in sessions with guest speakers. Prerequisites: HLTH 301, HLTH 302. Three credits.

### 412 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. Credit will be granted for only one of HLTH 402 and HLTH 412. Prerequisite: HLTH 401. 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. Cross-listed as HNU 421. Prerequisite: HLTH 301 or HNU 142. 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. 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.

## ARTS DESIGNATED COURSES

Courses are three credits unless otherwise indicated.
Departmental prerequisites will apply.

| | |
|---|---|
| **Anthropology** | |
| ANTH 111 | Introduction to Physical Anthropology/ Archaeology |
| ANTH 112 | Introduction to Socio-Cultural Anthropology |
| ANTH 218 | Anthropology of Health and Illness |
| ANTH 234 | Introduction to Indigenous Anthropology |
| ANTH 323 | Feminist Anthropology |
| ANTH 332 | Mi'kmaq Studies: Advanced Critical Issues in Indigenous Anthropology |
| ANTH 435 | Advanced Indigenous Issues |
| **Celtic Studies** | |
| CELT 349 | Medieval Medicine |
| **Computer Science** | |
| CSCI 215 | Social Issues in the Information Age |
| **Development Studies** | |
| DEVS 201 | International Development: The Global South |
| DEVS 202 | International Development: Canada |
| DEVS 211 | Local and Community Development Economics |
| DEVS 321 | People and Development |
| **Economics** | |
| ECON 211 | Local and Community Development Economics |
| ECON 364 | Health Economics |
| **Earth Sciences** | |
| ESCI 273 | Health and the Environment |
| ESCI 274 | Health Impacts of Global Climate Change |
| **History** | |
| HIST 121 | Global Race & Ethnicity I, 1300-1776 |
| HIST 122 | Race/Ethnicity in Global History, 1776-Present |
| HIST 141 | Empire & Plague 1300-1800 |
| HIST 142 | Revolution: Global from 1750 |
| HIST 215 | A History of Canada: Post Confederation |
| HIST 302 | Histories of Health in Canada |
| HIST 317 | Canadian Women's and Gender History: From Colony to Nation |
| HIST 318 | Canadian Women's Gender History: Modernity |
| HIST 324 | Plagues and Peoples |
| HIST 332 | The Medieval Body |
| HIST 360 | Gender and Sexuality in Modern European Empires |
| HIST 398 | Themes in the History of Sexuality |
| HIST 498 | Selected Topics: History of Drugs |
| **Health** | |
| HLTH 218 | Anthropology of Health and Illness |
| HLTH 421 | Food and Nutrition for Global Health Equity |
| **Human Kinetics** | |
| HKIN 226 | Focus on Personal Health |
| HKIN 426 | Health Education |
| **Human Nutrition** | |
| HNU 405 | Food Availability |
| HNU 421 | Food and Nutrition for Global Health Equity |
| HNU 425 | Nutrition in Aging |
| **Nursing** | |
| NURS 364 | Social Justice and Health |
| NURS 365 | Gender and Health |
| NURS 433 | Introduction to Policy for Health-Interdisciplinary Strategies |
| **Philosophy** | |
| PHIL 232 | Philosophy of Mind and Consciousness |
| PHIL 331 | Introduction to Ethics |
| PHIL 332 | Contemporary Moral and Social Issues |
| PHIL 335 | Ethics in Health and Medicine |
| **Political Science** | |
| PSCI 222 | Canadian Politics and Society |
| PSCI 291 | Violence, Conflict, and Politics |
| PSCI 306 | Theory and Politics of Human Rights |
| PSCI 308 | Global Justice |
| PSCI 325 | Indigenous Politics in Canada |

Psychology
PSYC 250 Social Psychology, (6 credits)
PSYC 313 Health Psychology
PSYC 317 LGBTQ+ Psychology
PSYC 364 Psychology of Gender
PSYC 365 Developmental Social Psychology of Gender
PSYC 372 Cultural Psychology
PSYC 378 Human Sexuality
PSYC 379 Introduction to Clinical Psychology
PGOV 201 Public Policy

Religious Studies
RELS 117 Ethical Principles for Health Care Providers
RELS 315 Authentic Power and Gender
RELS 328 Mind, Self, and Society
RELS 333 Religion, Violence and Peace
RELS 401 Religious Approaches to Sexuality
RELS 402 Religious Approaches to Sexual Diversity

Sociology
SOCI 207 Health Justice
SOCI 217 Race and Identities
SOCI 218 Social Inequality in Canada
SOCI 244 Cultures and Societies
SOCI 251 Theories of Deviance and Social Control
SOCI 252 Topics in Deviance and Social Control
SOCI 254 Experiencing Social Class
SOCI 309 Power and the State
SOCI 313 Conceptions of Disability
SOCI 314 Disability and Culture
SOCI 315 Additions
SOCI 335 Sociology of Canada's Indigenous Peoples
SOCI 341 Global Agriculture
SOCI 364 Food and Society
SOCI 395 Selected Topics: Mental Health and Society
SOCI 417 Social Difference: Race, Ethnicity, Gender, Class, Sex, and Disability

Women's and Gender Studies
WMGS 100 Introduction to Women's and Gender Studies (6 credits)
WMGS 205 Gender, Sexuality and the Body
WMGS 217 Race, Class, Gender and Sex
WMGS 317 Canadian Women's and Gender History: From Colony to Nation
WMGS 318 Canadian Women's History: Modernity
WMGS 327 Feminist Anthropology
WMGS 333 The Medieval Body
WMGS 343 Psychology of Gender
WMGS 344 Developmental Social Psychology of Gender
WMGS 364 Social Justice and Health
WMGS 365 Gender and Health
WMGS 370 Gender and Sexuality in Modern European Empires
WMGS 378 Human Sexuality
WMGS 397 Authentic Power and Gender
WMGS 398 Themes in the History of Sexuality
WMGS 411 Religious Approaches to Sexuality
WMGS 412 Religious Approaches to Sexual Diversity
WMGS 417 Social Difference: Race, Ethnicity, Gender, Class, Sex, and Disability

## SCIENCE DESIGNATED COURSES

Courses are three credits unless otherwise indicated.
Departmental prerequisites will apply.

Biology
BIOL 204 Introduction to Genetics, (lab)
BIOL 220 Biological Perspective of Health and Environmental Issues, (6 credits)
BIOL 251 Human Anatomy and Physiology I, (lab)
BIOL 252 Human Anatomy and Physiology II , (lab)
BIOL 315 Introductory Microbiology, (lab)
BIOL 335 Developmental Biology, (lab)
BIOL 374 Human Neuropsychology
BIOL 395 Cell Biology, (lab)
BIOL 405 Comparative Endocrinology, (lab)
BIOL 452 Bioinformatics
BIOL 453 Advanced Behavioural Neuroscience I: Neurobiology of Psychological Disorders
BIOL 454 Advanced Behavioural Neuroscience II: Contemporary Issues

Chemistry
CHEM 221 Organic Chemistry I, (lab)
CHEM 222 Organic Chemistry II, (lab)
CHEM 225 Principles of Organic Chemistry, (lab)
CHEM 255 Introductory Biochemistry, (lab)
CHEM 355 Advanced Biochemistry, (lab)
CHEM 422 Advanced Organic Chemistry: Structure & Mechanism, (lab)
CHEM 455 Medicinal Chemistry, (lab)

Computer Science
CSCI 215 Social Issues in the Information Age
CSCI 223 Introduction to Data Science
CSCI 225 Coding for Health Analytics
CSCI 350 Biomedical Computation
CSCI 444 Machine Learning

Health
HLTH 395 Selected Topics

Human Kinetics
HKIN 395 Disability, Health and Community Rehabilitation
HKIN 425 Child Growth and Development, (lab)

Human Nutrition
HNU 242 Foundations of Nutrition Science
HNU 262 Principles of Nutrition in Human Metabolism
HNU 351 Nutritional Assessment, (lab)
HNU 352 Nutrition in Chronic Disease Prevention & Management
HNU 425 Nutrition in Aging
HNU 461 Nutrition in Metabolic Disease

Statistics
STAT 344 Epidemiological Methods I

Physics
PHYS 250 Medical Imaging

Psychology
PSYC 210 Learning, (6 credits, lab)
PSYC 220 Cognitive Psychology, (6 credits, lab)
PSYC 225 Sensation and Perception, (6 credits, lab)
PSYC 230 Brain and Behaviour, (6 credits, lab)
PSYC 260 Developmental Psychology, (6 credits, lab)
PSYC 327 The Psychology of Pain
PSYC 328 Neural Mechanisms of Pain Analgesia
PSYC 362 Applications of Psychology to the Health Sciences
PSYC 367 Basics of Psychopharmacology
PSYC 368 Pharmacology of Drugs of Abuse
PSYC 373 Human Neuropsychology
PSYC 376 Abnormal Psychology
PSYC 379 Introduction to Clinical Psychology
PSYC 384 ST: Cognitive Neuroscience
PSYC 431 Advanced Behavioural Neuroscience I: Neurobiology of Psychological Disorders
PSYC 432 Advanced Behavioural Neuroscience II: Contemporary Issues

## HEALTH HUMANITIES DESIGNATED COURSES

Courses are three credits unless otherwise indicated.
Departmental prerequisites will apply.

Art
ART 269 The Body in Art

Catholic Studies
CATH 322 Contemporary Issues in Christianity and Science

Celtic Studies
CELT 349 Medieval Medicine

History
HIST 141 Global – Empire & Plague, 1300-1800
HIST 142 Revolution: Global from 1750
HIST 302 Histories of Health in Canada
HIST 324 Plagues and Peoples
HIST 332 The Medieval Body
HIST 360 Gender and Sexuality in Modern European Empires
HIST 398 Themes in the History of Sexuality
HIST 498 Selected Topics: History of Drugs

Philosophy
PHIL 232 Philosophy of Mind and Consciousness
PHIL 331 Introduction to Ethics
PHIL 332 Contemporary Moral and Social Issues
PHIL 335 Ethics in Health and Medicine

Religious Studies
RELS 117 Ethical Principles for Health Care Providers
RELS 315 Authentic Power and Gender
RELS 328 Mind, Self, and Society

Sociology
SOCI 244 Cultures and Societies

Women's and Gender Studies
WMGS 333 The Medieval Body
WMGS 370 Gender and Sexuality in Modern European Empires
WMGS 398 Themes in the History of Sexuality

### HEALTH ETHICS DESIGNATED COURSES

Courses are three credits unless otherwise indicated.
Departmental prerequisites will apply.

Philosophy
PHIL 332 Contemporary Moral and Social Issues
PHIL 335 Ethics in Health and Medicine

Religious Studies
RELS 117 Ethical Principles for Health Care Providers

## 9.21 HISTORY (HIST)

N. Forestell, Ph.D.
C. Frazer, Ph.D.
S. Kalman, Ph.D.
G. Lalande, Ph.D.
P. McInnis, Ph.D.
R. Semple, Ph.D.
D. Trembinski, Ph.D.
R. Zecker, Ph.D.

Senior Research Professor
L. Stanley-Blackwell, Ph.D.

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: Three credits of HIST at the 100 level are required as a foundation for all first- and second-year students taking further history courses but this requirement is normally waived for third- and fourth-year students seeking a first course in history.

### Minor or Subsidiary in History

a) 6 credits HIST at the 100 level
b) 18 additional credits above the 100 level
c) Total: 24 history credits with at least 6 credits at the 300/400 level

### Major Program

a) 6 credits HIST at the 100 level
b) 6 credits in Canadian history above the 100 level
c) Total of 18 credits in a chosen concentration
d) Total of 12 credits from areas outside the chosen concentration
e) Total: 36 history credits with at least 15 credits at the 300/400 level

### Joint Major Program

Same history requirements as major above.

### Advanced Major Program

a) 6 credits HIST at the 100 level
b) 6 credits in Canadian history above the 100 level
c) HIST 445 (counts outside the chosen concentration)
d) A senior seminar (counts in the chosen concentration; requires senior advanced major essay)
e) Total of 18 credits in a chosen concentration
f) Total of 12 credits from areas outside the chosen concentration
g) Total: 36 history credits with at least 15 credits at the 300/400 level.

### Joint Advanced Major Program

Same history requirements as advanced major above. Students are also required to complete a senior advanced major essay in a 400-level class. However, students are not required to do a senior advanced major essay if they choose history as their major subject B.

### Honours Program

a) 6 credits HIST at the 100 level
b) 6 credits in Canadian history above the 100 level
c) HIST 445 (counts outside the chosen concentration)
d) A seminar (counts in the chosen concentration)
e) Total of 33 credits in a chosen concentration (includes HIST 490)
f) Total of 21 credits from areas outside the chosen concentration
g) HIST 490 (Thesis, 6 credits) with a faculty member
h) Total: 60 history credits with at least 24 credits at the 300/400 level.

### Honours with a Subsidiary Subject

a) 6 credits HIST at the 100 level
b) 6 credits in Canadian history above the 100 level
c) HIST 445 (counts outside the chosen concentration)
d) A seminar (counts in the chosen concentration)
e) Total of 27 credits in a chosen concentration (includes HIST 490)
f) Total of 15 credits from areas outside the concentration
g) HIST 490 (Thesis, 6 credits) with a faculty member
h) Total: 48 history credits with at least 18 credits at the 300/400 level.

### Recognized Courses

Subject to the restrictions stated below, students may count the following courses for credit in the Department of History: Celtic Studies - CELT 131/132 and 331/332; Art - ART 251, 252, 371, 372, 373, and 435. 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.

### Humanities Colloquium

The humanities colloquium is an optional and interdisciplinary way of studying three first-year courses, usually ENGL 100, HIST 101, 102, and PHIL 100. See section 4.4 for further information.

### 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 4.3 for further information.

### 101 Western Civilization: Earliest Civilizations to the Wars 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.

### 103 No It Wasn't Ancient Aliens: Economic and Cultural Exchange in Early World History to 220 CE
It may come as a surprise to the History Channel, but ancient monuments were not built by aliens. Rather, they stand as evidence of the complex societies that existed throughout the ancient world and the goods, ideas and people that connected them. From the Han Dynasty in China to the Roman Empire in Europe to the early trade networks of the Nok in West Africa, the ingenuity, mobility and interconnectedness of premodern cultures will be explored. Credit will be granted for only one of HIST 103 and HIST 116. Three credits.

### 104 Still Not Ancient Aliens: Economic and Cultural Exchange in the Ancient World 220-1300CE
Scholars now know that the premodern world was more profoundly interconnected by trade, cultural exchange and migration than we had ever realized. Still not Ancient Aliens examines some of these interconnections, from the roads of the ancient Wari of Peru to the cultural and trade connections of the Polynesian Islanders, to the premodern trade networks operating in the far North and the cultural mosaic of Islamic Spain. Credit will be granted for only one of HIST 104 and HIST 116. Three credits.

### 121 Global Race & Ethnicity I, 1300-1776
W.E.B. Du Bois stated, "The problem of the colour line is the problem of the twentieth century," but even earlier, the creation and operation of racial differences in colonial and capitalist contexts defined many key world events. This course examines the major events of world history from 1300 to the late eighteenth century's "Age of Revolutions." Global developments shall be examined via the social construction of racial, and ethnic differences between peoples. Credit will be granted for only one of HIST 121 and HIST 110, HIST 111. Three credits.

### 122 Race/Ethnicity in Global History, 1776-present
W.E.B. Du Bois stated, "The problem of the colour line is the problem of the twentieth century," but even earlier, the creation and operation of racial differences in colonial and capitalist contexts defined many key world events. This course examines the major events of world history from the late eighteenth century's "Age of Revolutions" to the twenty-first century. Global developments shall be examined via the social construction of racial, and ethnic differences between peoples. Credit will be granted for only one of HIST 122 and HIST 110, HIST 112, HIST 131. Three credits.

### 132 Global History: Illicit Cargos and the Making of the Modern World (1789-present)
The ideas that sparked early-modern Atlantic revolutions resulted from earlier exploration and the exchange of people, goods, and ideas. 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. It will do so through a focus on the goods being exchanged – from sugar and spice to ivory and opium, and what that meant in society. Credit will be granted for only one of HIST 132 or HIST 110, HIST 112, HIST 122, HIST 142. Three credits.

### 141 Empire & Plague, 1300-1800
This course examines the process of conquest and the rise of empires across Asia, Africa, Europe and the Americas, spanning the centuries between 1300 and 1800. The course also addresses the impact of epidemics and pandemics, including the Black Death in Afro-Eurasia, and the genocide of indigenous populations in the Americas. Credit will be granted for only one of HIST 141 and HIST 110, HIST 111, HIST 121. Three credits.

### 142 Revolution: Global from 1750
This course takes a global focus on revolutionary struggles, national liberation and resistance to various forms of social oppression (like racism, sexism and misogyny, homophobia/transphobia) in the 19th and 20th centuries. This includes liberal and radical revolutions like the American and Russian Revolutions, as well as social and emancipatory movements like feminism, anti-racism, anti-imperialism, national liberation, and struggles for gay rights. Credit will be granted for only one of HIST 142 and HIST 110, HIST 112. Three credits.

### 203 From National Unification to Global Homeland, Modern Germany, 1860-Present
Germany has variously been described as a "land of writers and thinkers", an antechamber of Nazism, and the face of post-1945 liberal-democratic Europe. What does it mean to be German? Is the nation a mere repository of Fascism? Can its entire history be reduced to a Sonderweg, a special path that leads inexorably to dictatorship, conquest, and racial extermination? This course will attempt to address these critical questions, beginning with the ascension to power of Otto von Bismarck and the drive to national unification. Credit will be granted for only one of HIST 203 and HIST 250. Three credits.

### 213 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 213 or HIST 113 or HIST 200. Three credits.

### 215 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 215 or HIST 115, HIST 200. 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: 6 credits HIST at the 100 level 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.

### 223 Black and White and Colourful all over: Africa in the World from 1800
This course will examine societies in modern Africa. Western histories of this period will be weighed alongside a more Afrocentric perspective, examining a selection of social systems, economic organization, political institutions, religious beliefs and life patterns, and the impact of the outside world on them. Topics to be addressed include gender, culture, belief and identity, European imperialisms, contested nationalisms, independence movements, and the nature and experience of the African diaspora. Credit will be granted for only one of HIST 223 and HIST 297 offered in 2016-2017. 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, Wolastoqiyik, 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: 6 credits HIST at the 100 level 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.

### 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.

### 302 Histories of Health in Canada

This course will explore the scholarly literature on changing approaches to and experiences of health and embodiment in Canada over the period from the mid-nineteenth century to the late 20th century. Students will examine how historically situated and intersecting systems of power such as race, gender, class, sexuality, and ability shaped health and well-being. Three credits.

### 303 Working People & 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 from1800-1919 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.

### 327 Pirates of the Caribbean: A Mostly True History, from Columbus to Blackbeard

This history of pirates starts with Columbus and ends with Blackbeard. It addresses images of piracy in history and culture, and the nature of piracy. European powers used piracy to challenge Spain in Europe and the Americas. Topics include the political economy of piracy, pirate republics, and the dynamics of class, race, gender, and sex. Instruction includes lectures, discussions, popular culture, and essays. There are no prerequisites, but familiarity with Latin American history is encouraged. 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 Inquisitions, Heresies and Identity in the High Middle Ages

Common scholarly discourse posits that individualism developed in the wake of the "civilizing process" of the early modern period and the 18th-century Enlightenment. Yet many medieval scholars decry this chronology, citing examples of medieval people who seem to satisfy the requirements for modern individualism and exploring medieval theories of identity that permit the development of something like modern individualism. This course will explore and take part in this intense debate both by reading the scholarly literature on the subject and by reading primary sources that describe the experiences of medieval people. Credit will be granted for only one of HIST 333 or HIST 330. Three credits.

### 334 Society and Ritual in the High Middle Ages

Like people living in the modern West, medieval individuals marked significant rites of passage such as birth, marriage and death with rituals. In the medieval West, these rituals usually revolved around the Catholic Church. This class will explore the major rites of passage through which medieval peasants, townspeople and nobles alike marked their lives, exploring not only the meaning and purpose of the

rituals, but the rich social lives of those individuals participating in them. Credit will be granted for only one of HIST 334 or HIST 330. Three credits.

### 337 History of Modern Mexico
This course examines the history of modern Mexico from independence to the present. This includes the independence war of 1810-1821; civil war, rebellion, and banditry in the 19th century; indigenous peoples' struggles to preserve their culture in the 19th and 20th centuries; foreign intervention and Mexican relations with North America and Europe. Special attention is paid to the Mexican Revolution of 1910. The course follows developments in the post-revolutionary era to explore popular culture, gender and sexuality, modernization, democracy and social justice. Prerequisite: HIST 255 or 256 recommended. Three credits.

### 341 A History of Canadian-American Relations
A study of Canadian-American relations from the American Revolution to the modern era. Topics include the founding of separate American and provincial societies; the tensions of continental and nationalist identities; the evolution of a North American economy and culture; policy making and bilateral relations in NATO and the UN; post-9/11 security arrangements; complementary and conflicting national interests in political, military, economic, social, and cultural issues. Three credits.

### 343 The Place of Race in the United States
Explores the enduring importance of race in America. Survey of African American history includes slavery; white-black relations; abolition; the Civil War and Reconstruction; Jim Crow segregation; the Harlem Renaissance and the great migration; black nationalism; the long civil-rights movement; and conservative backlash to affirmative action. Three credits.

### 346 American Social Movements, 1865-1945
Examines the triumphs and failures of social movements from the post-Civil War era to the New Deal. Explores the nature of protest and its effectiveness in the era. Topics include radical Reconstruction; populism; women' suffrage; radical pacifism; industrial unionism; and the unemployed people's councils of the Great Depression. Three credits.

### 347 American Social Movements, 1945-Present
Examines the triumphs and failures of social movements from New Deal era to the present. Students will study the tactics and achievements, as well as failures, of grassroots social movements. The nature of civil disobedience in the second half of the 20th century will be studied through topical case studies. Movements covered include industrial unionism; anti-nuclear activism; McCarthyism; black civil rights; gay rights; and the conservative backlash of groups such as Moral Majority. Three credits.

### 351 United States Immigration and Ethnicity
Explores the history of immigration to the U.S. and the role of ethnicity in American social, cultural and political life. Topics include immigrant images of status and success; migration and return migration; American acculturation; bi-nationalism, and the persistence of ethnic identities; anti-immigrant xenophobia; and the construction of immigrants' "white" identities. Three credits.

### 353 Premodern Explorers and Exploration
Though tradition credits Christopher Columbus with beginning an age of exploration, Columbus himself knew that he drew from a long tradition of explorers who came before him including peoples as diverse as Islamic scholars, Venetian merchants, Basque fishermen and Viking sailors. He knew about the multicultural cities of Jerusalem and Karakorum where individuals from all over Eurasia traded knowledge and goods. This course will examine the science, technology, literature and history of exploration that so inspired Columbus and the extent to which the different cultures of the premodern world were interconnected by trade, pilgrimage and exploration. Three credits.

### 355 The Sixties: A Social History
Examines the tumultuous 1960s and situates the Canadian experience within the international context - primarily the USA and Western Europe. Connections will be made between civil rights movements, anti-colonialism, environmentalism, "second-wave" feminism, Québécois nationalism, the New Left, student activism, and the importance of the counter-culture. The course will retain a historical perspective but draw upon interdisciplinary scholarship. The decade's lasting significance and its current invocation as a cultural and political artefact will be debated. Three credits.

### 360 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 HIST at the 100 level 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.

### 395 Selected Topics
The topic for 2022-2023 is Magic and Witchcraft in the Premodern West. Magic was an integral part of Western culture until the modern era. Most people believed in some form of magic, and attributed supernatural or occult powers to nature, the stars, herbs and gems, or angels and demons. This course examines the variety and development of magical beliefs in Europe and the Mediterranean from Antiquity to the Early Modern period, with a focus on the Roman Church's attempts to control or ban women's witchcraft. Three credits.

### 398 Themes in the History of Sexuality
A comparative study of the history of sexuality during the modern period from the eighteenth through the twentieth centuries. Following a broadly chronological and thematic approach to a diverse history of sexualities, the course will explore in particular the changing meanings of and interconnections between sexuality, race, class and gender. Topics will include indigenous sexual cultures; sexuality and colonialism; inter-racial sexual relationships; the 'invention of heterosexuality'; moral panics, prostitution, the regulation of sexual desire; and sexual subcultures. Cross-listed as WMGS 398. Three credits.

### 401 Topics in Canadian History
This course examines important themes and interpretations in Canadian history. The specific focus of the seminar will reflect the interests of the professor and the students. Three credits.

### 445 Historiography
This is a seminar in theories and methods in the discipline of history, with corresponding readings in the related historiography. Combining a survey of historiography across time with writing and research projects, the seminar will introduce students to key concepts, methods, and interpretations of history. The subject matter will emphasize 20th-century historiography, including the impact that diverse approaches have had on the discipline today. This course is mandatory for all advanced major and honours students. Majors may take this course with the permission of the instructor. Three credits.

Seminar Notes:
a) Seminars are open to advanced major and honours students. Majors may take a seminar with the permission of the instructor. Advanced majors complete a senior research paper in the context of a seminar.
b) Seminars will be offered on a rotating basis depending on faculty resources and student demand, normally two per year; the department will make every effort to ensure that honours students will have the opportunity to study their chosen field of history at an advanced level.

### 455 Topics in Medieval European History
This course examines important themes and interpretations in Medieval European history. The specific focus of the seminar will reflect the interests of the professor and the students. Three credits.

### 457 Topics in American History
This course examines important themes and interpretations in American history. The specific focus of the seminar will reflect the interests of the professor and the students. Three credits.

### 461 Topics in Modern European History
Explores major developments in 19th- and 20th-century European history. The specific focus of the seminar will reflect the interests of the professor and the students. Three credits.

### 462 Topics in Latin American History
This course examines important themes and interpretations in Latin American history. The specific focus of the seminar will reflect the interests of the professor and the students. Three credits.

### 498 Selected Topics
The topic for 2022-2023 is Drugs and Pharmacy from Antiquity to the Laboratory. Students in this seminar will explore how premodern peoples in Western Eurasia identified, explained, and used "drugs"—natural substances that were believed to heal and cure, soothe pain, change moods, or transform consciousness. Some of these, like opium and cannabis, are still used today but many have been rejected from modern pharmacy or recreation. You will research what drugs were used in certain cultures and at certain times, and what people claimed knowledge about these drugs. 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 (HKIN)

A. Casey, Ph.D.
S. Harenberg, Ph.D.
J. Hood, Ph.D.
D. Kane, Ph.D.
A. Kolen, Ph.D.
M. Lam, Ph.D.
S. Mackenzie, Ph.D.
O. Nzindukiyimana, Ph.D.
R. Rasmussen, Ph.D.
R. Reid, 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 students' 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 is 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

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| 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 |

*Excluding HKIN 425 and 426

#### BA in Human Kinetics with Major in Pre-Education

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|---|---|
| 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.
*HKIN 445 is strongly recommended as an HKIN elective in this path.

#### 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.
**See section 9.36
***Excluding HKIN 425 and 426

### 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.
*Excluding HKIN 425 and 426

### 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.
*HKIN 445 is strongly recommended as an HKIN elective in this path.

### 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; BIOL 111/112; 6 credits arts X (PSYC 101, 102)*
Year 2 3 credits skills; HKIN 215, 265; STAT 101; 3 credits HKIN electives; 6 credits PSYC*; BIOL 204; CHEM 101, 102
Year 3 HKIN 376; one of HKIN 374, 396, 397; 3 credits 300-level HKIN elective; 3 credits HKIN elective; CHEM 221/222** or CHEM 225/255; PHYS 101; 102 or 250; 6 credits arts Y (SOCI 101, 102)*
Year 4 3 credits HKIN sociocultural; 3 credits 400-level HKIN elective***; 9 credits HKIN electives; BIOL 315 or 3 credits BIOL; 6 credits approved electives; 6 credits open electives

*Arts X can also be SOCI, then PSYC is arts Y.
**Students who take CHEM 221/222 have the option to complete CHEM 255 in 4th year in lieu of BIOL 315 or BIOL elective.
***Excluding HKIN 425 and 426

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

Year 1 3 credits skills; HKIN 115, 136, 151, 152; HKIN 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 142, 242, 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.
*Excluding HKIN 425 and 426

### 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 (excluding HKIN 425 and 426). 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 (excluding HKIN 425 and 426).

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 48 credits of HKIN courses are the same as those for science B, plus one of HKIN 374, 396, 397. 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.
**Excluding HKIN 425 and 426

### 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 145. In third year, students must take HNU 145, moving the 3 credit HKIN elective to fourth year. In fourth year, students must take HNU 146, 351 and 365 as HNU electives. Students pursuing a dietetic internship must also take HNU 225 by year 4 (moving the open elective to year 5). HKIN 374, 396 or 397 will fulfill the requirement of HNU 384 in the HNU degree program.
Recommended Course Pattern

Years 1-4 HNU 142, 145, 146, 242, 262, 351, 363, 365; BIOL 215; BSAD 102; 3 credits open electives
Year 5 HNU 405, 475, 21 credits HNU electives; 3 credits open electives

Students who select HNU 225(in year 4) and HNU 452 (354/454), 356, 454, 456 and 485 as HNU electives while completing year 5 are eligible to apply for the StFX Integrated and Graduate Dietetic Internship programs.

To obtain a second degree from StFX, students must complete a minimum of 30 additional StFX credits above the first degree requirements (for a minimum total of 150 credits). Students must submit re-entry application.

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. Skill courses involve opportunities to develop new skills and physical literary. 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.

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

102 Group Fitness
103 Skateboarding
119 Aquatic Activities (SUP, snorkeling, water polo, aquafit)
120 Sailing (equivalent to HKIN 195-2019) - not offered 2022-2023

121 Badminton
122 Ball & Wall (handball, squash, racquetball)
123 Basketball
124 Batting & Fielding (baseball, softball, cricket) - not offered 2022-2023
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 Organized Games (fundamental movement skills, play based learning, recreation and leadership games)
138 Mountain Biking - not offered 2022-2023
139 Movement Education
140 Net Games (pickle ball, tennis, team handball, Sepak)
141 Outdoor Education Camps
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)
197 Selected Topic: Instructional Group Fitness
198 Selected Topic: Skateboarding

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

203 Judging and Officiating
204 Advanced Instruction in Group Exercise Leadership Certificate
227 Advanced Instruction in Gymnastics; prerequisite: HKIN 127
228 Advanced Instruction in Football; prerequisite: HKIN 128 - not offered 2022-2023
229 Advanced Instruction in Hockey; prerequisite: HKIN 129 - not offered 2022-2023
231 Advanced Instruction in Rugby; prerequisite: HKIN 131 - not offered 2022-2023
232 Advanced Instruction in Soccer; prerequisite: HKIN 132
233 Advanced Instruction in Volleyball; prerequisite: HKIN 133 - not offered 2022-2023
246 Advanced Instruction in Sport Science Theory and Application; prerequisite: HKIN 146

### 115 Introduction to Human Kinetics

This course will provide students with an overview of the many and varied aspects of the study of human movement and physical activity to include; the sociocultural fields of philosophy, history and sociology, as well as the exercise sciences of biomechanics and exercise physiology, including applied exercise physiology. Additionally, the fields of child growth and development, personal health, adaptive physical activity, sport management and coaching will be included. Finally, students will learn reading, writing and analytic skills in class and through their lab. 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. Topics include a variety of psychological constructs and theories (e.g., personality, motivation, anxiety, diversity, group dynamics) and how they apply to teaching/consulting, 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 socio-cultural dimensions of sport. Topics include the nature of sport, rules and values in sport, and 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. Credit will be granted for only one of HKIN 150 or HKIN 250. Students take HKIN 150 or HKIN 154, not both. Restricted to first-year HKIN students. 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, urinary 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. Students take HKIN 154 or HKIN 150, not both. Restricted to first-year HKIN students. Three credits.

### 215 Introduction to Motor Control and Learning

This course provides students with a general understanding of how humans control their movements and learn new motor skills. Students who wish to become therapists, trainers or coaches will benefit from learning that humans are active information processors. This course is divided into two parts. Part I will be dedicated to learning about the production and control of human movement. Part II will focus on the processes that underlie motor skill acquisition and the factors that enhance and inhibit an individual's capability to perform motor skills. Three credits and lab.

### 222 Care and Prevention of Athletic Injuries

A study of the injuries that occur in popular physical activities, including the nature, course, prevention, and non-medical management of these injuries. Prerequisite: BIOL 251 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.

### 230 Physical Activity and the Population

This course will guide students through the health-related aspects of exercise, physical activity, and physical fitness from the perspective of epidemiology. Emphasis will be placed on critical analysis of primary research that evaluates the use of physical activity promotion methods in the context of common chronic diseases (e.g. obesity, cardiovascular disease). Discussion will focus on the impact of health-research and epidemiologic trends on public health guidelines. Prerequisites: HKIN 151 and 152. 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. Not offered 2022-2023.

### 253 Sport Philosophy

This course serves as a metaphysical inquiry into the nature, meaning, and existential significance of sport. The advancement of a philosophy of existential fitness represents a central feature of the curriculum. Modules include the methodological foundations, conceptual foundations, and ontological foundations of sport philosophy. Main topics include being-in-the-zone, the game of our life, sport as a mental and spiritual health practice, sporting intelligence, and the relationship between game playing and the ideal of existence. 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 or HKIN 398(2019-2020). Prerequisites HKIN 151/152 or BIOL 251/252. Three credits and lab.

### 270 Teamwork and Group Dynamics
This course introduced concepts of the dynamic development and maintenance of a group. In addition, principles of optimal group functioning and teamwork will be reviewed. Course topics include group development; norms, roles, cohesion, communication, leadership and teamwork. The application of such topics to sport, exercise, and occupations settings (e.g. health care) will be discussed. Credit will be granted for only one of HKIN 270 and HKIN 271 (2021-2022). Prerequisite: HKIN 136. Three credits.

### 316 Special Populations from a Motor Control Perspective
Many of us fail 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 themselves as the atypical social and motor behaviours observed in special populations such as Down syndrome and Parkinson's disease. Instead of focusing on observable behaviours, students are encouraged to reflect on the unobservable brain processes that underlie these behaviours. This shift in mindset will benefit those interested in working with special populations. An optional service-learning placement will provide students with the opportunity to integrate meaningful community service with course material. Prerequisite: HKIN 215. Three credits.

### 321 Advanced Care & Prevention of Athletic Injuries
An in-depth study of the assessment and management of athletic injuries. Students will learn proper assessment protocol, advanced assessment techniques, and specialized taping techniques. Prerequisites: 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. 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 an existential inquiry into the moral significance of sport. The advancement of a philosophy of moral excellence represents a central feature of the curriculum. Modules include methodological foundations of sport morality, the moral ideal of man, and the moral ideal of sport. Main topics include the relationship between game playing and morality, moral achievement in the game of our life, and developing moral virtue in the games we currently play. Three credits.

### 357 Aging and Exercise
An in-depth study of the changes in exercise capacity and sport performance that occur beyond adulthood. The role of physical activity and exercise training in minimizing aging-related losses in performance capacity and physical conditioning is addressed through 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. Three credits.

### 371 Selected Topics
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 2022-2023.

### 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 application 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. Prerequisite: HKIN 376. Three credits. Not offered 2022-2023.

### 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. Three credits. Not offered 2022-2023.

### 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, barriers and facilitators, as well as 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, orthopaedic impairment, mental health, deafness, and rare disorders. Credit granted for only one of HKIN 395 or HKIN 385. Three credits. Not offered 2022-2023.

### 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
Motor control research presents important principles that can provide guidelines to rehabilitation professionals. This course will primarily focus on the contributions of the central nervous system in the generation of purposeful, coordinated actions. Humans will be characterized as information processing systems that encode sensory input, manage information, and produce motor output. Students will learn about internal models, two visual systems and the impact that mirror neurons and neuroplasticity have had on the study of motor control. Prerequisite: HKIN 215. Three credits and bi-weekly lab.

### 425 Child Growth and Development
This course covers the physical growth, maturation, and development in children. The implications of changes in structure and function related to children's physical growth will be applied to physical education, physical activity, and physical fitness. This course is not eligible to fulfill the 400-level HKIN elective requirements for students completing a major or honours in kinesiology. 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 specific to children and their health education. 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. This course is not eligible to fulfill the 400-level HKIN elective requirements for students completing a major or honours in kinesiology. 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). Prerequisite: HKIN 264 or 332 or 352. Three credits. Not offered 2022-2023.

### 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.

### 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.

### 445 Instructional Strategies in Human Kinetics
Future educators explore both traditional and alternative teaching and learning strategies in order to promote inclusive practices. Students later apply this theoretical knowledge while teaching physical activity classes to diverse learners using a variety of instructional strategies. The lab features collaboration with local schools and Indigenous communities. HKIN 445 is strongly recommended as an HKIN elective for the pre-education path. Three credits and lab.

### 455 Games, Life & Leadership
This seminar course serves as a cooperative inquiry into sport in its significance to the human condition. The advancement of a Utopian philosophy of the good life represents a central feature of the curriculum. Topics include the Zone as an ultimate guiding principle, making good moves in the game of our life, and games Utopians play. Prerequisite: HKIN 253 or 354. Three credits. Not offered 2022-2023.

### 456 Fitness Assessment and Exercise
This course is designed provide theory and practical experience as you administer a variety of exercise science specific related protocols and techniques that are used in assessing an individual's current level of physical activity and fitness. You should be able to understand the theoretical principles that underpin these various fitness assessment protocols and be able to develop simple and appropriate training plans based on specific individual results. 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.

### 457 Designing Interventions for Population Health
This advanced course explores current trends with respect to the design and implementation of sustainable evidence-based interventions for at-risk populations. Topics include preventative medicine, universal design, rural healthcare, pediatric rehabilitation, assistive technology, and community-engaged scholarship. The Service Learning component encourages students to transfer theoretical knowledge to different intervention settings while working with vulnerable populations. Credit will be granted for only one of HKIN 457, HKIN 437 or HKIN 495 (2017-2018). Prerequisites: HKIN 151/152 or BIOL 251/252; HKIN 265 or 365. Three credits. Not offered 2022-2023.

### 463 Psychological Skills Training for Performance Enhancement
This course examines various interventional techniques to enhance athletic performance. We will review commonly applied sport psychological skill training techniques, such as imagery, self-talk, goal setting, and confidence enhancement. In addition, new technologies to train perceptual-cognitive elements of athletic performance will be explored. Students will be asked to design applied workshops. The application of training to exercise, and occupations settings (e.g. health care) will be discussed. Prerequisite: HKIN 136 and third year standing. Three credits.

### 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, chronic obstructive pulmonary disease, hypertension and heart failure. 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 bi-weekly lab. Not offered 2022-2023.

### 490 Honours Thesis
Students will prepare, propose, and defend a thesis based on original research conducted under the supervision of a Human Kinetics Faculty member. Students must meet all department deadlines and requirements. Credit will be granted for only one of HKIN 490 and HKIN 493. Restricted to honours students. Required for honours students. Prerequisite: One of HKIN 374, 396 or 397. Six credits.

### 491 Senior Seminar
In addition to classroom sessions and round table discussions, the senior seminar may include lectures by visitors, faculty, and staff on aspects of human movement. Required for all honours students. The theses of honours students form the basis of their presentations. No formal credit is given for the senior seminar; however, satisfactory attendance and seminar presentation is a requirement for the BA or B.Sc. in Human Kinetics with Honours. No credit.

### 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.

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

## 9.23 HUMAN NUTRITION (HNU)

M. English, Ph.D.
T. Everitt, Ph.D., P.Dt.
A. Fox, Ph.D., P.Dt
R. Harvie, Ph.D., P.Dt.
J. Jamieson, Ph.D.
A. MacDonald, M.Ed., P.Dt.
L. Reid, M.Ed., P.Dt.

Senior Research Professor
L. Wadsworth, Ph.D., P.Dt.

The B.Sc. in Human Nutrition is a professional program which integrates foundational knowledge meeting core requirements in foods, nutrition and related areas with studies in biology, chemistry, statistics, business, humanities and social sciences. Collectively, the course requirements are designed to provide graduates with the expertise needed by food and nutrition professionals today. Depending upon the choice of emphasis, the Human Nutrition program prepares graduates for careers in areas such as dietetics, education, health promotion, industry, food service management, and research, 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 second research methods course, a six-credit thesis course and a minimum or 15 credits at the 300-level or higher. Students' selection of thesis topics will reflect the research areas of faculty members.

With the proper selection of courses, (including HNU 225(325), 352, 452 (354/454), 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, a minimum grade of 65 in each of HNU 351, 352 and 452 (354/454) 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 452 (354/454) 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, 215; CHEM 101/102; HNU 142, 145; 12 credits arts electives - 6 credits in each of two subjects |
| Year 2 | BIOL 251, 252; BSAD 112; CHEM 225, 255; HNU 146, 242, 262; STAT 101; 3 credits open electives |
| Year 3 | HNU 351, 365, 384; 12 credits HNU electives; 6 credits arts 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 142, 145; 12 credits arts electives - 6 credits in each of two subjects |
| Year 2 | BIOL 251, 252; BSAD 112; CHEM 225, 255; HNU 146, 242, 262; STAT 101; 3 credits open electives |
| Year 3 | HNU 351, 365, 384, 485; 9 credits HNU electives; 6 credits arts electives for a pair; 3 credits open electives |
| Year 4 | HNU 405, 475, 491, 493; 15 credits HNU electives (minimum 18 credits at the 300-level or higher); 6 credits open electives |

### Bachelor of Science with Minor in Food and Nutrition

| | |
|---|---|
| Required: | HNU 142, 242, 262 |
| Electives: | 15 credits from HNU |

Note that BIOL 251, 252, CHEM 225, 255 are required prerequisites for courses above.

### Application to the StFX Integrated Dietetic Internship

Students planning to apply for dietetic internship programs follow the normal course sequence for B.Sc. in Human Nutrition with the following exceptions.

| | |
|---|---|
| Year 2 | HNU 225 in place of a 3 credit open elective |
| Year 3 | HNU 351, 352, 356, 365, 384, 485; 6 credits arts for a pair; 3 credits HNU electives; 3 credits open electives |
| Year 4 | HNU 405, 452(354/454), 456, 475; 3 credits HNU electives; 15 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 145. In third year, students must take HNU 145, moving the 3 credit HKIN elective to fourth year. In fourth year, students must take HNU 146, 351 and 365 as HNU electives. Students pursuing a dietetic internship must also take HNU 225 by year 4 (moving the open elective to year 5). HKIN 374, 396 or 397 will fulfill the requirement of HNU 384 in the HNU degree program.

Recommended Course Pattern

| | |
|---|---|
| Years 1-4 | HNU 142, 145, 146, 242, 262, 351, 363, 365; BIOL 215; BSAD 102; 3 credits open electives |
| Year 5 | HNU 405, 475, 21 credits HNU electives; 3 credits open electives |

Students who select HNU 225(in year 4) and HNU 452 (354/454), 356, 454, 456 and 485 as HNU electives while completing year 5 are eligible to apply for the StFX Integrated and Graduate Dietetic Internship programs.

To obtain a second degree from StFX, students must complete a minimum of 30 additional StFX credits above the first degree requirements (for a minimum total of 150 credits).

Students must submit re-entry application.

### 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, 376; 6 credits of skills, and 2 of HKIN 253, 264, 332, 352, 354, 431, 443, 455; 6 credits of HKIN electives. Students must submit re-entry application.

### B.Sc. in Human Nutrition with BBA in Entrepreneurship

This five-year, two-degree program is for B.Sc. Human Nutrition students interested in alternative career paths who wish to pursue a degree in business with a focus on entrepreneurship should follow the course pattern below. The double degree option will prepare Nutrition students to work within the food industry (product development and evaluation, food safety, etc.), marketing, or consumer affairs with various employers including their own start-ups, industry, not-for-profits and

other related areas of practice. From the development of new plant-based food products, to eco-friendly packaging and emergency preparedness initiatives, food and health-related businesses remain among the most popular start-ups in Canada. To complete both degrees in five years the recommended course pattern involves:

| | |
|---|---|
| Year 1 | HNU 142, 145; BIOL 111, 215; CHEM 101, 102; 6 credits Arts X; ECON 101, 102 |
| Year 2 | HNU 146, 242, 262; STAT 101; BIOL 251, 252; CHEM 225, 255; BSAD 111, 112 |
| Year 3 | HNU 351, 365, 384; 12 credits HNU electives; MATH 105; 6 credits Arts X |
| Year 4 | HNU 405, 475, 471, 445; BSAD 221, 223, 261, 231, 281, 241 |
| Year 5 | HNU 328; BSAD 332, 352, 453, 456, 458, 471; 3 credits BSAD entrepreneurship elective; 6 credits BSAD electives |

To obtain a second degree from StFX, students must complete a minimum of 30 additional StFX credits above the first-degree requirements (for a minimum total of 150 credits).

### 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 well being 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, HNU 142, HNU 161, HNU 215, or HNU 253. Restricted to current nursing students. Three credits.

### 142 Introduction to Food and Health

This introductory course exposes students to the range of subject matter covered in the degree program and provides an introduction to the field of nutrition. The role of nutrients in a healthy diet is featured along with identifying the behavioural, social and political factors that impact food choice. Students will discuss nutrition in the media and will begin to work with food guidance tools to explore nutrition and health promotion Credit will be granted for only one of HNU 142, HNU 135, HNU 161, HNU 185 or HNU 215. 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.

### 225 Foundations of Professional Practice

This course introduces the foundational knowledge and competencies integral to the dietetics profession. Students will review the nutrition care process and explore ethical practice, evidence–based decision making, and apply knowledge and skills essential for effective communication and collaboration. It will provide an understanding of adult learning principles with a focus on self-directed learning, reflective practice, and an introduction to behaviour change theories in the context of dietetics. Credit will be granted for only one of HNU 225, HNU 235 or HNU 325. Prerequisite: HNU 142 completed; 242 concurrently. Three credits and a nutrition communications lab.

### 242 Foundations of Nutrition Science

Students will learn the fundamentals of the science of nutrition with emphasis on energy, macronutrients, vitamins and minerals required by humans. The functions of these nutrients, their food sources and how the body handles them will be discussed within the framework of nutrition in the promotion of health and the prevention of chronic disease. Credit will be granted for only one of HNU 242, HNU 215 or HNU 261. Prerequisites: one of HNU 135, 142, 161; CHEM 101, 102; BIOL 111. Three credits.

### 262 Principles of Nutrition in Human Metabolism

Building on HNU 242, 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. Prerequisites: HNU 242 or 261; BIOL 251, 252, completed or concurrent; CHEM 225, 255, completed or concurrent. Three credits.

### 328 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 328, HNU 428 or HNU 496 (completed in 2015, 2016). Prerequisites: STAT 101, CHEM 255. 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, nutrition counseling and documentation of care. Prerequisite: HNU 225, 351 concurrently. 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: CHEM 255; 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; determinants of healthy eating; processes 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.

### 392 Selected Topics

The topic for 2022-2023 is Qualitative Methods in Food and Nutrition. An examination of various qualitative methods and underlying methodological approaches in food, nutrition, and dietetics. Attention will be given to study design, sampling, recruitment, data collection and analysis, knowledge translation and ethical considerations. Prerequisite: Three credits of any research methods course. Three credits. Offered by Acadia University in the Maple League Program.

### 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 142. 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 252. 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 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.

### 452 Clinical Nutrition Therapy
An integrated approach to the study of clinical nutrition therapy within the following: the respiratory, neurological and gastrointestinal systems, cancer and wound healing. This course introduces the management of swallowing disorders, and the therapeutic use of enteral and parenteral nutrition support. Credit will be granted for only one of HNU 452, HNU 353 or HNU 354/454. Prerequisite HNU 352. 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, pathophysiology, and clinical presentation of rare, nutrition-related metabolic diseases that affect the body's biochemical reactions. It also examines the interaction between diet, the gastrointestinal microbiota and human metabolism and health. 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.

### 471 Entrepreneurial Practices for Nutrition Professionals
Learn to think and act like an entrepreneur. This course provides the foundation for your entrepreneurial journey, covering topics such as the entrepreneurial mindset, problem discovery, customer discovery, business model development, and pitches. Throughout, you will be introduced to the theories and tools modern entrepreneurs use to design their ventures and be challenged to develop your own skills through class discussions and a term project. Cross-listed as BSAD 356. Prerequisite: BSAD 102. 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 community and population groups. Students will learn about various approaches to change and their applications to 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, 142, 225 or 235 and 225, 261/242, 262, 351, 352, 353/354, 356, 365, 385, 485; an overall average of 70 in the HNU program and an overall average of 75 in HNU courses, and minimum course grade of 65 in HNU 351, 352, 353/354; 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 and minimum course grade of 65 in HNU 351, 352, 353/354, 452/454, 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 or 495(2017-2018). Prerequisite: HNU 384. Three credits.

### 490 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. Credit will be granted for only one of HNU 490 and HNU 493. Six credits.

### 491 Advanced Major and Honours Seminar
A critical study of current research in areas related to human nutrition. No credit.

### 495 Selected Topics
The topic in 2022-2023 is Sustainable Food Systems & Diets. Using an experiential approach, concepts, current issues and applications of citizenship, sustainability, sovereignty, security and policy in the context of food and food production systems will be explored in this course. Students will learn the foundations of growing food and be encouraged to broaden their capacity as gardeners and food citizens regardless of prior experience through hands-on gardening activities, critical discussions, and independent project work with community organizations involved in building sustainable food systems. Sustainable food systems and diets are of increasing interest to the fields of health and sustainable development. This course will explore the foundational concepts of sustainability, food systems and diets, and problematize them in the context of today's reality. Students will examine current research and solutions-oriented initiatives to better understand how the issues are being conceptualized and addressed. Restricted to students in the HNU program. Prerequisites: HNU 161, 262. Three credits. Offered by Acadia University in the Maple League Program.

### 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 (IDS)

### 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 program's goal is to blend community engagement with course work allowing for service experiences that reinforce, strengthen and improve academic outcomes. Service learning is possible in many disciplines and in a broad range of courses and service experiences. Third and fourth year students may also enrol in the independent studies course, IDS 305, which involves international and national service placements.

### Course-Based Service Learning

Course-based service learning is a form of experiential education where students work with community members on local issues and where academically rigorous assignments are designed to explicitly link those experiences to specific learning outcomes. Students complete a service experience with a local partner organization and then prepare a reflective final assignment for the professor that determines the grade on this portion of the course. For information on courses offering a service learning component, consult the department website under information for students.

### Immersion Service Learning

Students will engage in intense service learning experiences in diverse communities, nationally or internationally. Guided by a leader, students will explore community dynamics and issues in a development and social justice context. Students can participate in immersion service learning as a personal (non-credit) experience or may integrate an immersion experience into their chosen course of study through IDS 305 or by seeking optional course credit with the approval of their professor. Students must apply for immersion experiences. The deadline is mid-October. For more information, contact the department website or servicelearning@stfx.ca. Limited international and/or national immersion experiences may be offered in 2022-2023. In addition, both virtual international and local immersion experiences may be offered as a replacement or complement to programming in 2022-2023.

### 305 Immersion Service Learning

Designed for third- and fourth -year students interested in participating in a virtual immersion service learning program during the winter term. Students will engage in real-time conversation, with international community partners and local citizens in Peru to learn about issues relevant to their community. Through participation in meaningful interaction in a virtual global environment, students will develop an understanding of cultural context and global awareness in relation to social justice. This course facilitates relationship-building skills and intercultural learning and explores methodologies of community service provision. Students will participate in a seminar-style class that will involve in-depth reflection and exploration on a chosen topic that relates to their virtual ISL experience. This course can be used as part of DEVS or CLEN requirements, 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. Not offered 2022-2023.

### 398 Selected Topics

Six credits. Not offered 2022-2023.

**Service Learning Component Courses (tentative)**

The following courses have offered a service learning component in previous years. For a list of sections with a service learning component for 2022-2023, please contact the service learning coordinator. Courses are three credits unless otherwise indicated.

Anthropology
ANTH 111 Introduction to Physical Anthropology/ Archaeology
ANTH 112 Introduction to Socio-Cultural Anthropology
ANTH 218 Anthropology of Health and Wellness

Business Administration
BSAD 424 Financial Accounting Theory
BSAD 461 Leadership
BSAD 473 Advanced Topics in Responsible Management

Development Studies
DEVS 311 Issues in Development Practice

History
HIST 141 Empire and Plague, 133-1800
HIST 142 Revolution: Global from 1750

Human Kinetics
HKIN 316 Motor Control in Special Populations
HKIN 357 Aging & Exercise

Health
HLTH 111 Fundamentals of Health I
HLTH 112 Fundamentals of Health II
HLTH 201 Health Across the Lifespan I
HLTH 202 Health Across the Lifespan II

Human Nutrition
HNU 142 Introduction to Food and Health
HNU 365 Community Nutrition

Psychology
PSYC 260 Developmental Psychology
PSYC 364 Psychology of Gender
PSYC 376 Abnormal Psychology

Sociology
SOCI 328 Social Inequality

Spanish
SPAN 102 Spanish for Beginners II

## 9.25 MATHEMATICS AND STATISTICS (MATH, STAT)

J. Apaloo, Ph.D.
K. Cupido, Ph.D.
K. De'Bell, Ph.D.
S. Finbow, Ph.D.
D. Lee, 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.
P. Zhou, Ph.D.

Professor Emeritus
S. Aalto, Ph.D.
J. Quinn, Ph.D.

The Department of Mathematics and Statistics offers degrees in both the Faculty of Science and the Faculty of Arts and a Certificate in Actuarial Science. A minor in mathematics 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.

### 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, students often go on to pursue an education degree to become a teacher or a graduate degree to become a researcher or professor. 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 department chair or any member of the department. General requirements for these degrees are in chapters 4 and 7.

### Concentrations

There are diverse career paths possible within the mathematical sciences. Concentrations are selections of courses designed for students planning to pursue a career in secondary teaching, statistics, or actuarial science. 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.

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 Course 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 357(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 221, 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 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 before graduation. The concentration meets the SOA Recognition Tier UCAP-IC. Further information is available the department website.

### 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 Course 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 111, 112, 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, 357(435); and STAT 493 must be chosen as the thesis course.

### Certificate in Actuarial Science

Students who have successfully completed the following courses but who are not taking/have not taken the B.Sc. or BA in Mathematics will be awarded the Certificate in Actuarial Sciences: BSAD 111, 112, 221, 241 342; ECON 101, 102; MATH106/126/121, MATH 107/127/122, MATH 236, MATH 222/267, MATH 223/253; STAT 101/224/231, STAT 333, STAT 334, STAT 331/357. This certificate cannot be combined with the concentration in actuarial science. Students wishing to apply to the Society of Actuaries (SoA) for Validation by Educational Experience (VEE) credit should check the SoA website (https://www.soa.org/Education/Exam-Req/edu-vee.aspx) for a list of courses currently approved for VEE credit.

### Minor or Subsidiary in Mathematics

Students planning to complete a minor or subsidiary 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 or subsidiary 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. with Major, (including advanced major, honours, and joint degrees) 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 in all BA, BASc, BBA, HKIN, HNU, MUSI and NURS degrees. 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 in all BA, BASc, BBA, HKIN, HNU, MUSI and NURS degrees. 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 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 MATH 126. 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 MATH 127. 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: One of MATH 105, 106 or 126. Three credits. Not offered 2022-2023; next offered 2023-2024.

### 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: One of MATH 101/102 ,106, 121, 126, 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 one of MATH 107, 122, 127. Three credits.

### 267 Calculus III

Topics include: vectors in two and three dimensions; equations of lines, planes and surfaces; calculus of vector functions, multivariate functions, partial derivatives, multiple integration and applications. Credit will be granted for only one of MATH 267 or MATH 222. Prerequisite: One of MATH 107, 122, 127. 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: One of 101/102 ,106, 121, 126, 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. Not offered 2022-2023; next offered 2023-2024.

### 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: One of MATH 106, 121, 126 or CSCI 161. Three credits. Not offered 2022-2023; next offered 2023-2024.

### 347 Combinatorics

The course covers the principle of inclusion and exclusion; generating functions; recurrence relations; rings and modular arithmetic; finite state machines; group and coding theory; Pólya's method of enumeration; finite field and combinatorial design; graph theory. Prerequisite: MATH 277. Three credits. Offered 2022-2023 and in alternate years.

### 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: One of MATH 222 or 267 and one of MATH 223 or 253. Three credits.

### 366 Real Analysis I

This course considers rigorous development of the real number system; numerical sequences and series; properties of continuous functions; metric spaces; sequences and series of functions. Prerequisites: MATH 254, 267, 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. Prerequisite: 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. Offered 2022-2023 and in alternate years.

### 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. Not offered 2022-2023; next offered 2023-2024.

### 382 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, and performance metrics. A research project involving the analysis of real-world data is an integral part of the course. Credit will only be granted for one MATH 382 or MATH 471(2019-2020) or MATH 399(2020-2021). Prerequisite: One of STAT 101, 224, 231. Three credits.

### 384 Numerical Methods

This course covers methods used to solve mathematical problems on computer systems, including mathematical background and error analysis of solutions to non-linear equations; polynomial interpolations; integration and differentiation; quadrature methods; systems of equations and differential equations. Prerequisites: One of MATH 223, 253; and one of CSCI 125 or 161. Three credits. Not offered 2022-2023.

### 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: One of MATH 222, 267, and one of MATH 223, 253. Three credits. Offered 2022-2023 and in alternate years.

### 389 Financial Mathematics

Topics include stochastic models of financial markets; forward and futures contracts; European options and equivalent Martingale measures; hedging strategies and management of risk; term structure models and interest rate derivatives; and optimal stopping and American options. Ito's lemma and Girsanov's theorem to develop methods for pricing financial derivatives are examined. Pricing problems are considered in discrete (Binormal option price model) and continuous-time (Black-Scholes Merton price model). Credit will be granted for only one of MATH 389 or MATH 471 offered in 2012-2013. Prerequisites: One of MATH 106, 126 and one of STAT 101, 231. Three credits. Offered 2022-2023 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. Offered 2022-2023 and in alternate years

### 462 Complex Variables

Topics include complex numbers, elementary functions, series and integration, Laurent series, and residue theory. Prerequisites: One of MATH 221, 367 and one of MATH 222, 267. Three credits. Offered 2022-2023 and in alternate years.

### 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. Not offered 2022-2023; next offered 2023-2024.

### 471 Selected Topics in Mathematics

This course will cover current mathematical topics such as graph theory, category theory, dynamical systems, optimization theory, point set topology or mathematical finance. 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 one of MATH 221, 367 and one of MATH 267, 222. Three credits. Not offered 2022-2023; next offered 2023-2024.

### 491 Senior Seminar

Cross-listed as 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). 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, or PSYC 292(290). 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, or PSYC 292 (290). Prerequisite: One of MATH 107, 122, 127. 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 2022-2023.

### 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, or 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 combinational analysis; axioms of probability; the law of total probability and Bayes' Theorem; discrete and continuous random variables; mathematical expectation and variance; joint distributions; introduction to moment-generating functions and their applications; limit theorems. Prerequisites: One of MATH 222, 267 and one of STAT 101, 224, 231 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.

### 344 Epidemiological Methods I
Studying the factors that increase the risk of disease is a direct application of statistics. The course introduces the core concepts of epidemiology, the study of the cause and spread of diseases, to examine how we measure disease risk and design studies to examine the attributable risk to risk factor. Topics include measures of disease risk and impact, reliability of diagnostics tests, threats to the validity of a study, and health topics including outbreak investigation and disease surveillance. Credit will be granted for only one of STAT 344 or STAT 472(2018-2019) or STAT 472(2020-2021). Prerequisites: One of STAT 101, 224, 231, PSYC 292. Three credits. Not offered 2022-2023; next offered 2023-2024.

### 357 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, multicolinearity, and generalized linear models. Credit will be granted for only one of STAT 357 or STAT 435. Prerequisites: One of MATH 223, 253 and one of STAT 101, 224, 231 or permission of the chair. Three credits and a one-hour lab. Not offered 2022-2023; next offered 2023-2024.

### 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 2021-2022 and in alternate years.

### 472 Selected Topics
The course will cover a selection of current selected topics, such as epidemiology II, sampling theory, time series analysis, stochastic processes, design and analysis of experiments, bootstrap methods, multivariate analysis, and bioinformatics. Three credits.

### 491 Senior Seminar
Cross-listed as MATH 491. The purpose of this non-credit course is to assist students in carrying out research, composition, and oral presentation. Students will present a project in the fall term and their completed 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.

» **MI'KMAQ** see 9.26 Modern Languages

## 9.26 MODERN LANGUAGES (FREN, GERM, MIKM, SPAN)

V. Kocay, Ph.D.
E. Langille, D. ès L.
R. LeBlanc, Ph.D.
M. Paz, Ph.D.
W. Tokarz, Ph.D.

*Part Time*
M. Lade, M.Ed.

### Placement of Students
Students registering for a French course for the first time at StFX should note that the Department of Modern Languages offers several courses to first-time registrants in French, depending on their background. Please note:

a) First time registrants in French at StFX must complete the online placement test prior to registering. This test is to assist in registering in the appropriate section (basic, intermediate or advanced level French). The link to the on-line placement test is http://moodle.stfx.ca, search French Placement Test.
b) First-time registrants who have not completed high school core French or its equivalent should enrol in FREN 111.
c) Results on the placement test are a determining factor in the enrolment for first-time registrants.
d) Students with native proficiency may register in any 200-level course.
e) The department reserves the right to place students. Students placed at the intermediate or advanced level of the placement test will not be able to receive credit for FREN 111 or 112.

### Recommendations
Candidates for the major, advanced major or honours degrees in French are strongly encouraged to spend at least one summer (five weeks) in a French-speaking environment through an immersion program or one year in the junior year abroad program. Please see below for details.

Students hoping to pursue masters or doctoral studies in the humanities or social sciences are reminded that these programs often carry language requirements.

### Minor or Subsidiary Program
A minor or subsidiary in French requires at least 6 credits at the 300- or 400-level. The minor or subsidiary in Spanish includes required courses: SPAN 306 and 334.

### Major Program
#### Major in French
A student may take a major in French by completing 36 credits in FREN (excluding FREN 111/112), including FREN 312(215) and at least 15 credits at the 300- or 400-level. A thesis is not required.

#### Major in Spanish
The Department of Modern Languages offers a major in Spanish (language and literature) for students who have completed a minimum of one semester in a Hispanic country. Students completing the major requirement abroad will have to complete their course work at the 300- or 400-level, or equivalent, excluding courses already completed at StFX. Students who wish to apply for the major degree must seek permission from the department chair and submit relevant course descriptions of work to be done abroad to the Dean's office for approval.

#### Joint Major in French and Spanish
A student may do a joint major in French and Spanish. The requirements for each subject are the same as for a major in French and a major in Spanish.

### Advanced Major Program
A student may take an advanced major in French by completing 36 credits in FREN (excluding FREN 111/112), including FREN 312(215) and at least 21 other credits at the 300- or 400-level. Students registered in the advanced major program in French are required to do FREN 492, a three-credit senior seminar comprising a thesis in French of approximately 4,000 words.

### Honours Program

A student may take an honours degree in French by completing 60 credits in FREN (excluding FREN 111/112), including FREN 312(215) and at least 33 other credits at the 300- or 400-level. Twelve of the 60 credits may be taken in a related field with department permission. Students registered in the honours program in French are required to do FREN 492, a three-credit senior seminar comprising a thesis in French of approximately 6,000 words.

### Certificate of Proficiency in French

This certificate is awarded to students who wish to have their proficiency in French officially acknowledged by a distinction appearing on their transcript. It is not necessary to do a major in French in order to take the test, although certain requirements must be met. Students who wish to sit for the exams should make their intentions known by 15 December. The exams will take place during the last week of classes.

Requirements:

a) At least 18 credits beyond the 100 level, including FREN 312(215), and at least 6 credits at the 300- or 400-level.
b) A minimum grade of 70 is required in each FREN course.
c) Written and oral examinations with a minimum of 70 on each part (exam may be repeated after one year). The structure of the exam includes:
   i) An exam covering grammar and usage (2 hours), specifically on the following points: verb conjugations (all tenses and moods), relative pronouns, object pronouns, prepositions, agreement of adjectives, plural of nouns and adjectives, complex sentence structures.
   ii) A composition on a subject prompt provided (1 hour)
   iii) An oral exam: 45 minutes to read a text provided, and 15 minutes to present its content and answer questions from three professors (1 hour).

### Transfer Credit for French Immersion Courses

Students may request a maximum of six transfer credits for a successfully completed immersion course. The following guidelines apply:

a) Newly admitted students may request transfer credit in French only for courses taken after completing grade 12 French. Normally, transfer credit will not be granted for courses taken five years prior to admission.
b) Students must obtain a letter of permission from their Dean prior to enroling in an immersion course if credit is sought.
c) The Explore summer immersion course in French may not be used in a major, minor or subsidiary but may be used as part of a pair or as an arts elective in any degree program. Other immersion courses will be assessed on an individual basis.

### Summer Language Bursary Program

Official Languages Programs

To promote the study of Canada's official languages, the Council of Ministers of Education, Canada (CMEC), in co-operation with the provinces and territories, administers Accent (formerly OLMP, part-time), Odyssey (formerly OLMP, full-time), Explore (formerly SLBP), and CMEC also co-ordinates official-language activities related to agreements between the federal and provincial/territorial governments.

For information on the summer language bursary program contact the provincial co-ordinator, French language bursaries, Department of Education, Box 578, Trade Mart Building, Halifax, NS, B3J 2S9, 902-424-5283, or visit the following websites: EXPLORE: www.myexplore.ca

For information on immersion courses in France during the summer contact the French Consulate, 777 rue Main Suite 800, Moncton, NB, E1C 1E9, 506-857-4191. Program information is also available from the department chair.

### Junior Year Abroad Program

The department encourages students in a four-year program to spend their junior year in a French-speaking environment. To this end, a study abroad program has been put into place allowing students to spend their third year at the Centre International d'Etudes Françaises in Angers, France. See section 3.18. For information about this program, see the chair or designate.

### Department Requirements

A pair or a minor must be in one language. Students who complete a minor or a major in one language may also count a pair in a second language.

## FRENCH

### 111 Basic University French I

This course corresponds to level A1 of the Common European Framework of Reference for Languages (CEFR). Students will acquire the necessary competence in the four language skills: listening, speaking, reading and writing, to use familiar words and simple phrases for concrete communication situations such as introduction of self, answering basic questions about home, family and surroundings. This course is restricted to students with little previous background in French and who have not completed grade 12 core French. Credit will be granted for only one of FREN 111 or FREN 110. Three credits and one-hour lab.

### 112 Basic University French II

This course is a continuation of FREN 111 and corresponds to level A2 of the Common European Framework of Reference for Languages (CEFR). Students will learn to understand and communicate during easy or habitual tasks and will understand isolated phrases and common expressions that relate to areas of high personal relevance (like personal or family information, shopping, immediate environment, work). This course is recommended for students with some background in French or who have completed grade 12 Core French. Credit will be granted for only one of FREN 112 or FREN 110. Three credits and one-hour lab.

Notes:

a) The department reserves the right to refuse admission to these courses to students whose knowledge of French is inadequate according to the department placement test.
b) FREN 111 and FREN 112 may not be used as credit toward a major, advanced major or honours degree. They may be used toward a minor or subsidiary in French, as part of a pair, or as electives.
c) Closed to students who have completed 200-level French courses or higher, as well as to students from French schools and French Immersion programs.

### 211 Intermediate French I

This course corresponds to level B1 of the Common European Framework of Reference for Languages (CEFR). Students will acquire the necessary competence in the four language skills: listening, speaking, reading and writing, and will be able to communicate with some confidence on matters related to his/her interests and professional field. Students will be able to express thoughts on more abstract, cultural topics such as films, books, music etc. Recommended for students who have completed high school French Immersion Program, have completed FREN 112 (with a grade of at least 60), or who are placed into the course through the placement test. Credit will be granted for only one of FREN 211 or FREN 115. Three credits and one-hour lab.

### 212 Intermediate French II

This course corresponds to level B1 of the Common European Framework of Reference for Languages (CEFR). Students will acquire the necessary competence to interact with fluency and spontaneity and produce detailed text on a wide range of subjects. Recommended for students who have a strong background in French, who have completed FREN 211, or who are placed into the course through the placement test. Credit will be granted for only one of FREN 212 or FREN 115. Three credits and one-hour lab.

### 225 (Français des affaires I) Business French I

An introduction to the language in which the French-speaking world conducts business. Students will acquire solid communication skills, including knowledge of specialized vocabulary. Practical drill in the language lab will familiarize students with commercial correspondence and professional telephone etiquette. Prerequisite: FREN 211(115) or permission of the department chair. Three credits.

### 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 francais en Europe

A history of French language and culture, starting with its Latin, Celtic and Germanic origins, and stressing the ethnic, political, social, technological factors that have helped shape the language down through the centuries. Specifically examined are the influence of such institutions as feudalism, the monarchy, the Church, the universities, print culture, the French Academy, colonialism and so forth. Credit will be granted for only one of FREN 253 or FREN 220. Prerequisite: FREN 212. Three credits.

### 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 or 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 271or FREN 216. Prerequisite: FREN 212. Three credits.

### 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 or FREN 216. Prerequisite: FREN 212. Three credits.

### 311 Advanced French I

This course corresponds to level B2 of the Common European Framework of Reference for languages (CEFR). This focus is on complex sentence structure, the use of the verb tenses and moods, as well as on expressions of cause and consequence. Emphasis will be place on language acquisition by means of text analysis, writing exercises (notably the structure of the résumé) and oral presentations. Credit will be granted for only one of FREN 311 or FREN 215. Prerequisite: FREN 212(115) or completion of French School, or an exceptional result on the placement test. Three credits.

### 312 Advanced French II

This course corresponds to the level B2 of the Common European Framework of Reference for languages (CEFR). The focus is on complex sentence structure, including the use of relative pronouns, active and passive voice structures, indirect discourse, terms of articulation, expressions of attenuation and restriction. Emphasis will be placed on language acquisition by means of text analyses, writing exercises (notably descriptive and argumentative texts) and oral presentations. Credit will be granted for only one of FREN 312 or FREN 215. Prerequisite: FREN 311 or permission of the department chair, or who are placed into the course through the placement test. Three credits.

### 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.

### 321 French Cinema

A study of France's unique contribution to the seventh art, starting with the Frères Lumières' moving pictures in 1895 and covering the history of French cinema. Emphasis will be placed on such masterpieces as *La Grande Illusion* and *Les Enfants du Paradis*. Prerequisite: FREN 212(115) or permission of the department chair. Three credits.

### 322 18th-Century French Theatre

An introduction to 18th-Century French theatre. This course focuses on the evolution of the field of theatre 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.

### 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.

### 327 French Writing I

An introduction to the techniques of composition through the study and practice of appropriate sentence structure. This course is designed to improve students' expression of complex thought and to familiarize them with the idiomatic use of French language in a variety of contexts. The course combines vocabulary enrichment, detailed analysis of texts and a variety of writing activities: descriptions, portraits, narrations, and correspondence. Emphasis is on describing and narrating. Prerequisite: 6 credits of FREN at the 200 level or permission of the department chair. Three credits.

### 329 Children's Literature

A critical survey of French children's literature. Authors to be studied include La Fontaine, Perrault, Ségur, Daudet, Cendrars, Aymé, Gripari, Sempé et Goscinny, PEF, Tournier. Prerequisites: 6 credits of FREN at the 200 level or permission of the department chair. Three credits.

### 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 currants 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.

### 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.

### 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.

### 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.

### 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.

### 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.

### 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.

### 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.

### 457 French Poetry from the Symbolist Movement to the Present
A study of major French poets beginning with the Symbolist Movement at the end of the 19th century and concluding with current trends in poetry. Authors include: Stéphane Mallarmé, Paul Valéry, Guillaume Apollinaire, Pierre Reverdy, Francis Ponge, Paul Claudel, Andre Breton, Henri Michaux, Francis Jammes, Blaise Cendrars, Jules Supervielle, Paul Eluard, René Char, and 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.

### 315 Selected Topics
The topic in 2022-2023 is Cultural Memory in Post-1945 Germany. This course examines cultures of remembrance in post-1945 Germany through a study of critical and literary texts, films, social media, the streaming of personal testimony, and autobiographical memory. It emphasizes the production of cultural memory and the impact this has had on the formation of national identity and belonging in post-war Germany. Prerequisite: Third year standing or with permission of the department. Three credits. Offered by Mount Allison University in the Maple League Program.

## MI'KMAQ

### 105 Mi'kmaq Language I
Using creative inquiry methodology and Indigenous pedagogy, this course introduces students to the various aspects of the Mi'kmaq language: phonetics, morphology, semantics, syntax, and language acquisition. Comparisons will be made between the seven districts of the Mi'kma'ki nations. Three credits.

### 205 Mi'kmaq Language II
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.

### 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.

### 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.

### 327 Spanish Language Cinema
This course, for advanced students, is an introduction to Spanish language films. It studies films and their language in a cultural, historical and geographic context. Essays, readings and film analysis are the main activities for this course. Students are advised that film screenings will be in addition to scheduled class time. Prerequisite: SPAN 222 or permission of the department chair. Three credits.

### 334 Spanish Composition
An intermediate to advanced level composition course designed for students with a working knowledge of the language. Students will improve their overall proficiency in written Spanish, be exposed to representative texts from the target culture appropriate to developing their critical reading and writing skills, attain a deeper understanding of the significant socio-cultural aspects of the Spanish-speaking world, and learn the necessary writing skills to be able to participate in higher level academic courses in Spanish. Required course for a minor in Spanish. Prerequisite: SPAN 222 or permission of the department chair. Three credits.

### 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.

### 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.

### 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.

### 498 Selected Topics
Three credits.

## 9.27 MUSIC (MUSI)
R. Billington, M.Mus.
K. Brunkhorst, M.Mus.
J. Hanlon, M.Mus.
K. Omae, MA
P. Rushka, D.Mus.
P. Tynan, M.Mus.

*Part Time*
B. Bannerman, BA
B. Colins, BA
C. Curry, M.Mus.
C. Greencorn, M.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 https://www.mystfx.ca/financial-services/

### Bachelor of Music
Typical Course Pattern:

| | |
|---|---|
| Year 1 | MUSI 104, 105, 108, 109, 146/156 or 147/157, 165, 166*, 181, 195, 265; 6 credits arts/science |
| Year 2 | MUSI 208, 209, 246/256 or 247/257, 281, 295; one from MUSI 117, 118, 119, 217, 219, 275, 312, 319; 9 credits arts/science and/or open electives |
| Year 3 | MUSI 235, 304, 346/356 or 347/357, 322, 323, 325, 381; 9 credits of arts/science and/or open electives |
| Year 4 | MUSI 395, 446/456 or 447/457, 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 104, 105, 108, 109, 146/156 or 147/157, 165, 166*, 181, 195, 265; 6 credits arts/science electives |
| Year 2 | MUSI 208, 209, 246/256 or 247/257, 235, 263, 276, 281, 295, 385; one from MUSI 117, 118, 119, 217, 219, 275, 312; 6 credits arts/science electives |

Year 3 MUSI 304, 346/356 or 347/357, 322, 323, 325, 381, 395; 9 credits arts/science and/or open electives
Year 4 MUSI 360, 446/456 or 447/457, 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:

a) MUSI 104, 105, 108, 109;
b) 18 credits from MUSI 112, 117, 118, 119, 165, 208, 209, 217, 235, 275, 276, 319, 322, 323, 385, 465;
c) 12 credits of performance courses from MUSI 146/156, 147/157, 166, 181, 195, 246/256, 247/257, 214, 281, 295, 346/356, 347/357, 446/456, 447/457;
d) A maximum of 15 credits at the 100-level (including MUSI 101, 103) are permitted in the major.
e) A minimum of 18 credits at the 300-400 level is required.

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 department chair: MUSI 104, 105, 108, 109, 146/156 or 147/157, 117, 118, 119, 165, 166, 208, 209, 246/256 or 247/257, 214, 217, 219, 275, 276, 312, 322, 323, 385, 465. Applied Music courses (x81, x95) are also permitted, but admission to those courses is by audition only.

### Pair in Music

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

### 104 Structure of Common Practice Music

This course covers the fundamentals and basic concepts of music theory and notation, including those of melody, harmony, and rhythm. Prior rudimentary experience with reading music (the staff, pitch, clefs, intervals, and rhythmic value subdivisions) is strongly recommended. Credit will be granted for only one of MUSI 104 and MUSI 101. To be taken concurrently with MUSI 105. 1.5 credits.

### 105 Aural Skills I

This course is the aural accompaniment to MUSI 104. Prior rudimentary experience with reading music (the staff, pitch, clefs, intervals, and rhythmic value subdivisions) is strongly recommended. Credit will be granted for only one of MUSI 105 and MUSI 101. To be taken concurrently with MUSI 104. 1.5 credits.

### 108 Jazz Theory

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 progressions. Credit will be granted for only one of MUSI 108 and MUSI 103. To be taken concurrently with MUSI 109. Prerequisite: MUSI 104 and 105 with a minimum grade of 60 in each. 1.5 credits.

### 109 Aural Skills II

This course is the aural accompaniment to MUSI 108. Credit will be granted for only one of MUSI 109 and MUSI 103. To be taken concurrently with MUSI 108. 1.5 credits.

### 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. May not be offered every term.

### 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. May not be offered every year.

### 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. May not be offered every year.

### 146 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. Credit will be granted for only one of MUSI 146 and MUSI 106. 1.5 credits.

### 147 Instrumental Ensembles I

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. Credit will be granted for only one of MUSI 147 and MUSI 107. Prerequisite: Successful audition held in the first week of September. 1.5 credits.

### 156 Vocal Ensemble II

A continuation of MUSI 146. Credit will be granted for only one of MUSI 156 and MUSI 106. Prerequisite: MUSI 146. 1.5 credits.

### 157 Instrumental Ensembles II

Continuation of MUSI 147. Credit will be granted for only one of MUSI 157 and MUSI 107. Prerequisite: MUSI 147. 1.5 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.

### 208 Jazz Theory and Arranging

A continuation of MUSI 108, this course introduces many devices used in small group arranging: writing intros, endings, background figures, voicing, and rhythm section parts. Credit will be granted for only one of MUSI 208 and MUSI 203. To be taken concurrently with MUSI 209. Prerequisites: MUSI 108, 109 with a minimum grade of 60 in each. 1.5 credits.

### 209 Aural Skills III

This course is the aural accompaniment to MUSI 208. Credit will be granted for only one of MUSI 209 and MUSI 203. Prerequisites: MUSI 108, 109 with a minimum grade of 60 in each. 1.5 credits.

### 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.

### 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.

### 246 Vocal Ensemble III
A continuation of MUSI 156. Credit will be granted for only one of MUSI 246 and MUSI 206. Prerequisite: MUSI 156. 1.5 credits.

### 247 Instrumental Ensembles III
A continuation of MUSI 157. Credit will be granted for only one of MUSI 247 and MUSI 207. Prerequisite: MUSI 157. 1.5 credits.

### 256 Vocal Ensemble IV
A continuation of MUSI 246. Credit will be granted for only one of MUSI 256 and MUSI 206. Prerequisite: MUSI 246. 1.5 credits.

### 257 Instrumental Ensembles IV
A continuation of MUSI 247. Credit will be granted for only one of MUSI 257 and MUSI 207. Prerequisite: MUSI 247. 1.5 credits.

### 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 Analysis
A course in the harmonic and rhythmic 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.

### 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. Credit will be granted for only one of MUSI 312 and MUSI 385 (offered from 2016-2018). Cross-listed as WMGS 312. Three credits.

### 319 Celtic Music
This course is an examination of traditional music from the six Celtic countries with emphasis on Scotland, Ireland, and Cape Breton, including Gaelic song, bagpipe, fiddle, and harp music. We will also explore the development of the "Celtic Music" genre in North America. Credit will be granted for only one of MUSI 319, MUSI 219 or CELT 253. Cross-listed as CELT 319. Three credits.

### 322 Western Art Music 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 Western Art Music 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 or 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.

### 346 Vocal Ensemble V
A continuation of MUSI 256. Credit will be granted for only one of MUSI 346 and MUSI 306. Prerequisite: MUSI 256. 1.5 credits.

### 347 Instrumental Ensembles V
A continuation of MUSI 257. Credit will be granted for only one of MUSI 347 and MUSI 307. Prerequisite: MUSI 257. 1.5 credits.

### 356 Vocal Ensemble VI
A continuation of MUSI 346. Credit will be granted for only one of MUSI 356 and MUSI 306. Prerequisite: MUSI 346. 1.5 credits.

### 357 Instrumental Ensembles VI
A continuation of MUSI 347. Credit will be granted for only one of MUSI 357 and MUSI 307. Prerequisite: MUSI 347. 1.5 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.

### 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.

### 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 or MUSI 420. Prerequisite: MUSI 304 with a minimum grade of 60. Three credits.

### 446 Vocal Ensemble VII
A continuation of MUSI 356. Credit will be granted for only one of MUSI 446 and MUSI 406. Prerequisite: MUSI 406. 1.5 credits.

### 447 Instrumental Ensembles VII
A continuation of MUSI 357. Credit will be granted for only one of MUSI 447 and MUSI 407. Prerequisite: MUSI 357. 1.5 credits.

### 456 Vocal Ensemble VIII
A continuation of MUSI 446. Credit will be granted for only one of MUSI 456 and MUSI 406. Prerequisite: MUSI 446. 1.5 credits.

### 457 Instrumental Ensembles VIII
A continuation of MUSI 447. Credit will be granted for only one of MUSI 457 and MUSI 407. Prerequisite: MUSI 447. 1.5 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 (NURS)

Faculty
M. Alex, MN, RN
M. Arnott, MN, RN
B. Benoit, Ph.D., RN
D. Delorey, M.Ad.Ed., RN
H. Helpard, Ph.D., RN
D. Halperin, Ph.D., RN
P. Hansen-Ketchum, Ph.D., RN
S. Hendra, MN, RN
C. MacDonald, Ph.D., RN
D. Mansell, MN, RN
E. McGibbon, Ph.D., RN
J. Purvis, MN, RN
H. Richardson, Ph.D., RN
D. Sheppard, RN, NP
J. van Wijlen, MN, RN

Nurse Educators
L. Burns, MN, RN
D. Cabrera, MN, RN
C. Chisholm, B.Sc.N., RN
D. Connolly, MN, RN
J. Daviau, B.Sc.N., RN
K. DeCoste, B.Sc.N., RN
A.M. Dobbin, M.Ed., RN
F. Dunbar, MN, RN
Y. Fraser, M.Ed., RN
A. Laybolt, B.Sc.N., RN
S. Livingston, B.Sc.N., RN
J. MacDonald, MN, 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
M. Ryan, MN, RN
C. Steele, B.Sc.N., 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 emphasizes on concepts and competencies 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 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:

a) The four-year option is completed over four academic years (Sep-Apr) and includes 8 semesters of study. This option primarily targets students entering from high school. During semesters 1 (Sep-Dec) and 2 (Jan-Apr), students 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.
b) The accelerated two-year option primarily targets students who have completed the university-level entrance requirements for nursing. Beginning in January, students 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.
c) The LPN to B.Sc.N. option is designed for licensed practical nurses with university-level entrance requirements. The LPN-B.Sc.N. program has a full-time on-campus stream and a part time online stream. The full time on-campus LPN-B.Sc.N. students join the accelerated option in semester 4 in May (refer to b) above. The part time online LPN-B.Sc.N. students begin the semester 4 courses in May via distance education.

### Progression Requirements
In 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 core non-nursing courses: BIOL 115, BIOL 151, BIOL 152, ENGL 111 and STAT 101.

In the LPN-BScN option, the bridging pathway includes 15 credits of: BIOL 115; ENGL 111; NURS 265; NURS 297; STAT 101.

a) In all subsequent semesters, students must complete all mandatory nursing courses in a semester to progress to the next semester of the program. Progression in the program requires a minimum grade of 65 in each nursing course (including on and off campus nursing electives).
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 with two course failures will be suspended 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 will be at the discretion of the Dean of Science in consultation with the Associate 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 will not be permitted to reapply for admission.

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

f) Students should expect to do make up missed nursing practice time. Extended absences for nursing practice are evaluated by the Associate Director, School of Nursing. Students should also expect to make up missed nursing practice time after exams and therefore not book other obligations until the end of the exam period.

g) Current certification in standard first aid and HCP or BLS (CPR) is required; see 1.4 all required documentation. Students in the nursing program are responsible for re-certification yearly as necessary.

h) Students are required to disclose to the Associate Director, School of Nursing, any criminal record, including child abuse, which has occurred after 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 Canadian Nurses Association's Code of Ethics for Registered Nurses, the Entry-Level Competencies for Registered Nurses (NSCN, 2020), the Standards of Practice for Registered Nurses (NSCN, 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 application of the StFX Rankin School of Nursing Academic Regulation for Students in Clinical Practice Settings, resulting in dismissal from the program. The StFX Rankin School of Nursing requires disclosure of the Vulnerable Sector/Criminal records check and reserves the right to deny entry to the program based on criminal record. Failure to provide 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. Prospective students are advised that the NSCN, the licensure body for nurses, also requires disclosure of the Vulnerable Sector/ Criminal records check prior to consideration for registration. Those considered a risk to others may not be considered for registration by the NSCN.

### 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 can 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: https://www.mystfx.ca/nursing/

### Costs

University fees are listed in section 2.1; however, additional 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 or BLS (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 submitted official proof of up-to-date immunization, Tuberculin Skin Testing, and other required documentation by the deadlines provided, will not be permitted to practice in a clinical area or progress in the program and will receive a charge of $150 to the student's account.

### B.Sc. in Nursing

Four-year program for direct from high school students

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

Two-year accelerated option for university students; full time; on campus
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 for LPN B.Sc.N. students; full time; on campus
Bridging pathway: BIOL 115; ENGL 111; NURS 265; NURS 297; STAT 101
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 for LPN B.Sc.N. students; part time; distance education
Bridging pathway: BIOL 115; ENGL 111; NURS 265; NURS 297; STAT 101
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

Students applying to transfer from the four- ear program to the accelerated program or from the accelerated to the four-year program are required to submit a change of program form by the second week of classes in January. Approvals are subject to available seats. Transferring into the accelerated program requires an average of 85 in semesters 3, 4 and 5 and completion of all electives. Transferring into the four-year program requires an average of 75 in semesters 3, 4 and 5.

### B.Sc. in Nursing with Advanced Major

*(Program option is not available in 2022-2023)*

Available for the four-year program and on-campus accelerated options. The normal sequence of courses is the same as above, except:

Semester 7: NURS 406, 408, 409, 499

### B.Sc. in Nursing with Honours

Available for the four-year program. The normal sequence of courses is the same as above, except:

Semester 6: NURS 332, 333, 334, 395
Semester 7: NURS 406, 408, 409, 498

### Nursing Core Courses

#### 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 requisite foundational 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. Supervised lab practice is a required component for all course modules. Prerequisite: Successful completion of all first-year courses. Six credits.

#### 208 Foundations of Health and Health Systems

Students gain a broad understanding of health and wellness and how they are created in society, with emphasis on the determinants of health and social justice. A focus is on the Canadian health care system and concepts of person-centred care, primary health care, cultural competence, critical thinking, and population health promotion including person-centred 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-centred 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 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 application. 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. A one hour weekly virtual clinical application review is a required component of the course. 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, psychiatric emergencies, and 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. Pass/Fail. 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. A one hour weekly virtual clinical application review is a required component of the course. 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. Pass/Fail. Three credits.

### 395 Honours Thesis Seminar I

This seminar course is devoted to the theoretical, methodological and ethical issues involved in preparing an honours thesis. Students attend regular weekly/biweekly research seminars and develop a research proposal in an area of health research of mutual interest to both the student and their supervisor. Restricted to B.Sc. in Nursing with Honours students in the four-year program. 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. Particular 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, focusing 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 interdisciplinary team to influence determinants of health and systems change. Prerequisites: Successful completion of all semester six courses. Three credits.

### 409 Exploratory Nursing Practice

In this integrated practice experience, students select a focused area of nursing from a variety of practice, policy, or research settings in order to integrate, refine and apply competencies in professional and ethical practice, theoretical and critical thinking, leadership and inter-professional collaboration, application of evidence-informed practice, and psychomotor skills. Efforts are made to place students in practice settings related to their concentrated area of study in nursing. Prerequisites: Successful completion of all semester six courses. Pass/Fail. 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 440 hours of clinical practice experience. Prerequisites: Successful completion of all semester seven courses. Fifteen credits.

## Nursing Electives

### 302 2SLBGTQ+ Health and Social Care

This course introduces students to health and social care challenges, and opportunities two-spirit, lesbian, gay, bisexual, transgender, queer ( 2SLBGTQ+) populations face across the life span. Students will work with theoretical concepts, current research, social determinants of health, legal/biomedical histories, alongside stories of 2SLBGTQ+ people/communities. Students will develop and propose strategies specific to improving health and wellness while strengthening their knowledge to address health disparities and improve this population's health and well-being. Cross-listed as WMGS 302. Prerequisites: Successful completion of all semester 4 courses. Three credits.

### 303 Indigenous Perspective of health and Healing

Disrupting the dominant settler narrative, this course centre Indigenous voices and epistemologies, as it explores the strength, resilience and innovation of Indigenous Peoples. Indigenous worldviews of wellness and (w)holistic conceptualizations of health are considered as we enter relational spaces in the context of equity informed healthcare. This course will be framed around the presence of Indigenous Elders/Knowledge Holders, culturally responsive pedagogies and grounded with opportunities for land-based and Treat informed learning. Three credits.

### 364 Social Justice and Health

Examines the relationship between injustice and health outcomes nationally and globally. Core social justice ideas are analyzed, including the cycle of oppression, distinctions between equality and equity, and achievement of human rights as an ethical imperative. Modern and historical contexts are explored in key justice related areas: corporatization of health care; policy-created poverty; worldwide water crisis; links between planetary health and human health; and global conflict as a key driver of injustice. Learning includes analysis of selected award-winning films. Cross listed with WMGS 364. Three credits.

### 365 Gender and Health

This course examines theoretical concepts relevant to gender and health. The broad determinants of health, sexuality, reproductive health and fertility, common diseases, substance abuse, violence and culture are examined from a gender perspective. Strategies for promoting holistic health and preventing disease will be examined. Cross-listed as WMGS 365. Three credits.

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, or 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.

### 498 Honours Thesis II

A continuation of NURS 395, students work under the supervision of a thesis supervisor to complete a research project based on the student's research proposal developed in NURS 395. Students will defend and submit a completed thesis ready for binding. The final thesis must demonstrate original work completed by the student. Prerequisite: NURS 395. 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 practice setting of the student's choice (within the limits of available resources). The student selects a faculty member or nurse educator advisor upon admission into the advanced major program. Restricted to students in the B.Sc. in Nursing with Advanced Major four-year program and on-campus accelerated options. Prerequisite: permission of the department chair. Three credits.

## Nursing Prerequisites for LPN-BSc.Nursing

### 265 The Registered Nurse and Evidence-Informed Practice

This is a required pathway course for LPNs who will be entering the BScN program. The course introduces students to theoretical knowing, ways of thinking and reasoning, inquiry and scholarship, and global health. Concepts of theory, critical thinking, clinical judgment, evidence-informed practice, population health promotion, culture, and vulnerability are covered. The focus is on a broad understanding of health and wellness and how they are created in society. Three credits.

### 297 Selected Topics

The topic for 2022-2023 is Transitioning to the Role of a Professional Registered Nurse. This is a required pathway course for LPNs who will be entering the BScN program. The focus of the course is to support student transition from LPN to a baccalaureate prepared RN. The course introduces students to a concept-based curriculum and foundational concepts of professional RN practice including role and responsibilities, professional RN identity, ethics, and legal issues. Topics include scope of practice, standards of nursing practice, code of ethics, entry-level competencies, role of the Nova Scotia College of Nursing (NSCN) and the Canadian Nurses Association (CNA). Students are introduced to concepts of collaboration, communication, relational practice, informatics, and leadership. Three credits.

## POST RN DISTANCE NURSING PROGRAM

Fred Allen, B.Sc.N., Program Co-ordinator

### B.Sc. in Nursing for Registered Nurses

The Post RN program is phasing out; there are no new admissions as of 2022. Registered nurses who are graduates of nursing diploma programs and already admitted to the program may complete distance education requirements 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. Students may take distance science courses 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, 161, 162
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, email distance.nursing@stfx.ca 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, email distance.nursing@stfx.ca or phone 902-867-5190 or 1-800-565-4371.

## Biology courses

### 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. Three credits and tutorial.

### 161 Human Anatomy and Physiology for Registered Nurses I

Using an integrated approach to the study of the integumentary, skeletal, muscular, nervous, and endocrine systems, this course provides students with an comprehensive working knowledge fo the anatomy and physiology of these systems. Three credits.

### 162 Human Anatomy and Physiology for Registered Nurses II

As an integrated study of the cardiovascular, respiratory, urinary, reproductive, and digestive systems, this course provides student with a comprehensive working knowledge of the anatomy and physiology of these systems. Prerequisite: BIOL 161. Three credits.

## Nursing Courses

### 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. It 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 or 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.

### 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 (PHIL)

D. Al-Maini, Ph.D.
S. Baldner, Ph.D.
L. Dunford, ABD
L. Groarke, Ph.D.
W. Sweet, Ph.D., D.Th., D.Ph., FRSC
M. Szlachta, Ph.D.

What is the purpose of human existence? How do we discover the principles which ought to guide our actions? Can we prove whether 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://www.mystfx.ca/philosophy/

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

### Minor Program

24 credits of PHIL.

### 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 6 credits must be in the history of philosophy, with at least 3 credits from the ancient or medieval periods and at least 3 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 planning to apply to law school. 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 306, 308, 321, 325, 335, 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 Thought

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 on 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 or 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 Love and the Emotions

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 231 or PHIL 230. Prerequisite: PHIL 100 or permission of instructor. Three credits. Offered 2022-2023 and in alternate years.

### 232 Philosophy of Mind and Consciousness

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 232 or PHIL 230. Prerequisite: PHIL 100 or permission of instructor. Three credits. Not offered 2022-2023.

### 245 Philosophy of Religion

Explores religion and religious faith, with emphasis on the Judeo-Christian tradition; concepts of God 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.

### 305 Philosophy and Feminism

This course explores the relationship between feminism and philosophy, and the ways in which feminism and philosophy have influenced one another. The first part considers the theoretical commitments of some major schools of feminist thought, their grounding in classical philosophy, and their explicitly feminist development of it. The second part discusses feminist examinations of the activity of philosophy itself, focusing on feminist analysis of the philosophical ideals of rationality and objectivity. Prerequisite: PHIL 100 or junior standing or permission of the instructor. Three credits. Not offered 2022-2023; next offered 2023-2024.

### 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.

### 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 assisted death; 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 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. Not offered 2022-2023; next offered 2023-2024.

### 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. Offered 2022-2023 and in alternate years.

### 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. Offered 2022-2023 and in alternate years.

### 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. Not offered 2022-2023; next offered 2023-2024.

### 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. Not offered 2022-2023; next offered 2023-2024.

### 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. Offered 2022-2023 and in alternate years.

### 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. Offered 2022-2023 and in alternate years.

### 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 2022-2023.

### 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 2022-2023.

### 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. Not offered 2022-2023; next offered 2023-2024.

### 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. Not offered 2022-2023; next offered 2023-2024.

### 391 Mind, Logic and Language

Presents some of the major currents of philosophy in the English-speaking world in the 20th century. 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, Ludwig Wittgenstein, A.J. Ayer, and Karl Popper), and the beginnings of 'ordinary language' philosophy. Credit will be granted for only one of PHIL 391 or PHIL 461 in 2017-2018. Prerequisite: PHIL 100 or permission of the instructor; junior standing strongly recommended. Three credits.

### 451 Seminar in Ethics, Political Philosophy, and the Philosophy of Law I

A seminar course that focuses on questions of ethics, political philosophy, and the philosophy of law. 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. Prerequisite: Junior standing in philosophy or political science or permission of the instructor. Three credits. Not offered 2022-2023.

### 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.

### 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. Credit will be granted for only one of PHIL 461 or

PHIL 391 in 2017-2018. 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. Not offered 2022-2023.

### 490 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. Credit will be granted for only one of PHIL 490 and PHIL 489. Restricted to honours students. Six credits.

## 9.30 PHYSICS (PHYS)

H. Ahmed, Ph.D.
C. Adams, Ph.D.
M. Baker, Ph.D.
K. Le Bris, 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 biology, chemistry, computer science, Earth sciences, economics or mathematics; 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 https://www.mystfx.ca/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 |
| 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), 494(no credit); 6 credits PHYS electives; 6 credits arts electives; 12 credits open electives |

### Honours Program

The typical program outlined below may be varied with approval of the chair.

| | |
|---|---|
| Year 1 | Same as major program |
| Year 2 | PHYS 201, 221, 241, 242; MATH 253, 254, 267, 367; CSCI 161 or ENGR 147; 3 credits arts 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, 483, 491 (no credit), 493; four of 223, 303, 425*, 444*, 475*, 476* (*choice must include at least 2 marked); MATH 481 or 462; 3 credits arts electives. |

### Minor Program

Physics can be combined as a minor with almost every other subject in science, arts and business. Conversely, most subjects in science and some in arts can be a minor with physics as major subject. For details, see section 4.1.2, 5.1.3(b) and 7.1.3. A minor in physics consists of 24 credits of physics courses. Any 24 credits will be acceptable, except that PHYS 171 and 172 cannot be used for a minor in physics as part of a B.Sc. program. We recommend the following courses.

a) For students with knowledge of calculus: PHYS 121, 122, 201, 202, 241, 242, 250, 271, 272, 278, 302, 303, 322, 325, 343, 344.
b) For B.Sc. students with little knowledge of calculus: PHYS 101, 102, 202, 250, 271, 272, 278, and special topic courses 297, 298, 299.
c) For students in programs other than a B.Sc.: PHYS 101, 102, 171, 172, 202, 250, 278, and special topic courses 297, 298, 299.

### Pair

A pair is a program option in the Faculty of Arts and consists of 12 credits in one subject, with at least 6 credits at the 200-level or higher. The following courses are recommended for a pair in physics: PHYS 101, 102, 171, 172, 202, 250, and special topic courses 297, 298, 299.

### 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 or PHYS 100. 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, computer science, engineering, and mathematics. 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, computer science, engineering, and mathematics. MATH 107 or 122 should be taken concurrently. Credit will be granted for only one of PHYS 122 or PHYS 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; MATH 107 or 127 or ENGR 122/MATH 122. Three credits and lab.

### 202 Relativity and Quantum Mechanics: Black Holes, Entanglement, and More

Many technological devices, such as GPS and computer chips, function thanks to Quantum Physics and Relativity. Interestingly however, concepts inherent in these fields often defy expectations of how we think about basic things like time or space. This course will explore concepts such as warp drive, twin paradox, space-time curvature, black holes, gravitational waves, quantum teleportation, quantum "mind-control" over matter, and quantum computers. Prerequisite: Grade 10 math recommend. Three credits.

### 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; MATH 107 or 127 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. 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; MATH 107 or 127) 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; MATH 107 or 127 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.

### 250 Medical Imaging

The course examines the fundamental principles of medical imaging (radiography, CT, ultrasound, MRI, emission tomography, etc.). The basic physical concepts behind the interactions of light with matter, the production of X-rays and radioactivity will be introduced. Technical parameters important to all forms of diagnostic imaging such as image quality and data processing will be addressed. Credit will be granted for only one of PHYS 250 or PHYS 297(2019-2020). Three credits.

### 271 Astronomy: The Solar System

This course provides a quantitative and more detailed treatment of the topics covered in PHYS 171. These topics include the evolution of the solar system, sun, planets, comets, meteors, and solar wind. Observing sessions will be arranged. Credit will be granted for only one of PHYS 271 or PHYS 171. Prerequisites: PHYS 101 or 121; MATH 107 or 127; PHYS 122 recommended. Three credits.

### 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 or 121; MATH 107 or 127; PHYS 122 recommended. 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 ESCI 278. Prerequisites: MATH 107 or 122 or 127; CHEM 101/102(100) or 120, and one pair of PHYS 101/102, 121/122. Three credits. Not offered 2022-2023.

### 299 Selected Topics

The topic for 2022-2023 is Nuclear and Radiation Technologies. An introduction to the science of nuclear and radiation technologies. Topics covered include: atoms and the atomic nucleus; radiation sources and their interactions with matter; radionuclides and their applications; radiation effects on biological systems, safety measures and the instruments used in medical radiation applications. Prerequisites: PHYS 122; MATH 107 or 127 or ENGR 122/MATH 122. Three credits.

### 302 Modern Physics: Properties of Matter

This course considers the properties of matter in its various states of greater and lesser order. Topics include classical thermodynamic treatment of phase transitions; an introduction to fluid mechanics; crystallographic order in crystals; elasticity; magnetic order; electrons in metals; and electrical resistance. Prerequisites: PHYS 201, 241. Three credits and lab.

### 303 Modern Physics: Subatomic Physics and Cosmology

Topics include nuclei; elementary particles; concepts of general relativity; cosmology. Prerequisite: PHYS 201. Three credits.

### 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; MATH 267 or ENGR 222/MATH 222; PHYS 241 or MATH 361. Three credits. Not offered 2022-2023.

### 323 Electronics

An introduction to electronic devices and circuits. Devices and topics discussed include equivalent circuits, diodes, bipolar junction transistors, field effect transistors, linear models, single-stage amplifiers, operational amplifiers, and digital circuits. Prerequisites: PHYS 221/ENGR 237; ENGR 221/MATH 221 or MATH 367. Three credits and lab.

### 325 Optics

Topics include the nature of light; geometric optics, aberrations, optical instruments; Maxwell's equations, vector nature of light, polarization; coherence and interference; Fourier transform spectroscopy and interferometry; Fraunhofer diffraction, Fresnel diffraction; optics of solids. Prerequisites: PHYS 201, 241; ENGR 221/MATH 221 or MATH 367. Three credits and lab.

### 343 Quantum Mechanics I
Covers states as vectors, measurable quantities as operators in a linear vector space, eigenstates and eigenvalues; the process of measurement, superposition of eigenstates; Schrödinger's equation; orbital and spin angular momentum; time-independent perturbation theory, applications. Prerequisites: PHYS 201, 242; MATH 254, 267 or ENGR/MATH 223. Three credits.

### 344 Thermal Physics
This course introduces the statistical nature of physical systems from an energetic perspective. Topics covered: laws of thermodynamics; ideal gases and Einstein solids; entropy and its relation with temperature, pressure, and chemical potential; engines and refrigerators; Helmholtz and Gibbs free energy; chemical thermodynamics; Boltzmann statistics; partition functions; Maxwell distribution; Gibbs factors and quantum statistics; Fermi-Dirac and Bose-Einstein distributions; degenerate electron gases; blackbody radiation and Planck's distribution; Debye theory of solids. Prerequisites: PHYS 242; CSCI 161 or ENGR 144. Three credits and lab. Not offered 2022-2023.

### 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. Not offered 2022-2023.

### 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.

### 443 Quantum Mechanics II
Topics include function space analysis; state vectors, pure and non-pure states described by density operators; unitary and antiunitary transformations, symmetries and group theory in quantum mechanics; Schrödinger, Heisenberg, and interaction pictures; angular momentum coupling, tensor operators, the Wigner-Eckart theorem; time-dependent perturbation theory, variational approach; scattering theory with applications to modern physics. Prerequisite: PHYS 343. Three credits.

### 444 Statistical Mechanics
This 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. Not offered 2022-2023.

### 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 122; MATH 107/127 or 122; CSCI 161 or ENGR 144. Three credits and lab.

### 475 Atomic and Molecular Physics
Covers the development of atomic physics; one-electron and multi-electron atoms; fine and hyperfine structure; radiation and radiative transitions; the Pauli principle and atomic shell structure; atomic spectroscopy. Also covers a selection of current areas of research in the field such as lasers, laser cooling, and quantum computing. Prerequisite: PHYS 343. Three credits and lab.

### 476 Solid-State Physics
An introduction to the theory of solids and important experimental results. Topics include crystal structure; diffraction methods; lattice vibrations; specific heat of solids; thermal conductivity; the behaviour of electrons in metals and semiconductors; magnetism; superconductivity. Prerequisites: PHYS 201, 302, 344. Three credits and lab. Not offered 2022-2023.

### 483 Honours Thesis I
Students will prepare and present a proposal for a thesis, describing a project of original research they intend to perform under the supervision of a faculty member. Required for honours students with physics as science A. Three credits.

### 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 II
Students will prepare and present a complete thesis based on original research they have performed under the supervision of a faculty member. Required for honours students with physics as science A. Three credits.

### 494 Advanced Major Project
Students will prepare and present a report based on a project they have performed under the supervision of a faculty member. Required for advanced major students. No credit.

## 9.31 POLITICAL SCIENCE (PSCI)

D. Abelson, Ph.D.
N. Allen, Ph.D.
J. Bickerton, Ph.D.
Y. Cho, Ph.D.
Y. Grenier, Ph.D.
J. Levin, Ph.D.
I. Shoikhedbrod, Ph.D
L. Stan, Ph.D.
R. Wallace, 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 concentration in ethics, politics and law. 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:
a) PSCI 101 and 102
b) 6 credits at the 200 level
c) 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:
a) PSCI 101 and 102
b) 9 credits from PSCI 201, 202, 211, 212, 221, 222, 251, 252
c) 18 credits at the 300 level or above, including PSCI 397 or 399
d) 3 additional credits at the 200 level or above

### Advanced Major and Joint Advanced Major Programs
36 credits of PSCI required, including:
a) PSCI 101 and 102
b) 9 credits from PSCI 201, 202, 211, 212, 221, 222, 251, 252
c) 18 credits at the 300 level or above, including PSCI 397 or 399 and 6 credits of 400-level seminars
d) Advanced major paper in a 400-level seminar
e) 3 additional credits at the 200 level or above

### Honours Program
60 credits of PSCI required, including:
a) PSCI 101 and 102
b) 12 credits from PSCI 201, 202, 211, 212, 221, 222, 251, 252
c) 24 credits at the 300 level or above, including PSCI 397 and 399, 6 credits of 400-level seminars, and honours thesis (PSCI 490)
d) 18 additional credits at the 200 level or above

### Honours with a Subsidiary Subject
48 credits of PSCI required, including:
a) PSCI 101 and 102
b) 12 credits from PSCI 201, 202, 211, 212, 221, 222, 251, 252
c) 24 credits at the 300 level or above, including PSCI 397 and 399, 6 credits of 400-level seminars, and honours thesis (PSCI 490)
d) 6 additional credits at the 200 level or above

## Optional Concentrations

### Concentration in Political Theory

For majors and joint majors, 18 credits of political theory required, including:
a) PSCI 201 and 202
b) 12 credits from PSCI 301, 303, 306, 308, 401

For advanced majors and joint advanced majors, 18 credits of political theory required, including:
a) PSCI 201 and 202
b) 9 credits from PSCI 301, 303, 306, 308
c) PSCI 401
d) Advanced major paper in PSCI 401

For honours and honours with a subsidiary, 24 credits of political theory required, including:
a) PSCI 201 and 202
b) 9 credits from PSCI 301, 303, 306, 308
c) PSCI 401
d) Honours thesis (PSCI 490) in political theory

### Concentration in Canadian Politics

For majors and joint majors, 18 credits of Canadian politics required, including:
a) PSCI 221 and 222
b) 12 credits from PSCI 321, 322, 323, 324, 325, 326, 343, 344, 351, 421

For advanced majors and joint advanced majors, 18 credits of Canadian politics required, including:
a) PSCI 221 and 222
b) 9 credits from PSCI 321, 322, 323, 324, 325, 326, 343, 344, and 351
c) PSCI 421
d) Advanced major paper in PSCI 421

For honours and honours with a subsidiary, 24 credits of Canadian politics required, including:
a) PSCI 221 and 222
b) 9 credits from PSCI 321, 322, 323, 324, 325, 326, 343, 344, 351
c) PSCI 421
d) Honours thesis (PSCI 490) in Canadian politics

### Concentration in Comparative Politics

For majors and joint majors, 18 credits of comparative politics required, including:
a) PSCI 211 and 212
b) 12 credits from PSCI 312, 314, 315, 316, 331, 335, 336, 345, 365, 371, 372, 373, 391, 395, 452

For advanced majors and joint advanced majors, 18 credits of comparative politics required, including:
a) PSCI 211 and 212
b) 9 credits from PSCI 312, 314, 315, 316, 331, 335, 336, 345, 365, 371, 372, 373, 391, 395
c) PSCI 452
d) Advanced major paper in PSCI 452

For honours and honours with a subsidiary, 24 credits of comparative politics required, including:
a) PSCI 211 and 212
b) 9 credits from PSCI 312, 314, 315, 316, 331, 335, 336, 345, 365, 371, 372, 373, 391, 395
c) PSCI 452
d) Honours thesis (PSCI 490) in comparative politics

### Concentration in International Relations

For majors and joint majors, 18 credits of international relations required, including:
a) PSCI 251 and 252
b) 12 credits from PSCI 311, 351, 352, 353, 354, 355, 356, 357, 358, 359, 363, 364, 451

For advanced majors and joint advanced majors, 18 credits of international relations required, including:
a) PSCI 251 and 252
b) 9 credits from PSCI 311, 351, 352, 353, 354, 355, 356, 357, 358, 359, 363, 364
c) PSCI 451
d) Advanced major paper in PSCI 451

For honours and honours with a subsidiary, 24 credits of international relations required, including:
a) PSCI 251 and 252
b) 9 credits from PSCI 311, 351, 352, 353, 354, 355, 356, 357, 358, 359, 363, 364
c) PSCI 451
d) Honours thesis (PSCI 490) in international relations

### Concentration in Ethics, Politics, and Law

This 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 credit requirements of both departments, including:
a) 15 credits from PSCI 306, 308, 321, 325, 335, 343, 344, 353
b) PHIL 251, 331, 372
c) 3 credits from PHIL 201, 202, 371

## CONCENTRATION DESIGNATED COURSES

Courses are three credits.

Political Theory

| | |
|---|---|
| PSCI 201 | Ancient & Medieval Political Thought |
| PSCI 202 | Modern Political Thought |
| PSCI 301 | Liberalism and Its Critics |
| PSCI 303 | Contemporary Political Arguments |
| PSCI 306 | Theory and Politics of Human Rights |
| PSCI 308 | Global Justice |
| PSCI 401 | Political Theory Seminar |

Canadian Politics

| | |
|---|---|
| PSCI 221 | Canadian Political Institutions |
| PSCI 222 | Canadian Politics and Society |
| PSCI 321 | Federalism and Intergovernmental Relations |
| PSCI 322 | Atlantic Canada |
| PSCI 323 | Parties and Elections |
| PSCI 324 | Provincial Politics |
| PSCI 325 | Indigenous Politics in Canada |
| PSCI 326 | Politics of Resentment in Canada |
| PSCI 343 | Law and Politics |
| PSCI 344 | Citizenship, Identity and Diversity |
| PSCI 351 | Canadian Foreign Policy |
| PSCI 421 | Canadian Politics Seminar |

Comparative Politics

| | |
|---|---|
| PSCI 211 | Comparative Politics of Western Democracies |
| PSCI 212 | Comparative Politics of Non-Western & Developing Countries |
| PSCI 312 | Art and Politics |
| PSCI 314 | Topics in European Politics |
| PSCI 315 | Democratization around the World |
| PSCI 316 | Dictatorships |
| PSCI 331 | Comparative Nationalism |
| PSCI 335 | Human Rights and International Justice |
| PSCI 336 | Religion and Politics |
| PSCI 345 | Women and Politics |
| PSCI 365 | Russian Politics |
| PSCI 371 | Political Economy of Development |
| PSCI 372 | Politics in the Muslim World |
| PSCI 391 | Latin American Politics and Government |
| PSCI 395 | Mexican Politics |
| PSCI 452 | Comparative Politics Seminar |

International Relations

| | |
|---|---|
| PSCI 251 | Foundations of Global Politics |
| PSCI 252 | Contemporary Global Politics |
| PSCI 308 | Global Justice |
| PSCI 311 | European Union |
| PSCI 351 | Canadian Foreign Policy |
| PSCI 352 | American Foreign Policy |
| PSCI 353 | International Organizations |
| PSCI 354 | Global Political Economy |
| PSCI 355 | Global Issues |
| PSCI 356 | Arab-Israeli Conflict |
| PSCI 357 | Model United Nations |
| PSCI 358 | International Security |
| PSCI 359 | Unconventional Warfare and New Security Threats |
| PSCI 363 | International Relations of East Asia |
| PSCI 364 | Fault Lines in Israel/Palestine |
| PSCI 451 | International Relations Seminar |

Ethics, Politics, and Law
PSCI 306 Theory and Politics of Human Rights
PSCI 308 Global Justice
PSCI 321 Federalism and Intergovernmental Relations
PSCI 325 Indigenous Politics in Canada
PSCI 335 Human Rights and International Justice
PSCI 343 Law and Politics
PSCI 344 Citizenship, Identity and Diversity
PSCI 353 International Organizations

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 Thought
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. 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. Three credits.

### 211 Comparative Politics of Western Democracies
This course covers 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 political institutions, culture, and policies are similar or closely related to Canada's. These countries may include Great Britain, France, Germany, the United States, Sweden, or Australia, among others. Credit will be granted for only one of PSCI 211 or PSCI 210. Prerequisites: PSCI 101, 102. Three credits.

### 212 Comparative Politics of Non-Western and Developing Countries
This course covers 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 political institutions, culture, policies 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. Three credits.

### 221 Canadian Political 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. Three credits.

### 222 Canadian Politics and Society
This course will focus on the Canadian political environment and cover the cultural, social, and regional context of how citizens interact with the Canadian state. Topics covered include political parties, elections, interest groups, social movements, and the implications for the political process of key social divisions such as gender, language, and race. Language politics, multiculturalism, the women's movement, and Indigenous peoples will receive attention. The course concludes with a discussion of Canada's global affairs. Credit will be granted for only one of PSCI 222 or 220. Prerequisites: PSCI 101, 102. 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. 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. Three credits.

### 251 Foundations of Global Politics
This course examines 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 or PSCI 250. Prerequisites: PSCI 101, 102. 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 or PSCI 250. Prerequisites: PSCI 101, 102. 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. 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 and 6 credits of PSCI at the 200 level (201/202 recommended). Three credits. Offered 2022-2023 and in alternate years.

### 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 and 6 credits of PSCI at the 200 level (201/202 recommended). Three credits. Offered 2022-2023 and in alternate years.

### 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 and 6 credits of PSCI at the 200 level (201/202 recommended). Three credits. Not offered 2022-2023.

### 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. Credit will be granted for only one of PSCI 308 or PSCI 394 (2018-2019). Prerequisites: PSCI 101, 102 and 6 credits of PSCI at the 200 level (201/202 recommended). Three credits. Offered 2022-2023 and in alternate years.

### 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 and 6 credits of PSCI

at the 200 level (251/252 recommended). Three credits. Offered 2022-2023 and in alternate years.

### 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 and 6 credits of PSCI at the 200 level (211/212 recommended). Three credits. Not offered 2022-2023.

### 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 and 6 credits of PSCI at the 200 level (211/212 recommended). Three credits. Not offered 2022-2023.

### 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 and 6 credits of PSCI at the 200 level (211/212 recommended). Three credits. Offered 2022-2023 and in alternate years.

### 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 and 6 credits of PSCI at the 200 level (211/212 recommended). Three credits. Offered 2022-2023 and in alternate years.

### 318 Power and the State

The state is a central concept within the social sciences and one of the most significant sources of power in the modern world. Despite this, states today appear increasingly in crisis, with their very legitimacy questioned. In this course, we will explore the development of the modern state in order to better understand our present. Topics include: the power of disinformation; surveillance; Trump; and Black Lives Matter. The course concludes with a reflection on democracy. Cross-listed as SOCI 309. Prerequisites: PSCI 101, 102 and 6 credits of PSCI at the 200 level (211/212 recommended). Three credits. Offered 2022-2023 and in alternate years.

### 321 Federalism and Intergovernmental Relations

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. Cross-listed as PGOV 321. Prerequisites: PSCI 101, 102 and 6 credits of PSCI at the 200 level (221/222 recommended). Three credits. Not offered 2022-2023.

### 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 and 6 credits of PSCI at the 200 level (221/222 recommended). Three credits. Not offered 2022-2023.

### 323 Parties and Elections

This course is concerned with parties and elections in Canada. Topics include comparative party and electoral systems; the evolution of the Canadian party system; party leadership and financing; the electoral system; brokerage politics and political marketing election campaigns and voting behaviour. Prerequisites: PSCI 101, 102 and 6 credits of PSCI at the 200 level (221/222 recommended). Three credits. Offered 2022-2023 and in alternate years.

### 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 and 6 credits of PSCI at the 200 level (221/222 recommended). Three credits. Offered 2022-2023 and in alternate years.

### 325 Indigenous Politics in Canada

As an introduction to Indigenous politics and governance in Canada, this course will cover the history of Indigenous-Crown relations, the political mobilization of Indigenous peoples, the constitutional entrenchment of their rights, key court decisions and political struggles; and governance challenges in the modern 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 various forms of self-government. Prerequisites: PSCI 101, 102 and 6 credits of PSCI at the 200 level (221/222 recommended). Three credits. Not offered 2022-2023.

### 326 Politics of Resentment in Canada

This course examines the politics of resentment in Canada, focusing on intergroup conflict and divisions within the Canadian federation. The course will explore the major “fault lines” that shape Canadian politics, including tensions regarding language, regionalism, race and immigration, Indigenous relations, and gender equality. We will also assess how Canadian political institutions—including the electoral system, party system, courts, media, and more—respond and/or contribute to such tensions. Credit will be granted for only one of PSCI 326 or PSCI 392 (2021-2022). Prerequisites: PSCI 101, 102 and 6 credits of PSCI at the 200 level (221/222 recommended). Three credits. Not offered in 2022-2023.

### 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 and 6 credits of PSCI at the 200 level (211/212 recommended). Three credits. Not offered 2022-2023.

### 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 and 6 credits of PSCI at the 200 level (211/212 recommended). Three credits. Offered 2022-2023 and in alternate years.

### 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 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 and Freedoms; the judicialization of politics; philosophy of law; and strategic litigation. Prerequisites: PSCI 101, 102 and 6 credits of PSCI at the 200 level (221/222 recommended). Three credits. Offered 2022-2023 and in alternate years.

### 344 Citizenship, Identity and Diversity

This course examines various aspects of Canadian citizenship, with a particular focus on the accommodation of diversity. Topics include citizenship theory, the evolution of the Canadian citizenship regime, majority and minority nationalisms, Indigenous citizenship, gender and sexual minorities, and multiculturalism. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200 level (221/222 recommended). Three credits. Offered 2022-2023 and in alternate years.

### 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 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 and 6 credits of PSCI at the 200 level (251/252 recommended). Three credits. Not offered 2022-2023.

### 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 and 6 credits of PSCI at the 200 level (251/252 recommended). Three credits. Offered 2022-2023 and in alternate years.

### 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 and 6 credits of PSCI at the 200 level (251/252 recommended). Three credits. Not offered 2022-2023.

### 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 and 6 credits of PSCI at the 200 level (251/252 recommended).Three credits. Offered 2022-2023 and in alternate years.

### 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 and 6 credits of PSCI at the 200 level (251/252 recommended). Three credits. Not offered 2022-2023.

### 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 and 6 credits of PSCI at the 200 level (251/252 recommended). Three credits. Not offered 2022-2023.

### 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 (2014-2015, 2016-2017). Prerequisites: PSCI 101, 102 and 6 credits of PSCI at the 200 level (251/252 recommended). Three credits. Not offered 2022-2023.

### 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 (2018-2019), 394 (2017-2018), or 392 (2016-2017). Prerequisites: PSCI 101, 102 and 6 credits of PSCI at the 200 level (251/252 recommended). Three credits. Offered 2022-2023 and in alternate years.

### 359 Unconventional Warfare & New Security Threats
Since the end of the Cold War, and especially since September 11, 2001, new security issues have proliferated in the international arena, including espionage, transnational terrorism, guerrilla warfare, insurgency, and electronic warfare. The course begins by defining these phenomena conceptually and explores how they have been used strategically as means to an end. Credit will be granted for only one of PSCI 359 or PSCI 394 (2019-2020). Prerequisites: PSCI 101, 102 and 6 credits of PSCI at the 200 level (251/252 recommended). Three credits. Not offered 2022-2023.

### 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 Koreas, 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 and 6 credits of PSCI at the 200 level (251/252 recommended). Three credits. Not offered 2022-2023.

### 364 Fault Lines in Israel/Palestine
This course is a companion to PSCI 356. It will be conducted on-the-ground in Israel and the Palestinian Territories over a 10-12 day period. The course aims to foster understanding, empathy, and a nuanced analysis of Israeli and Palestinian politics and culture using a mixed-methods format (formal lectures and seminar discussions, guided tours of relevant sites, meetings with Israeli and Palestinian cultural figures, policy makers, activists, and academics, and informal encounters). Prerequisites: PSCI 101, 102 and 6 credits of PSCI at the 200 level (251/252 recommended). Three credits. Offered 2022-2023 and in alternate years.

### 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 and 6 credits of PSCI at the 200 level (211/212 recommended). Three credits. Offered 2022-2023 and in alternate years.

### 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 and 6 credits of PSCI at the 200 level (211/212 recommended). Three credits. Not offered 2022-2023.

### 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 and 6 credits of PSCI at the 200 level (211/212 recommended). Three credits. Not offered 2022-2023.

### 391 Latin American Politics and Government
This course offers a comparative analysis of governments, political processes, and policies in Latin America. It focuses on countries such as Argentina, Brazil, Chile, Costa Rica, Cuba, El Salvador, Mexico, Peru, and Venezuela. Credit will be granted for only one of PSCI 391 or PSCI 390. Prerequisites: PSCI 101, 102 and 6 credits of PSCI at the 200 level (211/212 recommended). Three credits. Not offered 2022-2023.

### 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 and 6 credits of PSCI at the 200 level (211/212 recommended). Three credits. Not offered 2022-2023.

### 397 Research Design in Political Science
This course is all about asking interesting questions in political science and then coming up with ways to answer these questions. We will introduce the concept of variance and causality, units of analysis, and strategies for case selection. At the end of the course, students will be able to formulate research questions, generate a research design, and discuss a range of methodological approaches that can be used to explore the world of politics. Cross-listed as PGOV 304. Credit will be granted for only one of PSCI 397 or PSCI 399 offered up until 2019-2020. Prerequisites: PSCI 101, 102 and 6 credits of PSCI at the 200 level. Three credits.

### 399 Quantitative Research Methods
This course introduces students to the use of quantitative analysis in political science. While studying the logic of statistical inference, students will learn practical skills, including survey questionnaire design, dataset management, and data presentation. By the end of the course students will be able to critically assess quantitative research and apply quantitative tools to pursue their own research

questions. Cross-listed as PGOV 303. Prerequisites: PSCI 101, 102 and 6 credits of PSCI at the 200 level. Three credits. Not offered 2022-2023.

### 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 and 6 credits of PSCI at the 200 level (201/202 recommended). Three credits. Not offered 2022-2023.

### 421 Canadian Politics (Seminar)
This seminar deals with the analysis of power in Canadian politics, through the study of selected institutions, policy fields, and governance challenges. Prerequisites: PSCI 101, 102 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, 251, 252. 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 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 (PSYC)

E. Austen, Ph.D.
L. Berrigan, Ph.D.
K. Brebner, Ph.D.
T. Callaghan, Ph.D.
E. Koch, Ph.D.
C. Lomore, Ph.D.
E. Mazerole, Ph.D.
P. McCormick, Ph.D.
J. McKenna, Ph.D.
K. Thompson, Ph.D.
M. Watt, Ph.D.
A. Weaver, Ph.D.

Professor Emeritus
G.P. Brooks, Ph.D.
K.C. den Heyer, Ph.D.
J. Edwards, Ph.D.
P. Henke, Ph.D.
R.W. Johnson, Ph.D.

### Minor Program
24 credits of PSYC.

### BA and B.Sc. Major Program
Candidates must follow the degree regulations in chapters 4 and 7 and complete:
a) PSYC 101, 102
b) PSYC 291, 292; one of PSYC 210, 220, 225 or 230
c) 12 PSYC credits at the 300 or 400 level; and
d) 6 additional PSYC credits

Students contemplating pursuing an 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:
a) PSYC 101, 102; one of PSYC 210, 220, 225 or 230; PSYC 291, 292, 301, 302, 394;
b) 6 credits at the 400 level
c) PSYC 391, 491 (non-credit) and PSYC 490

### Psychology as a Subsidiary Subject
If psychology is selected as a subsidiary subject by an honours student in the BA program, 24 PSYC credits are required. These credits must include PSYC 301, 302.

### B.Sc. Programs
Candidates must follow the degree regulations in chapter 7 and should note the following:
a) PSYC courses are considered science courses only when they are taken as part of a major or honours subject in the B.Sc. program
b) B.Sc. major program must include BIOL 111, 112; MATH 106 or 126, 107 or 127, and 12 additional credits in science courses (excluding PSYC)
c) B.Sc. 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)
d) 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.

### Applied Forensic Psychology
Degrees offered:
B.A in Applied Forensic Psychology
B.A. Honours in Applied Forensic Psychology
B.Sc. in Applied Forensic Psychology
B.Sc. Honours in Applied Forensic Psychology

### BA and B.Sc. Major in Applied Forensic Psychology Program
Candidates must follow the degree regulation in chapters 4 and 7 and complete:
a) PSYC 101, 102, 110
b) PSYC 257, 291, 292; one of PSYC 210, 220, 225 or 230
c) PSYC 356, 376, 379, 381, 382, 457; one of PSYC 364, 365, 367, 368, 372, 373, 378.

### BA and B.Sc. Honours in Applied Forensic Psychology Program
Candidates must follow the degree regulation in chapters 4 and 7 and complete:
a) PSYC 101, 102, 110; one of PSYC 210, 220, 225 or 230; PSYC 257, 291, 292, 301, 302, 356, 394; one of 364, 365, 367, 368, 372, 373, 378; PSYC 376, 379, 381, 382
b) PSYC 457, 3 credits at the 400 level
c) PSYC 391, 491 (non-credit) and PSYC 490

### Concentration in Forensic Psychology
Students enroled in the Bachelor of Arts may apply in their sophomore year to concentrate their psychology degree in forensic psychology. In the second year, applicants must take PSYC 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 101 and 102 are prerequisites for all other psychology courses except PSYC 394.

### 101 Introduction to Psychology as a Natural Science
Topics include research methodology, neuroscience, consciousness, sensation and perception, learning, memory, and cognition. Students have an opportunity to be involved with ongoing research in the department by participating in experiments during the course of the academic term. Credit will be granted for only one of PSYC 101 or PSYC 100. Three credits.

### 102 Introduction to Psychology as a Social Science and Profession
Topics include lifespan development, motivation and emotion, health, social psychology, personality, abnormal, clinical, and forensic psychology. Students have an opportunity to be involved with ongoing research in the department by participating in experiments during the course of the academic term. Credit will be granted for only one of PSYC 102, PSYC 100 or PSYC 155. Prerequisite: PSYC 101. Three credits.

### 110 Forensic Psychology
Forensic Psychology refers broadly to all matters at the interface of psychology and law. This includes the production and application of psychological science and knowledge to legal issues. Restricted to applied forensic psychology students. Prerequisite: PSYC 101, concurrent or completed. Three 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, PSYC 102 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 101/102 or 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 101/102 or 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 101/102 or 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 101/102 or 100. Lab component. Six credits.

### 250 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. Credit will be granted for only one of PSYC 250 or PSYC 240. Prerequisite: PSYC 101/102 or 100. Six credits.

### 257 Professional Skills Training & Practicum I
This course will introduce students to the professional skills that are essential for success in practicum placements, work settings; undergraduate, graduate and professional studies. These skills include: effective communication (oral, written, listening); critical, analytical, and creative thinking; intercultural competency; inclusivity and diversity; problem solving and conflict resolution; leadership and teamwork; professional ethics and integrity; personal wellness; and career development. Students will have the opportunity to practice these skills in a 20-hour practicum placement. Restricted to students in Applied Forensic Psychology programs. Prerequisites: PSYC 101, 102, 110. Three 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 101/102 or 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 or PSYC 290. Prerequisite: PSYC 101/102 or 100. 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, or 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. Prerequisite: PSYC 301. 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 or PSYC 386 offered in 2016-2017. Prerequisites: 6 credit PSYC at the 200-level. Three credits.

### 317 LGBTQ and Psychology
This course provides an overview of psychological research and practice as it pertains to the lives and wellbeing of LGBTQ+ individuals and communities. Topics include: historical treatment of LGBTQ+ individuals within the field of psychology, LGBTQ+-inclusive research methods within Psychology, identity development and coming out, LGBTQ+ relationships, families and parenting, transgender and non-binary identities, conversion therapy and other controversies in the field, prejudice, stigma and discrimination, minority stress theory, and LGBTQ+ health. Prerequisites: 6 credits of PSYC at the 200 level or permission of the instructor. 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. Prerequisites: 6 credits of PSYC at the 200 level. Three credits.

### 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.

### 356 Professional Skills Training & Practicum II
Students observe/shadow psychologists and other clinical forensic staff in their work, receive relevant on-the-job training, and work with a trained staff member during their interactions with vulnerable populations. Students will be evaluated by the practicum supervisor at the end of the practicum. 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 students in Applied Forensic Psychology programs. Prerequisite: PSYC 257. Three credits.

### 357 Forensic Practicum II
Students in this concentration will be required to complete two practica in approved forensic-related settings; one practicum in each year of the program. The minimum number of hours per practicum will be 40 hours. Students will be encouraged to explore options and opportunities for doing a placement in their home communities. Restricted to BA students in the forensic concentration. Three credits.

### 362 Applications of Psychology to the Health Sciences

This is a lecture and seminar course in which contemporary applications of psychology to the health sciences will be considered. The psychological issues related to the design and implementation of technologies to improve the well-being and functioning of individuals with disabilities will be covered. Credit will be granted for only one of PSYC 362 or PSYC 375. Prerequisites: 6 credits of PSYC at the 200 level. Three credits.

### 363 Applications of Psychology to Society

This is a lecture course in which applications of psychology to society will be considered. This course provides students with an in-depth understanding of the tools of persuasion (e.g., consistency, reciprocity, liking, social proof, persuasive language, non-verbal cues), how to use these tools in an ethical manner, and apply them to solving everyday life and real-world problems. Credit will be granted for only one of PSYC 363 or PSYC 375. Prerequisites: 6 credits of PSYC at the 200 level. Three credits.

### 364 Psychology of Gender

This course will review theories and research regarding gender in psychological development, social roles, and personality. Topics to be covered will include the history of research in gender; issues to consider in conducting gender research; gender role development and the socialization of gender; gender as a social variable in education and the workplace. Credit will be granted for only one of PSYC 364 or PSYC 360. Cross-listed as WMGS 343. Prerequisite: 6 credits of PSYC at the 200 level. Three credits.

### 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. Prerequisites: 6 credits of PSYC at the 200 level. Three credits.

### 367 Basics of Psychopharmacology

This course surveys basic neuropharmacology and the actions of psychoactive drugs used to treat psychological disorders. It covers basic principles of neuropharmacology, distribution and elimination of drugs, drug-receptor interactions, neuroanatomy, neurochemistry and neurophysiology. This course is designed to provide an introduction to the pharmacological treatment of psychological disorders and to provide a foundation for advanced study in behavioural neuroscience, neuropsychopharmacology and related areas. Credit will be granted for only one of PSYC 367 or PSYC 377. Prerequisites: 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. Prerequisites: 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. Prerequisites: 6 credits PSYC at the 200 level; 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: 6 credits of PSYC at the 200 level and 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 or PSYC 380. Restricted to students in the forensic psychology programs. Prerequisites: PSYC 101, 102, 376, 379. Three credits.

### 382 Forensic Psychology II: Psychology & Law

A continuation of PSYC 381, this course covers the history of the relations between psychology and law; Canadian criminal law; basic concepts in criminal justice and the study of crime. The course will include attendance at provincial and Supreme Court sessions, organization of special events as well as hosting guest speakers from the criminal justice system. Students are responsible for managing their schedule and workload to facilitate participation in this course without needing accommodations in other courses. Credit will be granted for only one of PSYC 382 or PSYC 380. Restricted to students in the forensic psychology programs. Prerequisite: PSYC 381. Three credits.

### 384 Selected Topics

The topic for 2022-2023 is Cognitive Neuroscience. Cognitive neuroscience is the study of the brain-based mechanisms of mental processes. In this course, students will consider the types of problems that can and cannot be solved with cognitive neuroscience; find and use open science tools relevant to cognitive neuroscience; read, understand, and communicate about cognitive neuroscience research articles; and describe what is known about the brain mechanisms of at least one mental process (e.g., memory, attention). Prerequisites: 6 credits of PSYC at the 200 level. Three credits.

### 385 Selected Topics

The topic for 2022-2023 is Adolescence and Emerging Adulthood. This course will provide an in-depth, scientifically based understanding of development in adolescence and young adulthood. Important changes in physical, cognitive, social/emotional development will be discusses, as well as psychosocial issues experienced by adolescents and young adults (e.g., identity, intimacy, risk behaviors) and the contexts in which these developmental tasks occur, including family, relationships, and culture. Prerequisites: 6 credits of PSYC at the 200 level. Three credits.

### 391 Junior Seminar

The purpose of this non-credit course is to assist students in carrying out their thesis or senior paper research, choosing a career, and gaining admission to graduate or professional school. Attendance at colloquia and guest lectures relevant to

psychology is mandatory. Prerequisite: junior standing in an advanced major or honours program in psychology.

### 394 Advanced Statistics for Psychological Research

An examination of intermediate and advanced statistical procedures for the psychology researcher, with emphasis on the use of statistical software packages. Lectures and lab sessions cover topics such as factorial analysis of variance; mixed designs; contrasts and comparisons; power; multiple regression and correlation; the MRC approach to factorial and mixed designs; and multivariate analysis. Credit will be granted for only one of PSYC 394, PSYC 390, or STAT 331. Prerequisites: grades of 70 PSYC 290(291, 292). Lab component. Three credits.

### 421 Advanced Topics in Cognition

This seminar and laboratory course will examine current topics in cognition. Topics considered may include attention, memory, decision-making, consciousness, pattern recognition and artificial intelligence. Credit will be granted for only one of PSYC 421 or PSYC 420. Prerequisite: PSYC 220 or 225; advanced major or honours standing or permission of the chair. Lab component. Three credits.

### 422 Advanced Topics in Perception

This seminar and laboratory course will examine current topics in perception. Topics considered may include multisensory integration, attention and action, sensory impairments, brain plasticity, visual perception, and haptic perception. Credit will be granted for only one of PSYC 422 or PSYC 420. Prerequisites: PSYC 220 or 225; advanced major or honours standing or permission of the chair. Lab component. Three credits.

### 431 Advanced Topics in 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 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.

### 432 Advanced Topics in 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 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 250 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 250 or 350 or 353 or permission of the department chair. Lab component. Three credits.

### 457 Professional Skills Training & Practicum III

Students observe/shadow psychologists and other clinical forensic staff in their work, receive relevant on-the-job training, and work with a trained staff member during their interactions with vulnerable populations. Students will be evaluated by the practicum supervisor at the end of the practicum. 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. Credit will be granted for only one of PSYC 457 or PSYC 356. Restricted to students in Applied Forensic Psychology programs. Prerequisite: PSYC 356. 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.

### 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 (PGOV)

J. Bickerton, Ph.D., Coordinator
B. Gerrits, Ph.D.
P. Kikkert, Ph.D.
A. Lajeunesse, Ph.D.

| Advising Faculty | Department |
|---|---|
| D. Abelson, Ph.D. | Political Science |
| N. Allen, Ph.D. | Political Science |
| P. Clancy, Ph.D. | Political Science |
| J. Garrod, Ph.D. | Sociology |
| R. Isnor, D.Phil. | Political Science |
| B. Malloy, Ph.D. | Economics |
| L.J. McMillan, Ph.D. | Anthropology |

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 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 or 304, 401 — 21 credits
   ii) PGOV or Designated — 15 credits
b) ECON 101, 102, 241, 242; 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, 304, 401, 402, 451, 490 — 36 credits
   ii) Designated PGOV — 12 credits
b) ECON 101, 102, 241, 242; 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) 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 202 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

Public policy influences much of what we do on a daily basis. It addresses the complex public problems that face Canada and the global community. A functional and healthy society requires effective public policy. Using a diverse array of case studies and a critical examination of the policymaking process, this course explores how policies are developed and implemented, while practicing the skills required of professional policy analysts, including creative problem-solving, research, and effective communication. Credit will be granted for one of PGOV 201 or PSCI 342. Prerequisite: PGOV 101. Three credits.

### 202 Governance

Governance is now recognized as an integral part of modern politics, operating at all scales and in a variety of institutions. Settings include the state, corporations, universities, sports leagues and religious organizations among others. Key governance concepts will be explored and applied. Deep case studies may include topics such as pandemic governance, police governance and the governance of the internet. Prerequisite: PGOV 101. Three credits.

### 301 Comparative Public Policy

The course provides an intermediate examination of public policy formulation and implementation across systems and levels of government. Policies and governance in Canada and other democratic systems will be compared to give students the tools to understand the evolution and diversity of policy formulation and implementation. Credit will be granted for one of PGOV 301 or PSCI 342. Prerequisite: 6 credits PGOV. Three credits.

### 302 Public Administration

This course provides an examination of the contemporary practice of public administration, whether it be local, provincial, national or international entities. It explains and investigates how government departments and agencies are best managed, how political leaders and public sector managers deal with issues such as political power and bureaucracy, accountability, participation and citizen rights, and the management of financial and other resources. Credit will be granted for only one of PGOV 302 or PSCI 341. Prerequisite: 6 credits PGOV. Three credits.

### 303 Quantitative Research Methods

This course introduces students to the use of quantitative analysis in political science. While studying the logic of statistical inference, students will learn practical skills, including survey questionnaire design, dataset management, and data presentation. By the end of the course students will be able to critically assess quantitative research and apply quantitative tools to pursue their own research questions. Cross-listed as PSCI 399. Prerequisites: 6 credits PGOV. Three credits.

### 304 Research Design

This course is all about asking interesting questions in political science and public policy and then coming up with ways to answer these questions. We will introduce the concept of variance and causality, units of analysis, and strategies for case selection. At the end of the course, students will be able to formulate research questions, generate a research design, and discuss a range of methodological approaches that can be used to explore the world of politics and policy. Cross-listed as PSCI 397. Credit will be granted for only one of PGOV 304 or PSCI 399 offered up until 2019-2020. Prerequisites: PSCI 101, 102 and 6 credits of PSCI at the 200 level. Three credits.

### 305 Gender and Public Policy

How can we make the world a more gender equal and socially just place? This course examines the relationships between gender, systems of inequality, and public policy. The course focuses on understanding contemporary approaches to creating gender-responsive public policy and theoretical tools for analyzing public policy. The course also explores how to apply this knowledge to contemporary social issues. Credit will be granted for only one of PGOV 305 and PSCI 398/WMGS 399 (2021-2022). Cross-listed as WMGS 304. Three credits.

### 307 Science and Public Policy

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 CLEN 301. Prerequisite: PGOV 101 or 3 credits PSCI; ECON 101, or permission of the coordinator. Three credits.

### 321 Federalism and Intergovernmental Relations

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. Cross-listed as PSCI 321. Prerequisites: PSCI 101, 102(100) and 6 credits of PSCI at the 200-level (221/222 recommended). Three credits.

### 401 Strategic Governance

In this required capstone course for PGOV majors, students will be engaged on topics pertaining to public sector management with an emphasis on problem-solving and strategic governance in a comparative context. Course methods include lectures, cases, presentations, as well as guest speakers. Prerequisites: 6 credits at the 300 level in PGOV core courses. Three credits.

### 402 Senior Seminar

This course is required for honours with subsidiary students and recommended for majors in PGOV who wish to engage with the academic literature on contemporary public policy and governance issues. Students will review and discuss literature in the field and complete several assignments, both oral and written, in relation to these readings. Prerequisite: 6 credits at the 300 level in PGOV core courses. Three credits.

### 451 Internship

This experiential course provides students with the opportunity to practice the concepts and ideas explored 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 government or governance setting. Students will reflect and report on their internship experience and its relevance to the evolving knowledge of a policy sector, and share these learnings in a post-internship seminar. Restricted to students completing an honours, major or minor in PGOV. Prerequisites: PGOV 301 or 302, and 303 or 304 (or a substitute research methods course approved by the PGOV Coordinator). 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 in consultation with their supervisor, the theoretical and methodological soundness of the thesis, and the literary quality of the final project. 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: PGOV 201, 202 and six additional credits in core PGOV courses. See section 3.5. Three credits

## PUBLIC POLICY AND GOVERNANCE DESIGNATED COURSES

Courses are three credits unless otherwise indicated.
Department prerequisites will apply.

Anthropology

ANTH 234 Introduction to Indigenous Anthropology
ANTH 320 Peoples and Development
ANTH 332 Mi'kmaq Studies
ANTH 425 Power and Change
ANTH 435 Advanced Indigenous Issues

Aquatic Resources

AQUA 202 The Oceans' Commons and Society

Biology

BIOL 221 Issues in Resource Management

Business Administration
BSAD 221 Introductory Financial Accounting
BSAD 223 Introductory Managerial Accounting
BSAD 231 Foundations of Marketing
BSAD 241 Introductory Financial Management
BSAD 261 Organizational Behaviour
BSAD 281 Foundations of Business Information Technology
BSAD 332 Marketing Research
BSAD 352 Social Entrepreneurship
BSAD 358 Business Ethics
BSAD 363 Human Resource Management
BSAD 367 Gender and Management
BSAD 384 Data Management and Analytics
BSAD 461 Leadership
BSAD 462 Employee and Labour Relations
BSAD 467 Leading Change: The Challenge of Creating and Sustaining Organization Change
BSAD 482 Business Intelligence & Analytics

Climate and Environment
CLEN 201 Climate Change and People
CLEN 301 Introduction to Science Policy and Science-Based Public Policy Decision-Making

Development Studies
DEVS 201 Introduction Development: The Global South
DEVS 202 International Development: Canada
DEVS 302 Globalization and Development

Earth Sciences
ESCI 272 Understanding Climate Change
ESCI 273 Health and the Environment

Economics
ECON 201 Intermediate Microeconomics Theory I
ECON 202 Intermediate Macroeconomics I
ECON 241 Canadian Economic Prospects and Challenges
ECON 242 International Economics Prospects and Challenges
ECON 305 Economic Development I
ECON 306 Economic Development II
ECON 335 Money, Banking and Financial Markets I
ECON 364 Health Economics
ECON 365 International Trade
ECON 366 International Payments and Finance
ECON 381 Natural Resource Economics
ECON 391 Public Finance I: Expenditures
ECON 392 Public Finance II: Taxation

History
HIST 213 Life and Times: Pre-Confederation Canada
HIST 215 A History of Canada: Post-Confederation
HIST 227 Canadian Business History
HIST 216 Modern France, 1789 to Present
HIST 256 Modern Latin America
HIST 262 Europe in the 20th-Century
HIST 282 Cool Britannia: Four Nations & One State
HIST 304 The Working Class in Modern Canada
HIST 314 Canada and the Cold War Era
HIST 318 Canadian Women's & Gender History: Modernity
HIST 341 A History of Canadian-American Relations
HIST 347 American Social Movements, 1945-Present
HIST 355 The Sixties: A Social History
HIST 360 Gender & Sexuality in Modern European Empires
HIST 374 The People's Republic of China

Human Nutrition
HNU 405 Food Availability

Nursing
NURS 364 Social Justice and Health
NURS 433 Introduction to Policy for Health Interdisciplinary Strategies

Philosophy
PHIL 251 Critical Thinking
PHIL 331 Introduction to Ethics
PHIL 332 Contemporary Moral and Social Issues
PHIL 333 Environmental Ethics
PHIL 371 Social and Political Philosophy
PHIL 372 Philosophy of Law
PHIL 451 Seminar in Ethics, Political Philosophy, and the Philosophy of Law I
PHIL 452 Seminar in Ethics, Political Philosophy, and the Philosophy of Law II

Political Science
PSCI 201 Ancient and Medieval Political Thought
PSCI 202 Modern Political Thought
PSCI 211 Comparative Politics I
PSCI 212 Comparative Politics II
PSCI 221 Canadian Political Institutions
PSCI 222 Canadian Politics and Society
PSCI 231 United States Politics
PSCI 241 Business and Government
PSCI 251 Foundations of Global Politics
PSCI 252 Contemporary Global Politics
PSCI 311 The European Union
PSCI 314 Topics in European Politics
PSCI 321 Federalism and Intergovernmental Relations
PSCI 322 Atlantic Canada
PSCI 324 Provincial Politics
PSCI 325 Indigenous Politics in Canada
PSCI 335 Human Rights and International Justice
PSCI 336 Religion and Politics
PSCI 343 Law and Politics
PSCI 344 Citizenship, Identity and Diversity
PSCI 345 Women and Politics
PSCI 351 Canadian Foreign Policy
PSCI 352 American Foreign Policy
PSCI 353 International Organizations
PSCI 354 Global Political Economy
PSCI 355 Global Issues
PSCI 357 Model United Nations
PSCI 371 Political Economy of Development
PSCI 397 Research Design in Political Science
PSCI 399 Quantitative Methods in Political Science
PSCI 421 Canadian Politics Seminar

Religious Studies
RELS 336 Religion and Politics
RELS 375 Islam in Canada

Sociology
SOCI 202 Research Principles and Practices
SOCI 207 Health Justice
SOCI 212 Social Dissent
SOCI 217 Race and Identities
SOCI 218 Social Inequality in Canada
SOCI 247 Environmental Social Science I: Problems and Paradigms
SOCI 248 Environmental Social Science II: Power and Change
SOCI 254 Experiencing Social Class
SOCI 309 Power and the State
SOCI 312 Social Movements
SOCI 319 Family Life Policies in Canada
SOCI 364 Food and Society
SOCI 374 Islam in Canada

Women's and Gender Studies
WMGS 303 Feminist Theory
WMGS 304 Gender and Public Policy
WMGS 345 Women and Politics
WMGS 346 Critical Race & Sexuality Studies in Canada
WMGS 364 Social Justice and Health

## 9.34 RELIGIOUS STUDIES (RELS)

L. Darwish, Ph.D.
R. Kennedy, Ph.D.
S. Parks, 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.

### Major or Joint Major
36 credits of RELS.

### Honours
60 credits of RELS, to include RELS 490.

### Honours with Subsidiary
When religious studies is the honours subject, 48 credits of RELS, to include RELS 490.

### Subsidiary or Minor
24 credits of RELS.

The following streams are available in the department of Religious studies:

Buddhist Studies
- 235 Hinduism and Buddhism
- 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
- 219 Celtic Paganism
- 222 Fantastic Beasts and Where to Find Them in World Religions
- 229 Celtic Christianity

Christian Studies
- 117 Ethical Principles for Health Care Providers
- 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 Roman Christianity
- 365 Spirituality in Medieval Christianity
- 404 The Dead Sea Scrolls
- 426 The Jewish World of Jesus
- 427 Jesus the Christ

Hindu Studies
- 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
- 209 Beginning Arabic
- 254 Islam
- 261 Islam and Film
- 333 Religion, Violence and Peace
- 336 Religion and Politics
- 374 Modern and Contemporary Islam
- 375 Islam in Canada

Jewish Studies
- 210 The Bible and Film
- 214 Judaism
- 222 Fantastic Beasts and Where to Find Them in World Religions
- 246 Philosophy of Religion
- 312 Old Testament/Hebrew Bible
- 316 Women in Early Judaism
- 333 Religion, Violence and Peace
- 336 Religion and Politics
- 342 Prophets and Prophecy
- 352 History of Early Judah
- 404 The Dead Sea Scrolls
- 416 History of Archaeology of Ancient Israel
- 426 The Jewish World of Jesus

### 103 World Religions: What You Need to Know
This course teaches what you need to know to be a successful global citizen by developing four competencies: what you need to know to interact with a client/customer/patient/neighbour who is of a different religion; what you need to know when travelling; what you need to know to do graduate studies; and what followers of this religion need to know. We study Indigenous religions, Hinduism, Buddhism, Taoism, Confucianism, Judaism, Christianity, Islam, Sikhism, and alternative religions. Credit will be granted for only one of RELS 103, RELS 110, RELS 111, or RELS 112. Offered 2022-2023.

### 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 2022-2023.

### 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 or RELS 291(2018-2019) or RELS 298(2017-2018). Three credits. Not offered 2022-2023.

### 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 2022-2023.

### 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 or RELS 100. Three credits. Offered 2022-2023 and in alternate years.

### 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. Not offered 2022-2023.

### 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. Not offered 2022-2023.

### 216 Superheroes and the Supernatural
This course is an introduction to the use of supernatural imagery and themes in current tales of superheroes. How are supernatural beings and forces incorporated into the stories? How do superheroes function as divine beings? In which ways are the messages presented by DC and Marvel derived from those of world religions? In which ways do they serve as substitutes for religion? Credit will be granted for only one of RELS 216 and RELS 298 (2020-2022). Three credits. Offered 2022-2023.

### 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.

### 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 or RELS 356. Three credits.

### 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) or RELS 298(2017-18). Three credits. Offered 2022-2023.

### 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 2022-2023.

### 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.

### 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. Offered 2022-2023.

### 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 2022-2023.

### 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.

### 297 Selected Topics
The topic for 2022-2023 is Apocalypses. This course focuses on a popular genre of texts called "apocalypse," produced in the early development of Judaism and Christianity. Apocalypses deal with the end of the world. We will explore the development of the worldview called apocalypticism and the ancient apocalyptic literature associated with it, making use of texts left out of the biblical canon as well as those more well known, such as Daniel and Revelation. Students will have the opportunity to compare what they've learned about ancient apocalypses to a variety of contemporary apocalyptic and post-apocalyptic works. Three credits.

### 298 Selected Topics
The topic for 2022-2023 is Religion and Human Rights. This course examines the interface of ethics, religion, and human rights in three parts: 1) the historical and conceptual background for the concept of human rights and its relationship to religion; 2) contributions from major world religious traditions to an evolving international conversation on human rights; 3) the impact of religion on the often-complex relationship between the language of human rights and the condition of vulnerability. 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.

### 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 2022-2023.

### 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 or RELS 253. Three credits. Not offered 2022-2023.

### 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 2022-2023.

### 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 analyse 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 2022-2023.

### 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 or RELS 275. Three credits. Offered 2022-2023.

### 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 analyse

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. Not offered 2022-2023.

### 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. Offered 2022-2023.

### 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. Offered 2022-2023.

### 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 in the summer term. Three credits.

### 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. Offered 2022-2023.

### 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 or RELS 335. Three credits. Offered 2022-2023.

### 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, or 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 or RELS 312. Three credits. Not offered 2022-2023.

### 352 History of Early Judaism
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 2022-2023.

### 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 Roman Christianity
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 2022-2023.

### 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. Not offered 2022-2023.

### 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 2022-2023.

### 375 Islam in Canada
Students gain an understanding of the diversity of Islam and Muslims in Canada. The course examines how Muslims negotiate their religious identities in Canadian civic society. Students engage critically with different theoretical models shaping conceptions of identity and consider their relevance to public policy debates. The course uses Muslim and non-Muslim authors representing diverse points of view that have an impact on questions of immigration, multiculturalism, and religious pluralism. Cross-listed as SOCI 374. Offered in online format. Three credits. Offered 2022-2023.

### 397 Selected Topics
The topic for 2022-2023 is Christian-Muslim Encounters. This course examines religious conversations between Christians and Muslims from the 7th century till today. Students engage in a close reading of select primary texts in translation from Syriac, Greek, and Arabic. Secondary sources provide contemporary perspectives on enduring themes. Prerequisite: RELS 103 recommended. 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 2022-2023.

### 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 2022-2023.

### 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 or RELS 318. Three credits. Not offered 2022-2023.

### 414 Ancient Indian Myth and Ritual
Ancient Indian thought assumes that there is a fundamental wholeness to our lives and to our world which only appears at times to be fragmented. The myth,

ritual and philosophy of ancient India are, in many respects, a contemplation on this basic wholeness and its composite elements. Exploration of ancient Indian thought with its ideas of humans and demons, ancestors and gods, and our place in the natural world in light of this reflection on "the parts and the whole" will be discussed. Prerequisite: any 100-level RELS course. Three credits.

### 416 History and Archaeology of Ancient Israel

This course explores the history of ancient Israel and Judah from their origin to the fall of Jerusalem in 586 BCE. Students will examine the geography, culture, and historical milieu that gave rise to the Old Testament and Hebrew Scriptures, and discuss the major persons and events in ancient Israel and Judah. Credit will be granted for only one of RELS 416 or RELS 351. Three credits. Offered 2022-2023.

### 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 2022-2023.

### 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. Not offered 2022-2023.

### 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 (SOCI)

K. Aubrecht, Ph.D.
R. Bantjes, Ph.D.
P. Cormack, Ph.D.
L. Harling Stalker, Ph.D.
J. Garrod, Ph.D.
D. Lynes, Ph.D.
D. MacDonald, MA
P. Mallory, Ph.D.
S. Marmura, Ph.D.
R. Olstead, Ph.D.
G, Thompson, Ph.D.
N. Verberg, Ph.D.

Professor Emeritus
W. Jackson, Ph.D.
D. MacInnes, Ph.D.

Senior Research Professor
J. Phyne, 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.

### Minor

24 credits of SOCI.

### Major in Sociology

Candidates must follow the degree requirements of the Faculty of Arts and complete 36 SOCI credits which include:

a) SOCI 101, 102;
b) SOCI 202 and at least 3 additional credits at the 200 level;
c) SOCI 301 and SOCI 302;
d) at least 12 additional SOCI credits at the 300 or 400 level.

### Honours in Sociology

Candidates must follow the degree requirements of the Faculty of Arts and complete 60 SOCI credits which include:

a) SOCI 101, 102;
b) SOCI 202 and at least 3 additional credits at the 200 level;
c) SOCI 301 and SOCI 302 and at least 3 credits in methods: SOCI 300 or 307;
d) at least 6 additional SOCI credits at the 300 level; 391 highly recommended;
e) SOCI 400 (thesis), SOCI 491, plus at least 6 credits at the 400 level; SOCI 391 is highly recommended.

### Honours with a Subsidiary Subject

If sociology is selected as a subsidiary subject by an honours student in the BA program, 24 SOCI credits are required, with at least 6 of those credits at the 300 level.

### 101 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 or 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 or 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 or SOCI/WMGS 310. Cross-listed as WMGS 203. Prerequisites: SOCI 101, 102. Three credits.

### 207 Health Justice

Students will approach the study of human health from an intersectional, critical sociological perspective that emphasizes the links between social, economic, political, environmental and climate justice. The class will engage in an ongoing analysis examining how equality along the lines of race, class, gender, ability and sexuality are relevant to accomplishing health justice. Beginning with an understanding of the distinction between biomedicine and the social determinants of health, the class will explore some of the dominant sociological debates and approaches to the study of health and illness and how these can best be used as instruments for achieving health justice. 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. Not offered 2022-2023.

### 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.

### 218 Social Inequality in Canada
Looked at through the lens of class and power, this course examines the socio-economic roots of social inequality, as well as the causes and consequences of poverty. Special attention will be paid to rise of social inequality, and the impact of neoliberal social policies. Topics include: the relationship between wealth, occupation, and education; the structural and cultural factors generating cumulative disadvantage across generations, especially related to race, gender and disability; and the consequences of inequality as it relates to health, incarceration, and homelessness. Credit will be granted for only one of SOCI 218 or SOCI 328. 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. Not offered 2022-2023.

### 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.

### 231 Education in Canadian Society
This course provides students with a sociological interpretation of education in Canada. Students will investigate the relationship between education opportunity and conditions of inequality, socialization, social participation in education, and the contextualized within the historical development of Canadian educational institutions. Credit will be granted for only one of SOCI 231 or SOCI 230. Prerequisites: SOCI 101, 102. Three credits.

### 237 Social Justice
The course introduces students to social justice theory and research. Students will examine social movements and theories (e.g., postcolonial theory, black feminist thought, and indigenous perspectives) that helped shape conceptions of social justice. Students will examine social justice research in areas such as environmental racism, barriers to health care, education, and employment, and barriers and challenges to achieving social justice. Credit will be granted for only one of SOCI 237 or SOCI 297 (2020-2021). Prerequisites: SOCI 101, 102. Three credits.

### 238 Sociology of Youth
This course introduces students to topics and debates in youth sociology, including contemporary and historical conceptualizing of youth, social, cultural, and political theories pertaining to youth, the impact various social institutions have on youth from diverse backgrounds, and youth participation in social movements and politics. Students will come away with a deeper understanding of the forces shaping what "youth" means today. Credit will be granted for only one of SOCI 238 or SOCI 298 (2021-2022). 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.

### 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 SOCI 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.

### 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. 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. 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. Not offered 2022-2023.

### 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.

### 309 Power and the State
The state is a central concept within the social sciences and one of the most significant sources of power in the modern world. Despite this, states today appear increasingly in crisis, with their very legitimacy questioned. In this course, we will explore the development of the modern state in order to better understand our present. Topics include: the power of disinformation; surveillance; Trump; and Black Lives Matter. The course concludes with a reflection on democracy. Cross-listed as PSCI 318. Credit will be granted for only one of SOCI 309 or SOCI 297 offered in 2020-2021. Prerequisites: SOCI 101, 102. 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. Prerequisites: SOCI 101, 102. 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.

### 314 Disability and Culture
Beginning with the understanding that disability is a social phenomenon, this course provides students with the tools to analyze such cultural conceptions as normalcy-abnormalcy, ability-inability, independence-dependence. Students will examine cultural representations of disability that marginalize and oppress disabled people, and explore the ways in which cultural representations of disability differ from experiential accounts. These representations are analyzed from an international perspective, with a focus on how disability has been represented in Canadian social policy, the media, helping professions, and the education system. Prerequisites: SOCI 101, 102. Three credits.

### 315 Addictions
In this course we investigate drug and alcohol addiction as an epidemic social problem from several key perspectives. Social theories are used to explore subcultures of addiction, race and racism, addiction's impact on women, and how addiction is understood and experienced in Canada. Credit will be granted for only one of SOCI 315 and SOCI 395 (2018, 2019). Prerequisites: SOCI 101, 102. Three credits.

### 319 Family LIfe Policy in Canada
Students learn about federal and provincial policies that influence family formation (e.g., marriage, cohabitation, fertility, adoption), family care work (parental leave, family leave, childcare, domestic worker programs, elder care), family dissolution (separation, divorce), and family violence. Attention is given to how Canadian family laws and policies reflect and/or shape the cultural and structural aspects of gender, sexuality, Indigenous status, race and ethnicity, disability, and socio-economic status. Credit will be granted for only one of SOCI 319 or SOCI/ WMGS 395(2019-2022). Cross-listed as WMGS 319. Prerequisites: SOCI 101, 102. Three credits. Not offered 2022-2023.

### 329 Climate Justice
This course is grounded in a decolonial framework and employs the Mi'kmaq concept, Etuaptumumk (two-eyed seeing) to approach an analysis of the social, ecological, political and economic intersections of climate change and social justice. Students are introduced to basic conceptions of 'climate change' in the context of Traditional Indigenous Knowledge, as well as the latest findings of western science. Credit will be granted for only one of SOCI 329 or SOCI 397(2022-2022). Prerequisites: SOCI 101, 102. Three credits. Not offered 2022-2023.

### 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.

### 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 Indigenous Peoples in Canada
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. Not offered 2022-2023.

### 337 Black/African Diaspora
This course critically examines structural and sociocultural factors that operate to produce and/or reproduce powerlessness among Black people in the Diaspora. Attention will also be given to the contributions of Blacks to society, Black resistance, self-determination, and self-reliance. The course will discuss globalization, racism, and transnationalism as factors in the contemporary Black experience. Credit will be granted for only one of SOCI 337 or SOCI 395(2016-2017). Prerequisites: SOCI 101, 102. Three credits.

### 341 Sociology of 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 or SOCI 398 (2016-2018). Prerequisites: SOCI 101, 102. Three credits.

### 351 Canadian Criminal Justice
This course examines the structure and operation of the Canadian criminal justice system, including policing, court systems, correctional institutions, philosophies, and practices. This includes exploring the relationship between law and social order; the justice system as a means of social control; and the experiences of Indigenous and visible minorities in the Canadian justice system. Credit will be granted for only one of SOCI 351, SOCI 350 or SOCI 374(2019-2021). 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. Not offered 2022-2023.

### 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 2022-2023.

### 374 Islam in Canada
Students gain an understanding of the diversity of Islam and Muslims in Canada.

The course examines how Muslims negotiate their religious identities in Canadian civic society. Students engage critically with different theoretical models shaping conceptions of identity and consider their relevance to public policy debates. They course uses Muslim and non-Muslim authors representing diverse points of view that have an impact on questions of immigration, multiculturalism, and religious pluralism. Cross-listed as RELS 375. 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.

### 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 2022-2023 is Mental Health and Society. In this course students will use sociological theories and methods to analyze mental health and illness experiences, knowledge, policy, and practices from a sociological perspective. Current and historical medical, legal, and social issues and responses related to mental health and illness will be discussed. Social conditions, roles, structures and cultural values and systems of meaning are emphasized. To support critical understanding of the relationship between mental health and society, professional ideologies, institutions and power relations examined. Concepts analyzed include: capacity, expertise, lived experience, medicalization of behaviour, personhood, psychiatricization, social and structural determinants of mental health inequities, and stigma. Prerequisites: SOCI 101, 102, 251. Three credits.

### 397 Selected Topics

The topic for 2022-2023 is Sociology of Development. This course is an introduction to the sociology of international development. Together, we will examine the historical, ontological, and epistemological origins of the so-called "developed" "developing world"/ "Global South"/ "Majority World." We will also examine the efficacy of the post-World War II development industrial complex and its relationship to the following topics: nationalism and independence; international financial institutions and neoliberalism; the environment and the global commons; gender; food and agriculture; fair trade; health; aid; volunteerism; Canada's role in international development; and reparatory justice. Prerquisites: SOCI 101, 102. Three credits.

### 398 Selected Topics

The topic for 2022-2023 is Cannabis Legalization in Canada. In 2018 Canada became the second country in the world to legalize recreational cannabis. This course examines the history of drug prohibition and moral/social control, including racism and moral panics around drugs, and the various recommendations toward decriminalization. Issues include policy around young cannabis users; the role of the state in regulating illicit "street" cannabis; sales, marketing, and education of the Canadian cannabis consumer. 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.

### 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 2022-2023.

### 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

The topic for 2022-2023 is Refugee Resettlement in Canada. This course focuses on Canada's unique refugee resettlement framework, with an emphasis on refugee resettlement since Canada's 'Refugees Welcome' campaign in 2016. Examining the social science literature on the evolution of Canadian refugee law, policies, and practices, student develop a critical understanding about why Canada's refugee resettlement system receives international praise while also being the subject of criticisms (e.g., emerging ethical dilemmas, post-migration equity). Three credits.

### 499 Directed Study

Under the direction of a professor, students will work in an area of sociology not available in other course offerings. Students must consult with the faculty member by March 31 of the academic year in which they wish to take the course. See section 3.5. Three or six credits.

» **SPANISH** see 9.26 Modern Languages

## 9.36 SPORT MANAGEMENT (SMGT)

| | |
|---|---|
| N. Maltby, Ph.D.(Co-coordinator) | Management (Chair) |
| C. Weaving, Ph.D.(Co-coordinator) | Human Kinetics (Chair) |

| Advising Faculty | Department |
|---|---|
| D. Anthony, Ph.D. | Marketing and Enterprise Systems |
| J. Hood, Ph.D., ABD | Human Kinetics/Management |
| O. Nzindukiyimana, Ph.D. | Human Kinetics |

Sport management is a discipline related to the business of sport and recreation. The field covers management in the context of professional, amateur, and intercollegiate sports, as well as community recreation.

This interdisciplinary program provides to students in the BBA and the BA HKIN degrees the option to do a minor in sport management. This is a limited-enrollment program and requires application at the end of first year (information distributed via email). SMGT 101 is restricted to students in the BBA and BA HKIN programs, and the remaining SMGT core courses are restricted to students who have been accepted into the sport management minor.

For BBA students, the 24 credits of this optional minor replace one of the degree's 12-credit pair requirements and the 12 credits of arts/science electives required in the BBA degree patterns.

For BA HKIN students, the 24 credits of required minor in the degree pattern are fulfilled by the interdisciplinary courses prescribed below.

All inquiries should be directed to the Chair of Human Kinetics and the Chair of Management.

### Minor Requirements

All students, whether in the BBA or the BA HKIN degree programs, must complete:

a) 12 credits of core SMGT courses (101, 322, 327, 423)
b) BSAD 231 and 261 (which count in the minor for BA HKIN students, and as BSAD requirements for BBA students, and are normally taken in Year 2)
c) HKIN 264 and 352 (which count in the minor for BBA students, and as HKIN requirements for BA HKIN students, and are normally taken in Year 2)
d) 6 credits of designated courses from the relevant list below

The normal course progression for the SMGT minor:

Year 1 SMGT 101
Year 2 BSAD 231, 261 (minor courses in BA HKIN)
HKIN 264, 352 (minor courses in BBA)
Year 3 SMGT 322, 327; 3 credits SMGT designated courses
Year 4 SMGT 423; 3 credits SMGT designated courses

### 101 Introduction to Sport Management

This course will have a primary focus on the 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. 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

An introduction to the tools and systems available for effective leadership and people management in sport organizations. Topics include sport planning, employee selection and evaluation, time management, compensation, benefits, leadership, labour relations, career planning, and problem solving. Credit will be granted for only one of SMGT 322 or 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 is an introduction to the philosophy of ethics, and the application thereof to physical education, recreation, and sport. Students will acquire an awareness of ethical conduct in sport and cultivate an effective deliberative process for dealing with ethical issues in sport. The course will include a philosophical approach to moral conduct, and topics such as sportsmanship, competition, fair play, cheating, self-deception, and the use of performance enhancing drugs, and the problem of racial and gender equality in sport. An ethical lens will also be applied to practices and procedures by major stakeholders including players, coaches, parents, spectators, and sport organizations. Apply theoretical frameworks that can serve as the basis for comprehensive ethical decisions, and to develop the practical facility to implement those decisions in specific, concrete situations. Prerequisite: SMGT 101. Three credits.

### 423 Sport Marketing and Event Management

Through this course students will gain an understanding of marketing and its role in the sport industry. Through examination of the marketing process, students will learn how to plan, create, and implement successful marketing strategies specific to the sport industry and its consumers. Additionally, students will apply marketing principles through the design and implementation of a marketing strategy for a sport event and/or brand. Prerequisites: SMGT 101; BSAD 231. Three credits.

### Sport Management Designated Courses for BBA

Courses are three credits unless otherwise indicated.
Departmental prerequisites will apply.

Anthropology
ANTH 112 Introduction to Socio-cultural Anthropology
ANTH 218 Anthropology of Health and Illness

Economics
ECON 291 Economics of Leisure, Recreation and Sports
ECON 364 Health Economics

Human Kinetics
HKIN 332 Gender and Sport
HKIN 443 Modern Olympic Games
HKIN 431 Sport and Identity

Mathematics
MATH 382 Sports Analytics

Sociology
SOCI 217 Race and Identities
SOCI 311 Men and Masculinities
SOCI 314 Disability and Culture
SOCI 387 Hockey and Canadian Culture

Women's and Gender Studies
WMGS 203 Gender
WMGS 205 Gender, Sexuality and the Body
WMGS 232 Gender and Popular Culture

### Sport Management Designated Courses for BA HKIN

Courses are three credits unless otherwise indicated.
Departmental prerequisites will apply.

Anthropology
ANTH 112 Introduction to Socio-cultural Anthropology
ANTH 218 Anthropology of Health and Illness

Business
BSAD 221 Introductory Financial Accounting
BSAD 223 Introductory Managerial Accounting
BSAD 281 Foundations of Business Information Technology
BSAD 333 Professional Sales: Effective Communication and Persuasion
BSAD 356 Entrepreneurship
BSAD 384 Data Management and Analytics

Economics
ECON 291 Economics of Leisure, Recreation and Sports
ECON 364 Health Economics

Mathematics
MATH 382 Sports Analytics

Sociology
SOCI 217 Race and Identities
SOCI 311 Men and Masculinities
SOCI 314 Disability and Culture
SOCI 387 Hockey and Canadian Culture

Women's and Gender Studies
WMGS 203 Gender
WMGS 205 Gender, Sexuality and the Body
WMGS 232 Gender and Popular Culture

» **STATISTICS** see 9.25 Mathematics and Statistics

## 9.37 WOMEN'S AND GENDER STUDIES (WMGS)

R. Hurst, Ph.D., Co-ordinator

| Advising Faculty | Department |
|---|---|
| S. Chattopadhyay, Ph.D. | Development Studies and Women's and Gender Studies |
| N. Forestell, Ph.D. | History / Women's and Gender Studies |
| B. Gerrits, Ph.D. | Public Policy and Governance |
| C. Weaving, Ph.D. | Human Kinetics |
| K. Wright, Ph.D. | English |

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 Honours in women's and gender studies with a subsidiary in an arts subject, a BA with Major in women's and gender studies, a BA with Joint Major in women's and gender studies and an arts subject, a subsidiary in women's and gender studies, or a minor in women's and gender studies. See chapter 4. Arts, business, and science students may fulfill requirements for a pair in women's and gender studies.

Students interested in women's and gender studies should consult with the co-ordinator as early as possible.

### Major in Women's and Gender Studies

a) 12 credits of WMGS 100, 205 and 303; and,
b) 24 credits WMGS including cross-listed courses.
No more than 12 credits of cross-listed courses may be from a single department. None of the cross-listed courses may be in the student's declared minor subject.

### Joint Major in Women's and Gender Studies and a Faculty of Arts Discipline

a) 36 credits in WMGS (subject A) and 36 credits in another Faculty of Arts department (subject B). The program or department requirements for majors are applicable in both subjects. Students must complete the following:
   i) 12 credits of WMGS 100, 205 and 303; and,
   ii) 24 credits WMGS including cross-listed courses.
   No more than 12 credits of cross-listed courses may be from a single department. None of the cross-listed courses may be in the student's declared subject B.
b) Course Pattern: see section 4.1.3

### Honours in Women's and Gender Studies with a Subsidiary

See section 4.1 for general regulations on degree requirements.

a) 48 credits in WMGS (subject A) and 24 credits in subsidiary subject. For the 48 credits in WMGS students must complete the following:
   i) 15 credits of WMGS 100, 205, 303, 346, 391 junior seminar (non-credit), 6 additional WMGS core credits
   ii) WMGS 493 (thesis)
   iii) ANTH 304 – designated methods course; and
   iv) 18 credits from WMGS 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.

### Subsidiary in Women's and Gender Studies

a) 24 credits in WMGS and 48-60 credits in the honours subject. Students are encouraged to include an additional six credits of WMGS cross-listed courses. No more than 6 credits of WMGS cross-listed courses may be from a single department. None of the cross-listed courses may be in the student's declared honours subject.
   i) 12 credits of WMGS 100, 205 and 303; and
   ii) 12 credits WMGS including cross-listed courses.

### Minor in Women's and Gender Studies

a) WMGS 100; and,
b) 18 credits in women's and gender studies 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

a) WMGS 100 (6 credits); and
b) 6 credits in women's and gender studies, which may include WMGS 205 and/or 303 or cross-listed course(s).

### Social Justice Colloquium

The Social Justice Colloquium is a first-year option for Bachelor of Arts students. Participants are enrolled in dedicated sections of anthropology, global history and women's and gender studies. See section 4.3 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. Offered 2022-2023.

### 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 or SOCI/WMGS 310. Cross-listed as SOCI 203. Prerequisite: SOCI 101, 102. Three credits. Not offered 2022-2023.

### 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. Offered 2022-2023.

### 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. Not offered 2022-2023.

### 254 Topics in 18th-Century Literature

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.

### 259 Gender, Literature and Culture

What makes gender meaningful and what has literature got to do with it? How do literary works and other cultural texts (film, television, music, social media) represent and / or transform gender in a given time and place? What can such works tell us about how gender is imagined, experienced, circulated, challenged? This course will address these questions by studying selected texts in the context of historically-specific understandings of masculinity, femininity and non-binary identities. Cross-listed as ENGL 259. Prerequisite: ENGL 100 or 111/112 or equivalent. Three credits.

### 299 Selected Topics

The topic in 2022-2023 is Cultures of Girlhood. This course uses an intersectional feminist perspective to explore not only the cultural construction of girlhood and its representations, but the ongoing cultural practices of girls themselves. We explore the various ways that "girls" have always had a unique relationship to producing, consuming, and participating in culture. We will interrogate and resist the universalization of the girlish subject, integrating readings that ask students to reframe "girl" in relation to race, class, sexuality, age, and nation. Three credits.

### 302 2SLBGTQ+ Health and Social Care

This course introduces students to health and social care challenges, and opportunities two-spirit, lesbian, gay, bisexual, transgender, queer ( 2SLBGTQ+) populations face across the life span. Students will work with theoretical concepts, current research, social determinants of health, legal/biomedical histories, alongside stories of 2SLBGTQ+ people/communities. Students will develop and propose strategies specific to improving health and wellness while strengthening their knowledge to address health disparities and improve this population's health and well-being. Cross-listed as NURS 302. Prerequisite: WMGS 100. 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. Offered 2021-2022.

### 304 Gender and Public Policy

How can we make the world a more gender equal and socially just place? This course examines the relationships between gender, systems of inequality, and public policy. The course focuses on understanding contemporary approaches to creating gender-responsive public policy and theoretical tools for analyzing public

policy. The course also explores how to apply this knowledge to contemporary social issues. Credit will be granted for only one of WMGS 304 and PSCI 398/WMGS 399 (2021-2022). Cross-listed as PGOV 305. 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 voal 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.

### 315 Gender and Development

This course will examine a number of ways to understand what gender and development mean, and the ways in which the two intersect. For instance, the course will explore such questions as, how can thinking intersectionally change the practices of development and of international institutions of development?; and, how local and gendered actors respond to development policies? Sub-themes in the course include women and work, gender and health, empowerment, environment, sustainable development, and others. Credits will be granted for only one of WMGS 315 and DEVS 391(ST: Gender and Development). Cross-listed as DEVS 315. Prerequisite: WMGS 100 or DEVS 201 and 202. Three credits. Not offered 2022-2023.

### 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 2022-2023.

### 317 Canadian Women's and Gender History: From Colony to Nation

This course introduces students to major themes in the field of Canadian women's and gender history. Covering the period from the late 16th century to the late 19th century, the course examines the historical development of women's roles, experiences, identities and gender relations. Particular attention is given in this course to the impact of colonialism, and the intersection of gender, race, economic/class status, and Indigenous/non-Indigenous status in shaping women's work, family roles, sexuality, political engagement and activism. Credit will be granted for only one of WMGS 317 or WMGS 308. Cross-listed as HIST 317. Three credits.

### 318 Canadian Women's and Gender History: Modernity

This course introduces students to major themes in the field of Canadian women's and gender history. Covering the period from the late 19th century to the late 20th century, the course examines the historical development of women's roles, experiences, identities and gender relations. Particular attention is given to the intersection of gender, race, economic/class status, and Indigenous/non-Indigenous status in shaping women's work, family roles, sexuality, political engagement and activism. Credit will be granted for only one of WMGS 318 or WMGS 308. Cross-listed as HIST 318. Three credits.

### 319 Family LIfe Policy in Canada

Students learn about federal and provincial policies that influence family formation (e.g., marriage, cohabitation, fertility, adoption), family care work (parental leave, family leave, childcare, domestic worker programs, elder care), family dissolution (separation, divorce), and family violence. Attention is given to how Canadian family laws and policies reflect and/or shape the cultural and structural aspects of gender, sexuality, Indigenous status, race and ethnicity, disability, and socio-economic status. Credit will be granted for only one of WMGS 319 or SOCI/ WMGS 395(2019-2022). Cross-listed as SOCI 319. Prerequisites: SOCI 101, 102. Three credits. Not offered 2022-2023.

### 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 analyse 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. Not offered 2022-2023.

### 326 Issues in the Anthropology of Kinship

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

### 327 Feminist Anthropology

This course examines how past and present feminist anthropologists have used and problematized categories of difference and identity, such as, gender, class, sexuality, race, ethnicity, ability, religion and nationality as they pursue anthropological research. Focusing primarily on socio-cultural anthropological research, but also addressing work by linguistic and biological (physical) anthropologists and archaeologists, the course will highlight the theoretical, methodological, and empirical contributions of feminist anthropologists to anthropology and to women and gender studies. Credit will be granted for only one of ANTH 323, ANTH 324 or 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.

### 329 Studies in Women Writers: Feminisms and Their Literature

How do the struggles feminists engage in inform literary works? An introduction to diverse feminist debates within their historical, cultural and political contexts, this course explores the relationships between particular feminisms and the literary texts that exemplify or extend them. The particular focus on a feminist struggle and corresponding body of literary works will vary, depending on the instructor. Cross-listed as ENGL 329. Three credits.

### 332 Gender in Sport and Physical Activity

Explores the role of women and men in sport/physical activity/recreation from a historical, philosophical, and sociocultural perspective. This course covers embodiment, objectification, equity, racism, homophobia, politics of difference and identity. Cross-listed as HKIN 332. Three credits.

### 333 The Medieval Body

This class explores late medieval conceptions of the physical body, which were always essential to identity in the Middle Ages. Medieval discussions of the practice of reading, clothing and fashion and even spiritual union with God, often involved debates and metaphors based upon the physical body. Through an exploration of primary and secondary texts along with seminar discussions, the class will explore the interconnectedness of late medieval ideas of corporeality, identity, spirituality and sexuality. Cross-listed as HIST 332. Three credits.

### 343 Psychology of Gender

This course will review theories and research regarding gender in psychological development, social roles, and personality. Topics to be covered will include the history of research in gender; issues to consider in conducting gender research; gender role development and the socialization of gender; gender as a social variable in education and the workplace. Credit will be granted for only one of WMGS 343 or WMGS 360. Cross-listed as PSYC 364. Prerequisite: 6 credits of PSYC at the 200 level. Three credits.

### 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. Offered 2022-2023.

### 354 Women, Art & Gender: Rewriting Art History
Recentering women in the history of art, this course critically examines the structures that excluded them and the narratives that erased them. It looks at how gender has shaped the discipline of art history and at texts that envision more inclusive methods. Students will draw on their experiments with looking techniques to write about women's contributions to various visual and material cultures, from the discovery of butterfly metamorphosis to the secret "invention" of abstraction. Cross-listed as ART 354. Three credits.

### 364 Social Justice and Health
Examines the relationship between injustice and health outcomes nationally and globally. Core social justice ideas are analyzed, including the cycle of oppression, distinctions between equality and equity, and achievement of human rights as an ethical imperative. Modern and historical contexts are explored in key justice related areas: corporatization of health care; policy-created poverty; worldwide water crisis; links between planetary health and human health; and global conflict as a key driver of injustice. Learning includes analysis of selected award-winning films. Cross-listed as NURS 364. Three credits.

### 365 Gender and Health
This course examines theoretical concepts relevant to gender and health. The broad determinants of health, sexuality, reproductive health and fertility, common diseases, substance abuse, violence and culture are examined from a gender perspective. Strategies for promoting holistic health and preventing disease will be examined. Cross-listed as NURS 365. Three credits.

### 367 Gender and Management
Reviews the recent growth of women managers in today's organizational world. Students examine gender roles in organizations and identify some of the barriers women experience in reaching the top. The course explores the systemic discrimination facing women, and presents potential management models for women and men. Cross-listed as BSAD 367. Prerequisite: BSAD 261. Three credits.

### 370 Gender & Sexuality in Modern European Empires
This course examines major issues in the history of gender and sexuality in the new imperialism. Themes to be covered include imperial families, race, gender and professionalism, gender, sexuality and citizenship, and women in imperialism and global movements. Cross-listed as HIST 360. Three credits.

### 378 Human Sexuality
This course provides a broad introduction to research and theory in human sexuality. It includes examination of fundamental topics such as the nature of human sexuality and contemporary issues. Specific topics include historical perspective, theories of sexuality, sex research, sexual anatomy, sexual variation, sexual response, gender, sexual dysfunction and sex therapy. Cross-listed as PSYC 378. Prerequisites: 6 credits of PSYC at the 200 level. Three credits.

### 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
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 2022-2023.

### 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
The topic in 2022-2023 is Fan Identities and Cultures. This course raises questions concerning the role of gender, sexuality, race, and desire within different kinds of media fandom. Fans have a complex relationship to both media industries and mainstream audiences. We will explore media fandom as a means of access to and transformation of culture itself, addressing fandom's participatory tools and transformative potential. Topics include fandom history, gendered theories of fan communities, fan labour, queer and decolonial organizing in fan spaces, and online affect/ethics. Three credits.

### 411 Religious Approaches to Sexuality
Human sexuality is explored from two main perspectives: first, the teachings and practices of various religious traditions; and second, contemporary developments in sexual and reproductive health and rights. Among the issues to be considered are sexuality and gender roles, contraception and abortion, marriage and family. Cross-listed as RELS 401. Prerequisite: any 100-level RELS or WMGS course. Three credits.

### 412 Religious Approaches to Sexual Diversity
This course will focus on religious teachings and traditions on sexual diversity within the broader context of human rights associated with sexual orientation and sexual differences. In particular, we will look at the experiences of gay, lesbian, bisexual, intersexual and transgendered persons within religious communities. Cross-listed as RELS 402. Prerequisite: any 100-level RELS or WMGS course. Three credits.

### 415 Advanced Field Seminar and Practicum
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. The main purpose of this course is for students to gain field-based knowledge through placement with an organization, community group or service. Credit will be granted for only one of WMGS 415 and WMGS 400. Three 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. 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 2022-2023 is Representing Abortion. This course will explore how reproductive bodies have been medicalized, controlled, and defined through the lens of abortion through reproductive justice frameworks. Specifically, we will study how artists, performers, writers, activists, and abortion providers have created representations of the experience and procedure within grounded histories, politics, and social contexts. Themes that we will cover include abortion visibility and invisibility; anti-abortion discourse; pro-choice engagements with fetal materiality; personal experience; and media engagements with abortion. Prerequisite: WMGS 205 or 303; permission may be granted to 4th year students by instructor 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 with consultation.

# UNIVERSITY PERSONNEL

As of March 2022

## 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 |
| Apaloo, J., Ph.D.(Montana) | Mathematics and Statistics |
| 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 and Statistics |
| English, L., Ed.D.(Columbia) | Adult Education |
| Finbow, S., Ph.D.(Victoria) | Mathematics and Statistics |
| Foran, A., Ph.D.(Alberta) | Education |
| Forestell, N.M., Ph.D.(OISE) | History |
| Garbary, D., Ph.D.(Liverpool) | Biology |
| Gondra, I., Ph.D.(Oklahoma State) | Computer Science |
| Grenier, Y., Ph.D.(Laval) | Political Science |
| Groarke, L., Ph.D.(Waterloo) | Philosophy |
| Hakin, A., Ph.D.(Leicester) | Chemistry |
| Halperin, D., Ph.D.(Calgary), RN | Nursing |
| Harling-Stalker, L., Ph.D.(Carleton) | Sociology |
| Hurst, R., Ph.D.(York) | Women's and Gender Studies |
| Hynes, T.W., Ph.D.(Calgary) | Accounting & Finance |
| Kalman, S., Ph.D.(McMaster) | History |
| Kearns, L., Ph.D.(Toronto) | Education |
| Kellman, L., Ph.D.(UQAM) | Earth Sciences |
| Khoury, J., Ph.D.(Carleton) | English |
| Kocay, V., Ph.D.(Toronto) | Modern Languages |
| Kolen, A., Ph.D.(Saskatchewan) | Human Kinetics |
| Langdon, J., Ph.D.(McGill) | Adult Education / Development Studies |
| Langille, E.M., D. ès L.(Sorbonne) | Modern Languages |
| Lin, M., Ph.D.(Linkoping) | Computer Science |
| Lukeman, R., Ph.D.(British Columbia) | Mathematics and Statistics |
| Lunney Borden, L.A., Ph.D.(UNB) | Education |
| MacAulay, K., Ph.D.(Queen's) | Accounting & Finance |
| MacDonald, C., Ph.D.(Dalhousie), RN | Nursing |
| 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 |
| Marmura, S., Ph.D.(Queen's) | Sociology |
| 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 |
| McMillan, L.J., Ph.D.(UBC) | Anthropology |
| Moynagh, M.A., Ph.D.(Texas-Austin) | English |
| Murray-Orr, A., Ph.D.(Alberta) | Education |
| Nilges, M., Ph.D.(Illinois) | English |
| Orr, J., Ph.D.(Alberta) | Education |
| Palanisamy, R., Ph.D.(IIT, New Delhi) | Marketing & Enterprise Systems |
| Poole, P., Ph.D.(Boston) | Physics |
| Rasmussen, R., Ph.D.(Saskatchewan) | Human Kinetics |
| Robinson, D.B., Ph.D.(Alberta) | Education |
| Roy, C., Ph.D.(OISE) | Adult Education |
| Scrosati, R., Ph.D.(UBC) | Biology |
| Smith, D., Ph.D.(Manitoba) | English |
| Stan, L., Ph.D.(Toronto) | Political Science |
| Sweet, W., Ph.D.(Ottawa), DEA(Sorbonne), D.Ph.(Saint Paul), D.Th.(South Africa), FRSC | Philosophy |
| Taylor, T., Ph.D.(Dalhousie) | Mathematics and Statistics |
| 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 and Statistics |
| van den Hoogen, R., Ph.D.(Dalhousie) | Mathematics and Statistics |
| Vincent, S., Ph.D.(Toronto) | Anthropology |
| Wang, P., Ph.D.(Regina) | 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 |
| Wyeth, R., Ph.D.(Washington) | Biology |
| Yang, L.T., Ph.D.(Victoria) | Computer Science |
| Young, D.C., Ph.D.(UWO) | Education |
| Zecker, R., Ph.D.(Pennsylvania) | History |
| Zhou, P., Ph.D.(Witwatersrand) | Mathematics and Statistics |

### 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 |
| Aubrecht, K., Ph.D.(Toronto) | Canada Research Chair, Sociology |
| Austen, E., Ph.D.(UBC) | Psychology |
| Berrigan, L. Ph.D.(Carleton) | Psychology |
| Billington, R., M.Mus.(W. Michigan) | Music |
| Bishop, C., Ph.D.(Simon Fraser) | Biology |
| Braid, J., Ph.D.(Dalhousie) | Earth Sciences |
| Brunkhorst, K., MM(University of North Texas) | Music |
| Coady, M., Ph.D.(Nottingham, UK) | Adult Education |
| Casey, A., Ph.D.(Calgary) | Human Kinetics |
| Chisholm, R., Ph.D.(York) | Sociology |
| Cho, Y., Ph.D.(Queen's) | Political Science |
| Comeau, F., Ph.D.(Dalhousie), P.Eng. | Engineering |
| Cormier, J., Ph.D.(McGill) | Chemistry |
| D'Arcy, M., Ph.D.(Cornell) | English |
| Darwish, L., Ph.D.(Concordia) | Religious Studies |
| DeVries, R., Ph.D.(Trinity College) | Celtic Studies |
| Dodaro, S., Ph.D.(Toronto) | Economics |
| English, M., Ph.D.(Dalhousie) | Human Nutrition |
| Estill, L., Ph.D.(Wayne State) | Canada Research Chair, English |
| 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 |
| Gregory, S., Ph.D.(University of London) | Art |
| Haller, M., Ph.D.(Pittsburgh) | Anthropology |
| Hallett-Tapley, G., Ph.D.(Dalhousie) | Chemistry |
| Hansen-Ketchum, P., Ph.D.(Alberta) | Nursing |
| Hughes, J., M.Sc.(Brock) | Computer Science |
| Isnor, R., D.Phil.(Sussex, UK) | Political Science |
| Jamieson, J., Ph.D.(McGill) | Human Nutrition |
| Kane, D., Ph.D.(East Carolina) | Human Kinetics |
| Kennedy, R., Ph.D.(Notre Dame) | Religious Studies |
| Koch, E., Ph.D.(Florida) | Psychology |
| Lajeunesse, A., Ph.D.(Calgary) | Irving Shipbuilding Research Chair, Public Policy & Governance |
| Lalande, G., Ph.D.(McGill) | History |
| Lam, M., Ph.D.(UBC) | Human Kinetics |
| Lange, E., Ph.D.(Alberta) | Adult Education |
| LeBris, K., Ph.D.(École Polytechnique de Montréal) | Physics |
| Lee, D., Ph.D.(UBC) | Mathematics and Statistics |
| Leo, T.W., Ph.D.(Toronto) | Economics |
| Leung, O., Ph.D.(Bentley) | Management |
| 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 |
| Lynes, D.A., Ph.D.(York) | Sociology |
| MacDougall, A., Ph.D.(Victoria) | Climate and Environment |
| MacLean, B.J., Ph.D.(Memorial) | Chemistry |
| MacLean, K., Ph.D.(Simon Fraser) | Psychology |
| MacLeod, K., Ph.D.(Toronto) | Education |
| Malloy, B., Ph.D.(UWO) | Economics |
| Mallory, P., Ph.D.(York) | Sociology |
| Maltby, N., Ph.D.(Strathclyde) | Management |
| Mansell, D., MN(Calgary) | Nursing |
| McCormick, P., Ph.D.(Waterloo) | Psychology |
| McInnis, P., Ph.D.(Queen's) | History |
| McKenna, J., Ph.D.(McGill) | Psychology |
| Mitton, J., Ph.D.(Alberta) | Education |
| Morrison, B., Ph.D.(Strathclyde) | Marketing & Enterprise Systems |
| Mukerji, B., Ph.D.(Carleton) | Marketing & Enterprise Systems |

| | |
|---|---|
| Nzindukiyimana, O., Ph.D.(UWO) | Human Kinetics |
| 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 |
| Parikh, B., Ph.D.(Memphis) | Accounting & Finance |
| Paz, M., MA(Ottawa) | Modern Languages |
| Penner, K., Ph.D.(McMaster) | Religious Studies |
| Potts, J., Ph.D.(John Hopkins) | English |
| Razul, S., Ph.D.(Dalhousie) | Chemistry |
| Richardson, H., Ph.D.(Dalhousie) | Nursing |
| Risk, D., Ph.D.(Dalhousie) | Earth Sciences |
| Robinson, I., Ph.D.(StFX) | Education |
| Rosborough, J., Ph.D.(UWO) | Economics |
| Rushton, C., Ph.D.(Bristol) | English |
| Sandness, A., Ph.D.(Sorbonne) | Religious Studies |
| Semple, R., Ph.D.(King's College, UK) | History |
| Summerfield, F., Ph.D.(Guelph) | Economics |
| Taylor, B., Ph.D.(Calgary) | Biology |
| Thompson, K., Ph.D.(Victoria) | Psychology |
| Tokarz, W., Ph.D.(Alberta) | Modern Languages |
| Trembinski, D., Ph.D.(Toronto) | History |
| Throop-Robinson, E., Ph.D.(South Australia) | Education |
| Verberg, N.J., Ph.D.(Waterloo) | Sociology |
| Vishwakarma, V.K., Ph.D.(U of New Orleans) | Accounting & Finance |
| Vossen, D., Ph.D.(UWO) | Human Kinetics |
| Walters, W., Ph.D.(StFX) | Education |
| Weaver, A., Ph.D.(UNB) | Psychology |
| Withey, P., Ph.D.(Victoria) | Economics |
| Wright, K., Ph.D.(Toronto) | English |

**Assistant Professors**

| | |
|---|---|
| Ahmed, H., Ph.D.(Alberta) | Physics |
| Alessandrini, D., Ph.D.(Guelph) | Economics |
| Alex, J., CA(ASCA) | Accounting & Finance |
| Arnott, M., MN(South Queenlands) | Nursing |
| Baker, M., M.Sc.(UWO) | Physics |
| Barker, C., Ph.D.(Saskatchewan) | Education |
| Benoit, B., Ph.D.(Dalhousie) | Nursing |
| Bertin, E., Ph.D. INRS-EMT(Quebec) | Chemistry |
| Burnett, K., Ph.D.(Waterloo) | Development Studies |
| Chattopadhyay, S., Ph.D.(Kent State) | Development Studies<br>Women's and Gender Studies |
| Crumley, E., Ph.D.(Alberta) | Health |
| Cupido, K., Ph.D.(Arizona State) | Mathematics and Statistics |
| Delamer, JA., Ph.D.(Oner-Isae-Supaero) | Computer Science |
| Delorey, D., M.Ad.Ed.(StFX) RN | Nursing |
| Dias, D., Ph.D.(Nipissing) | Education |
| Everitt, T., Ph.D.(Saskatchewan) | Human Nutrition |
| Garrod, J., Ph.D.(Carleton) | Sociology |
| Gerrits. B., Ph.D.(Queen's) | Political Science |
| Girard, C., Ph.D.(Harvard) | Art |
| Hanlon, J., MMUS(North Texas) | Music |
| Harenberg, S., Ph.D.(Regina) | Human Kinetics |
| Harvie, R., Ph.D.(Otago) | Human Nutrition |
| Helpard, H., Ph.D.(Dalhousie) | Nursing |
| Hendra, S., M.Sc.(Ottawa) | Nursing |
| Holmes, C., Ph.D.(Dalhousie) | Health |
| Hood, J., MA(UWO) | Human Kinetics / Management |
| Huang, J., Ph.D.(Memphis) | Accounting and Finance |
| Husband, M., Ph.D.(York) | Education |
| Karunakaran, V., Ph.D.(Strathclyde) | Biology |
| Khakpour, M., Ph.D.(Saskatchewan) | Health |
| Kikkert, P., Ph.D.(UWO) | Irving Shipbuilding Research Chair,<br>Public Policy & Governance |
| Levin, J., Ph.D.(Toronto) | Political Science |
| Levman, J., Ph.D.(Toronto) | Computer Science |
| MacDonald-MacAulay, B., MEng.(Dalhousie), P.Eng. | Engineering |
| MacIsaac, M., MBA(Bradford, UK) | Management |
| Mackey, W. Ph.D.(StFX) | Education |
| Mattie, D., M.Sc.(StFX) | Marketing & Enterprise Systems |
| Mazerolle, E., Ph.D.(Dalhousie) | Psychology |
| McKee, L., Ph.D.(UWO) | Education |
| Nguyen, Y.N., Ph.D.(Monash) | Accounting & Finance |
| Omae, K., MA Jazz(Queen's College NY) | Music |
| Perry, J., Ph.D.(Toronto) | Biology |
| Parks, S., Ph.D.(McGill) | Religious Studies |
| Purvis, J., MN(Dalhousie) | Nursing |
| Reid, R., Ph.D.(McGill) | Human Kinetics |
| Rodela, T., Ph.D.(Ottawa) | Biology |
| Sheppard, D., MSc HQ(Queens) | Nursing |
| Smith, T., M.Sc.(Waterloo) | Computer Science |
| Soufan, O., Ph.D.(King Abdullah) | Computer Science |
| Sylliboy, M., M.Ed.(Simon Fraser) | Education |
| Szlachta, M., Ph.D.(Toronto) | Philosophy |
| Thomas, R., Ph.D.(OISE) | Education |
| Toxopeus, J., Ph.D.(Western) | Biology |
| Tucker. A., Ph.D.(Nipissing) | Education |
| van Wijlen, J., MN(Dalhousie) | Nursing |

**Part-Time Faculty**

| | |
|---|---|
| Beaton, A., M.Sc.(New York) | Human Kinetics |
| Boulter, C., Ph.D.(South Australia) | Education |
| Boyd, C., LL.B.(Victoria) | Management |
| Brown-Georgallas, K., BFA(NSCAD) | Art |
| Carter, E., M.Ed.(StFX) | Education |
| Carty, E., M.Litt.(Glasgow) | Philosophy |
| Cavanagh, M. | Human Kinetics |
| Clark, S. | Human Kinetics |
| Cormier, E., M.Ed.(StFX) | Education |
| Fecteau, J., MFA(UBC) | Art |
| Gibson, M., MA(Goldsmiths College, UK) | Art |
| Hadley, G., M.Ed.(StFX) | Education |
| Husk, J., Ph.D.(McMaster) | Psychology |
| Lade, M., M.Ed.(Kiell) | Modern Languages |
| Lauff, R., M.Sc.(McMaster) | Biology |
| MacAskill, W., Ph.D.(Alberta) | Education |
| MacDonald, D., MA(Acadia) | Sociology |
| McNeil-Wilson, A., M.Ed.(MSVU) | Education |
| Oakes, L., M.Ed. | Education |
| Olson, M., Ph.D.(Alberta) | Education |
| Patterson, G., M.Ed.(Acadia) | Education |
| Power, R., M.Ed.(McGill) | Education |
| Pulsifer, M., M.Sc.(Acadia) | Biology |
| Reid, L., M.Ed. P.Dt., C.D.E. | Human Nutrition |
| Rogers, W., CSPWC, TWSA, SCA | Art |
| Sutherland, T., M.Kin.(Calgary) | Human Kinetics |
| Tetu, O. | Art |
| Vossen, J., M.Sc.(UWO) | Human Kinetics |
| Young, R., BD Vis.Com.(NSCAD), M.Ad.Ed.(StFX) | Art |

**Adjunct Professors**

| | |
|---|---|
| Blair, K., Ph.D.(Queen's) | Psychology |
| Cardinal-Aucoin, M., Ph.D.(York) | Biology |
| Cash, C., Ph.D.(Waterloo) | Climate and Environment |
| Graham, D.G., Ph.D.(Dalhousie) | Political Science |
| Hauf, P., Ph.D.(Frankfurt) | Health |
| Hill, N., Ph.D.(Dalhousie) | Biology |
| Hoskins, R., (Queen's) | Psychology |
| MacDonald, A., M.Sc. EDUC (CBU) | Human Nutrition |
| Simpson, A., (Queen's) | English |
| Wamsley, K.B., Ph.D.(Alberta) | Human Kinetics |

**Retired Faculty**

| | |
|---|---|
| Aboud, Sr. H.T., Ph.D.(Cornell) | Human Nutrition |
| Amoako Tuffour, J., Ph.D.(Alberta) | Economics |
| Anderson, A., Ph.D.(Queen's) | Earth Sciences |
| Appleby, B., Th.D.(Toronto) | Religious Studies |
| Arpin, M., Ph.D.(Laval) | Modern Languages |
| Asadulla, S., Ph.D.(Florida) | Math, Computing & Information Systems |
| Beck, J.F., Ph.D.(UBC) | Chemistry |
| Beckwith. C., Artist in Residence | Music |
| Bernard, I., Ph.D.(Pennsylvania) | Education |
| Bigelow, A., Ph.D.(Simon Fraser) | Psychology |
| Bilek, L., Pea.D.(Prague) | Human Kinetics |
| Boucher, J.L., Ph.D.(Université de Montréal) | Human Kinetics |
| Bourbeau-Walker, M., Ph.D.(UBC) | Modern Languages |
| Brooks, G.P., Ph.D.(Queen's, Belfast) | Psychology |
| Brown, D., Ph.D.(Melbourne) | Political Science |
| Buckland-Nicks, J., Ph.D.(Alberta) | Biology |
| Burke, Sr. B., MA(Columbia TC) | Music |
| Byrne, C., Ph.D.(Toronto) | Philosophy |
| Cameron, J. D., Ph.D.(Queen's) | History |
| Carter, G.G., M.Mus.(Eastman) | Music |
| Carty, E., M.Litt.(Glasgow) | Philosophy |
| Clancy, P., Ph.D.(Queen's) | Political Science |
| Cormier, J., MN(Dalhousie), RN | Nursing |

| | |
|---|---|
| Currie, S., Ph.D.(Alabama) | English |
| Dawson, J., Ph.D.(UBC) | Adult Education |
| DeMont, M.E., Ph.D.(UBC) | Biology |
| den Heyer, K.C., Ph.D.(Manitoba) | Psychology |
| Duff, D., Ph.D.(Calgary)RN | Nursing |
| Duncan, C.M., Ph.D.(UWO) | Business Administration |
| Delgado, I., MFA(Instituto Allende) | Art |
| Dossa, S.A., Ph.D.(Toronto) | Political Science |
| Edwards, J.R., Ph.D.(McGill) | Psychology |
| El-Sheikh, S., Ph.D.(Queen's) | Economics |
| Fabijancic, U., Doc. IIIe cycle (Montpellier III) | Modern Languages |
| Fawcett, C., Ph.D.(McGill) | Anthropology |
| Gallant, C.D., Ph.D.(Illinois) | Mathematics, Statistics & Computer Science |
| Gallant, L., MBA(Queen's) CFP, FCA(ICANS) | Business Administration |
| Gallant, M., M.Sc.P.E.(Dalhousie) | Human Kinetics |
| Genge, A., Ph.D.(State) | Music |
| Gerriets, M., Ph.D.(Toronto) | Economics |
| Gillis, A., Ph.D.(Texas)RN | Nursing |
| Gillis, D., Ph.D.(Nottingham) | Human Nutrition |
| Gillis, H.A., Ph.D.(Notre Dame) | Chemistry / Academic Vice-President 1995-99 |
| Gillis, M.L., M.Sc.(Boston), RN | Nursing |
| Graham, H., MN(Dalhousie), RN | Nursing |
| Graham, D., Ed.D.(Nottingham) | Education |
| Graham, L., Ph.D.(Calgary) | Biology |
| Grant, C., Ph.D.(Purdue) | Economics |
| Grant, J., Ed.D.(Toronto) | Education |
| Grant, Sr. J., M.A.(Notre Dame) | Art |
| Harrison, J.F., Ph.D.(Durham) | Political Science |
| Haley, F., MHSA(Dalhousie), P.Dt. | Human Nutrition |
| Hayes, Z.L., Ph.D.(Waterloo) | Psychology |
| Henke, P.G., Ph.D.(Georgia) | Psychology |
| Hogan, M.P., Ph.D.(Toronto) | History |
| Holloway, S., Ph.D.(Ohio State) | Political Science |
| Hunter, D., Ph.D.(King's, London) | Physics |
| Jackson, W., Ph.D.(Washington) | Sociology and Anthropology |
| Jan, N., Ph.D.(Cambridge) | Physics |
| Jensen, E., MN(Dalhousie), RN | Nursing |
| Jewers, H., MN(Dalhousie), RN | Nursing |
| Johnson, R.W., Ph.D.(Manitoba) | Psychology / Academic Vice-President & Provost 1999-2005 |
| Klapstein, D., Ph.D.(Victoria) | Biology |
| Lander, D., Ph.D.(Nottingham) | Adult Education |
| Langley, J.T., M.Sc.(Nebraska)FCGA | Administrative Vice-President 1972-2002 |
| Leaist, D.G., Ph.D.(Yale) | Chemistry |
| LeBlanc, R., Ph.D.(Laval) | Modern Languages |
| Lent, M.C., Ph.D.(Durham) | Management |
| Liengme, B.V., Ph.D.(Imperial) | Chemistry |
| MacCaull, W., Ph.D.(McGill) | Mathematics, Statistics & Computer Science |
| MacDonell, Sr. M., Ph.D.(Harvard) | Celtic Studies |
| MacEachern, A., Ph.D.(Iowa State) | Mathematics, Statistics & Computer Science |
| MacFarlane, E., M.Ad.Ed.(StFX), RN | Nursing |
| MacInnes, D., Ph.D.(McMaster) | Sociology and Anthropology |
| MacInnis, M., M.Ed.(Alberta) | Education |
| MacIsaac, T., Ph.D.(Temple) | Education |
| MacKinnon, Rev. G.A., Ph.D.(Ottawa) | Theology / President 1978-90 |
| MacKinnon, R.J., Ph.D.(Oklahoma State) | Information Systems |
| MacLellan, M., MN(Dalhousie), RN | Nursing |
| MacMullin, Sr. M.R., Ed.D.(Temple) | Education |
| MacNeil, T., Ph.D.(Wisconsin) | Adult Education |
| Mahody, M.J., M.Ed.(MSVU) | Education |
| Marshall, W.S., Ph.D.(UBC) | Biology |
| Mazier, P., Ph.D.(UBC) | Human Nutrition |
| McAlduff, E.J., Ph.D.(Toronto) | Chemistry |
| McDonnell, R., ME(TUNS) | Engineering |
| McFarland, J.M., DPE(Springfield) | Human Kinetics |
| McMullin J., Ph.D.(Boston College) | Director of Counselling |
| Melchin, M.J., Ph.D.(UWO) | Earth Sciences |
| Mensch, J.R., Ph.D.(Toronto) | Philosophy |
| Meyer, M., Ph.D.(McGill) | Education |
| Miller, A.G., Ph.D.(Queen's) | Biology |
| Milner, P., Ph.D.(Notre Dame) | English |
| Munroe, E., Ph.D.(Calgary) | Education |
| Murphy, J.B., Ph.D.(McGill) | Earth Sciences |
| Mwebi, B., Ph.D.(Alberta) | Education |
| O'Brien, K., Ph.D.(Notre Dame) | English |
| Olson, M., Ph.D.(Alberta) | Education |
| O'Mahoney, T., M.Mus.(Miami) | Music |
| Palepu, R., Ph.D.(India) | Chemistry |
| Parsons, C.N., MA(Hons.)(Edinburgh) | Celtic Studies |
| Pencer, E.L., Ph.D.(Waterloo) | Psychology |
| Phillips, P., Ph.D.(Toronto) | History |
| Phyne, J., Ph.D.(McMaster) | Sociology |
| Pink, D., Ph.D.(UBC) | Physics |
| Pluta, L., Ph.D.(Queen's) | Economics |
| Quigley, A., Ph.D.(Northern Illinois) | Adult Education |
| Quinn, J., Ph.D.(Wisconsin) | Mathematics, Statistics & Computer Science |
| Quinn, W.R., Ph.D.(Queen's), P.Eng. | Engineering |
| Rancy, C., Ph.D.(Toulouse) | Modern Languages |
| Riley, S.E., D. Phil.(Oxford) | President, 1996-2014 |
| Robertson, G., Ph.D.(Dalhousie) | Biology |
| Schuegraf, E.J., Ph.D.(Alberta) | Mathematics, Statistics & Computer Science |
| Seymour, N., Ph.D.(McGill) | Biology |
| Shaw, J., Ph.D.(Arizona), RN | Nursing |
| Smith, G., M.Mus.(Eastman) | Music |
| Smith Palmer, T., Ph.D.(Auckland) | Chemistry |
| Sony, S.D., MN(Delhi), RN | Nursing |
| Sproull-Seplaki, B., M.Sc.N.(Pennsylvania), RN | Nursing |
| Stanley Blackwell, L., Ph.D.(Queen's) | History |
| Steinitz, M.O., Ph.D.(Northwestern) | Physics |
| Stouffer, A.P., Ph.D.(Claremont) | History |
| Sullivan, A., Ph.D.(UBC) | Human Nutrition |
| Syperek, A., BFA(NSCAD) | Art |
| Taylor, J.O., Ph.D.(Ottawa) | English |
| Trites, G., BA(York), FCA(ICANS) | Business Administration |
| Wadsworth, L., Ph.D.(Saskatchewan) | Human Nutrition |
| Walsh, P., Ph.D.(Dublin) | English |
| White, R., Ph.D.(OISE) | Education |
| Whitty-Rogers, J., Ph.D.(Alberta), RN | Nursing |
| Williams, M., Ph.D.(StFX) | Education |
| Williams, P.J., Ph.D.(Memorial) | Biology |
| Wood, G., Ph.D.(Bologna, Italy) | Modern Languages |

**Nurse Educators**

| | |
|---|---|
| Bogle, K., B.Sc.N.(StFX), RN | Nursing |
| Burns, L., MN(Dalhousie), RN | Nursing |
| Cabrera, D., MN(UNB), RN | Nursing |
| Chisholm, C., B.Sc.N.(StFX), RN | Nursing |
| Connolly, D. MN(Southern Queensland), RN | Nursing |
| Daviau, J., B.Sc.N.(StFX), RN | Nursing |
| Decoste, K., B.Sc.N.(StFX), RN | Nursing |
| Dobbin, A.M., M.Ed.(StFX), RN | Nursing |
| Dunbar, F., B.Sc.N.(StFX), RN | Nursing |
| Fraser, Y., M.Ed.(StFX), RN | Nursing |
| Laybolt, A., B.Sc.N.(StFX), RN | Nursing |
| Livingston, S., B.Sc.N.(StFX), RN | Nursing |
| MacDonald, J., MN(Southern Queensland) | Nursing |
| MacDonald, L. B.Sc.N.(StFX), RN | Nursing |
| MacDonnell, A., B.Sc.N.(StFX), RN | Nursing |
| MacKenzie, P., B.Sc.N.(StFX), RN | Nursing |
| MacNeil, M., M.Ad.Ed.(StFX), RN | Nursing |
| Mbugua, J., M.Ed.(StFX), RN | Nursing |
| Panagopoulos, W., M.Ed.(StFX), RN | Nursing |
| Ryan, M., B.Sc.N.(StFX) | Nursing |
| Steele, C., B.Sc.N.(StFX) | Nursing |

**Lab Instructors**

| | |
|---|---|
| Archibald, D., Ph.D.(Adelaide) | Earth Sciences |
| Artibello, T., B.Sc.Phys.Ed.(StFX) | Human Kinetics |
| Azad, M., MA.Sc.(Dalhousie) | Engineering |
| Boucher, S., B.Sc.(StFX) | Chemistry |
| Budicky, P., B.Sc., MBA(Waterloo) | Chemistry |
| Burbidge, M., M.Sc.(Victoria) | Biology |
| Bursey, S., B.Sc.(Memorial) | Chemistry |
| Cozzi, R., M.Sc.(Quebec) | Biology |
| Fraser, H., B.Sc.(StFX) | Chemistry |
| Fraser, J., B.Sc., B.Ed.(StFX) | Chemistry |
| Glasgow, K., M.E.S.(Toronto) | Biology |
| Keizer, P., B.Sc.(StFX) | Mathematics, Statistics & Computer Science |
| Lauff, R., M.Sc.(MacMaster) | Biology |
| MacDonald, S., BA(StFX) | Psychology |
| MacNeil, A., M.Ed.(StFX) | Human Kinetics |
| MacNeil, K., M.Sc.(StFX) | Biology |
| Maillet, D. | Modern Languages |
| Marchand, C., B.Sc., B.Ed.(MSVU) | Biology |
| McInnis, R., BA(StFX) | Psychology |
| Murphy, C., M.Sc.(McGill) | Earth Sciences |
| 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 |
| Stevens, E., B.Sc.(Rowan) | Biology |
| Tasneem, N., Ph.D.(Victoria) | Physics |
| Thompson, K., M.Ed.(StFX) | Human Kinetics |
| Tweedie, C., M.Sc.(Calgary) | Human Kinetics |
| Vossen, J., M.Sc.(UWO) | Human Kinetics |

**Student Success Centre**

| | |
|---|---|
| Arnold, L., M.Ad.Ed.(Toronto) | Learning Skills Instructor |
| Lane-Smith, B., MA(StFX) | Learning Skills Instructor |
| Leeming, M., Ph.D.(Dalhousie) | Co-ordinator |
| McGuire, G., MA(Paris VII) | Learning Skills Instructor |
| ten Brinke, C., BA(CBU) | Learning Skills Instructor |

**Professor Emeritus/a**

| | |
|---|---|
| Aalto, S., Ph.D.(Oregon State) | Mathematics and Statistics |
| Brooks, G.P., Ph.D.(Queen's, Belfast) | Psychology |
| den Heyer, K.C., Ph.D.(Manitoba) | Psychology |
| Edwards, J.R., Ph.D.(McGill) | Psychology |
| Gillis, A., Ph.D.(Texas)RN | Nursing |
| Henke, P.G., Ph.D.(Georgia) | Psychology |
| 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 and Statistics |
| Steinitz, M.O., Ph.D.(Northwestern) | Physics |
| Williams, P.J., Ph.D.(Memorial) | Biology |

**Senior Research Professors**

| | |
|---|---|
| Clancy, P., Ph.D.(Queen's) | Political Science |
| Graham, L., Ph.D.(Calgary) | Biology |
| Holloway, S., Ph.D.(Ohio State) | Political Science |
| Marshall, W.S., Ph.D.(UBC) | Biology |
| MacCaull, W., Ph.D.(McGill) | Mathematics, Statistics & Computer Science |
| Murphy, J.B., Ph.D.(McGill) | Earth Sciences |
| Phyne, J., Ph.D.(McMaster) | Sociology |
| Pink, D., Ph.D.(UBC) | Physics |
| Smith Palmer, T., Ph.D.(Auckland) | Chemistry |
| Stanley Blackwell, L., Ph.D.(Queen's) | History |
| Wadsworth, L., Ph.D.(Saskatchewan) | Human Nutrition |
| White, R., Ph.D.(OISE) | Education |

**Chaplains**

| | |
|---|---|
| MacGillivray, Fr. D., M.Div., BTh, STB | University Chaplain |
| Clubine, Rev. J. | Full Gospel Assembly |
| Smith, Rev. P., BA, MDiv | United Church |

**Library**

| | |
|---|---|
| Iverson, S., M.Ed.(Toronto), MLIS(UBC), RP | University Librarian |
| Cameron, S., MLIS(UWO) | Librarian |
| Delorey, C., MLIS(Dalhousie) | Librarian |
| Landry, M., MLIS(McGill) | Librarian |
| MacKenzie, K. MA(Saint Mary's) | Archivist |
| Matheson, L., MLIS(McGill) | Librarian |
| Vail, M., MLIS(Dalhousie) | Librarian |

**Coady International Institute**

| | |
|---|---|
| Alma, E., MA(Royal Roads) | Director, International Centre for Women Leadership |
| Baden-Clay, A., M.Ad.Ed.(StFX) | Manager, Youth Leadership Programs |
| Bear, A | Navigator of New Initiatives, CEI |
| Berger, B | Student Services |
| Brophy, P. | Coordinator, Innovation and Enterprise Centre |
| Case, A. | Manager, Finance |
| Chiasson, E. | Senior Development Executive |
| Cook, J. | Financial and Administrative Coordinator, CEI |
| Corkum, L. | Financial Officer |
| Cunningham, G., MA(Guelph) | Executive Director |
| Curley, A. | Indigenous Engagement Coordinator |
| Fanjoy, M., Ph.D.(Toronto) | Director of Programs |
| Ferguson, C. | Monitoring Evaluation and Learning Officer |
| Franko, J. | Program Assistant, Pathy Foundation Fellowship |
| Gabriel, J. | Collective Impact for Inclusive Youth Emplyment Coordinator, CEI |
| Gatera, B. | Engagement and Stakeholder Coordinator, CEI |
| Ghore, Y., MPA(Columbia) | Senior Program Teaching Staff and Strategic Partnerships Advisor |
| Hanscomb, K., M.Ad.Ed.(StFX) | Program Teaching Staff, Circle of Abundance |
| Hawkes, S. | Communications Coordinator |
| Irving, C., MA(Memorial) | Library Specialist |
| Landry, J., MA(UBC) | Senior Program Teaching Staff |
| Lazzuri, B., BA(UMW) | Manager, Marketing and Communications |
| LeBlanc, J. BA(Acadia), CGN | Manager of Operations, Executive Assistant |
| MacDonald, J. | Marketing Coordinator |
| MacIntosh, P., M.Ad.Ed.(MSVU) | Senior Program Teaching Staff |
| MacKenzie, E. | Student Services |
| Muthua, E. | Research Assistant, CEI |
| Murphy, J. | Impact and Innovation Coordinator, CEI |
| Neustaeter, R., Ph.D.(Manitoba) | Program Teaching Staff Faculty of Education |
| O'Donnell, L. | Development Officer |
| Paul, K., BA (FNUC) | Program Teaching Staff, Circle of Abundance |
| Peters, B., MA(Carleton) | Senior Program Teaching Staff |
| Popp, J., M.Sc.(Saskatchewan) | Manager of Engagement and Partnerships, CEI |
| Romanow, P., Ph.D.(Carleton) | Manager of Research and Evaluation, CEI |
| Sears, C. | Library Assistant |
| Smith, E. | Project Manager, ENGAGE |
| Smith, J. | Director Social Innovations, Coady Institute and CEI |
| Stewart Snyder, K. | Marketing and Communications Officer, CEI |
| Strickland, A. | Youth Engagement Specialist, CEI |
| Thomson, K. | Education Coordinator |
| Torres, V., M.Ad.Ed.(StFX) | Program Teaching Staff, Women's Leadership |
| Utrniawan, M. | Research Coordinator, CEI |
| Worth, C. | Supervisor, Admissions |
| Yeboah, K. | Inclusion, Diversity, Equity & Access Research Coordinator, CEI |

**Continuing and Distance Education**

| | |
|---|---|
| Allen, F., B.Sc.N.(UWO) | Co-ordinator, Distance Nursing Programs |
| Delorey, T., M.Ed., (StFX) | Co-ordinator |
| Farrell, J., M.Ad.Ed.(StFX) | Co-ordinator |
| Nanji, S., M.Ed.(OISE) | Senior Instructional Designer |
| Rice, J., MBA(York) | Director |

**Research Services Group**

| | |
|---|---|
| Isnor, R., D. Phil. | Associate Vice President, Research & Graduate Studies |
| Bruce, D., MA | Director, Research Grants |
| Kendall, A.J.D., B.Sc. | Manager, Industry Liaison & Knowledge Transfer |
| Neal, N., BA MIM | Manager, Research Financial Operations |
| MacDonald, J., BA | Research Administrative Co-ordinator |

## Administrative Departments

**Administrative Services**

| | |
|---|---|
| Vice-President, Finance & Administration | Andrew Beckett, CPA, CA |
| Director Facilities Management | Leon MacLellan, P.Eng. |
| Director of Finance | Lisa Craig, CPA, CMA |
| Director, Human Resources | Daniel Draper, MIR, LL.M., CPHR |
| Director, Ancillary Services | Bob Hale, M.Ed. |
| Director, Risk Management | Randy Peters, MBA, CPA, CMA |
| Director, Information Technology Services | John DeLorey, B.Sc. |

**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 |
| Athletic Fund Development Officer | Michelle White, BA Comm. |
| Co-ordinator, Marketing & Events | Leah Bond, BA |
| Coach, Women's Rugby | Michael Cavanagh |
| Coach, Men's Country and Track | Eric Gillis, B.Ed., OLY |
| Coach, Men's Basketball | Tyrell Vernon, B.P.S. |
| 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 (interim) | Tyrone Watson |
| Coach, Women's Hockey | Ben Berthiaume, M.Ed. |
| Coach, Men's Football | Gary Waterman, B.Sc.P.E. |
| Intramural Sport & Wellness Centre Team Lead | Joe DeCoste, B.Sc. HKIN |
| Strength & Conditioning Coach | Josh Crouse, B.Sc.Kin. |

**Co-operative Education Program**

| | |
|---|---|
| Manager | Jane MacDonald, MLIS, M.Ad.Ed., M.Ed., |

**Facilities Management**

| | |
|---|---|
| Director | Leon MacLellan, M.Eng., P.Eng. |
| Maintenance Manager | Doug Campbell |
| Manager, Custodial Services | Gary MacMillan |
| Budget Analyst | Dave MacNeil, BBA |
| Senior Projects Lead | Blair Maltby, P.Eng., LSS |
| Project Manager | Brian Doiron, P.Eng. |
| Project Manager | Luc Venedam, BIS |
| Manager, Project Office | Jeff De Leebeeck |

**Office of the Registrar**

| | |
|---|---|
| Registrar & Director of Enrolment Planning | Tara Buksaitis, BA, MLIS |
| Associate Registrar, Academic | Shannon Morell, B.Ed. |
| Associate Registrar, Recruitment | Brian Scriver, BBA |
| Manager, Admissions | Ginger Fitt, BBA |

**Office of Internationalization**

| | |
|---|---|
| Director of Internationalization | Larissa Strong, BA, IPMP |

**Service Learning**

| | |
|---|---|
| Program Co-ordinator | Mary Oxner, Ph.D. |
| Program Manager | Megan Turner, MA |

**Student Services**

| | |
|---|---|
| Vice President Students | Elizabeth Yeo, M.Ed. |
| Director, Athletics & Recreation | Leo MacPherson, MBA |
| Director, Health, Counselling & Accessible Learning | Margaret McKinnon, MA., R. Psych |
| Director, Student Life | Jacqueline De Leebeeck, MA |
| Manager, University Housing | James Tobin |
| Manager, Residences | Matthew Girard |
| Manager, Student Career Centre | Jane MacDonald, MLIS, M.Ad.Ed., M.Ed. |
| Manager, Restorative Practices and Student Conduct | Brandon Randall |
| Manager, Human Rights & Equity Advisor | Megan Fogarty, BA, MIR |
| Coordinator, Centre Accessible Learning | Elizabeth Kell, M.Ad.Ed. |
| Coordinator, Black Students | Tara Reddick, BA |
| Coordinator, Indigenous Students | Terena Francis, M.Ed. |
| Gender and Sexual Diversity Student Advisor | Aimee MacDonald, BIS, MCHRM |

**IT Services**

| | |
|---|---|
| Director | John DeLorey, B.Sc. |
| Manager, MIS | Mari Roach, BA |
| Manager, IT Infrastructure | Aaron MacDonald |
| Manager, Services & Support | Andrew Goodmanson, BIS |

# 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 non-repayable financial 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 doctural level. The Faculty of Science contains the life, earth and physical sciences, as well as computer science, engineering, human kinetics, human nutrition, nursing and mathematics/statistics. 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 enroled in courses either part time or full time.

**Orientation**
A program for new students providing an academic and social introduction to university life prior to the beginning of classes in September.

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

**Passing Grade**
The passing grade for all undergraduate courses is 50. 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 enroling in courses in the Student Information System.

**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 (Government Student Aid)**
A financial award based on financial need and resources which must be repaid to the loan program. Loans to university students are obtained through the Canada Student Loan Program, the US Federal Student Aid Program and the Equator SENESCYT prgoram.

**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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