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Undergraduate Calendar 2025-2026

Note: The information in the calendar web pages is approved by Faculty Council and is recognized as the official information with regards to programme requirements and course descriptions for students starting their programme in the current academic year. Students who started their programme in previous years should refer to the archived calendar that coincides with the year they started. Current students can also audit their individual programme requirements using Degree Navigator™, which is available to them via their My Services portal account.

Important: As a student enrolled in a programme, it is important that you are aware of the academic regulations that may apply to you and/or your programme.

Key Dates and Important Notices

Note: The dates listed for the statutory holidays are the dates that college operations are affected by that holiday.

2025 Winter and Spring/Summer

Event	Date
New Year's Day (statutory holiday)	**01 Jan**
Undergraduate Classes Start (Winter Term)	**06 Jan**
Supplemental Exams	11 - 12 Jan
Deadline to "Add" a course (winter term) (academic regulation 6.2)	19 Jan
Deadline for Payment of Winter Tuition by Full-Time Students ***(paying per term fees)***	31 Jan
Deadline to "Deregister" from a course (winter term) (academic regulation 6.2) ***Tuition fees forfeited after this date***	02 Feb
Reading Week	**17 - 21 Feb**
Deadline to "Withdraw" from a course with a "WD" (winter term) (academic regulation 6.3) ***Tuition fees forfeited (courses dropped after this date will have a mark assigned)***	23 Feb
Deadline to Submit Application for Graduation ***(Spring Convocation)***	20 Mar
Admissions Application Deadline for Summer Term - Distance Learning	31 Mar
End of Classes (3rd yr Civ Engr)	04 Apr
End of Classes	09 Apr
Examinations **(part 1)**	11 - 17 Apr
Good Friday (statutory holiday)	**18 Apr**

Event	Date
Easter Monday (statutory holiday)	**21 Apr**
Examinations **(part 2)**	22 - 26 Apr
End of Winter Term	**26 Apr**
Math Camp	28 Apr - 16 May
Deadline to Submit Application for Graduation ***(June Convocation)***	30 Apr
First Day of Classes - Distance Learning (Summer Term)	**05 May**
Supplemental Exams ***(graduands)***	05 - 06 May
Academic Tours (3rd yr Engineering)	05 - 07 May
Professional Development Course (2nd yr Engineering)	05 - 07 May
Supplemental Exams	12 - 13 May
Spring Convocation	**15 May**
Commissioning Parade	16 May
Deadline to "Add" a course (summer term) (academic regulation 6.2)	18 May
Victoria Day (statutory holiday)	**19 May**
Deadline for Payment of Winter Tuition by Full-Time Students ***(paying per term fees)***	31 May
Deadline to "Deregister" from a course (summer term) (academic regulation 6.2) ***Tuition fees forfeited after this date***	01 Jun
Deadline to "Withdraw" from a course with a "WD" (summer term) (academic regulation 6.3) ***Tuition fees forfeited (courses dropped after this date will have a mark assigned)***	22 Jun
June Convocation | CFC Toronto	**24 Jun (TBC)**
Canada Day (statutory holiday)	**01 Jul**
Admissions Application Deadline for Fall Term - Distance Learning	31 Jul
Civic holiday (statutory holiday)	**04 Aug**
Examinations - Distance Learning	11 - 15 Aug
End of Summer Term - Distance Learning	**15 Aug**

2025 Fall

Event	Date
Labour Day (statutory holiday)	**01 Sep**
Undergraduate Classes Start (Fall Term)	**02 Sep**
Reunion Weekend	11 - 13 Sep
Classes end at Noon	12 Sep
Deadline to "Add" a course (fall term) (academic regulation 6.2)	14 Sep
Deadline to Submit Application for Graduation ***(Fall Convocation)***	26 Sep
Deadline to "Deregister" from a course (fall term) (academic regulation 6.2) ***Tuition fees forfeited after this date***	28 Sep
Deadline for Payment of Fall Tuition by Full-Time Students ***(paying per term fees)***	30 Sep
National Day for Truth and Reconciliation (statutory holiday)	**30 Sep**

Event	Date
Thanksgiving (statutory holiday)	**13 Oct**
Fall Break (Undergraduate)	14 - 15 Oct
Mid-term Exams (1st & 2nd yrs)	16 - 28 Oct
Deadline to "Withdraw" from a course with a "WD" (fall term) (academic regulation 6.3) ***Tuition fees forfeited (courses dropped after this date will have a mark assigned)***	19 Oct
Admissions Application Deadline for Winter Term - Distance Learning	31 Oct
Remembrance Day (statutory holiday)	**11 Nov**
Fall Convocation	**21 Nov (TBC)**
End of Classes	02 Dec
Examinations	04 - 16 Dec
End of Fall Term	**16 Dec**
Christmas Day (statutory holiday)	**25 Dec**
Boxing Day (statutory holiday)	**26 Dec**

2026 Winter and Spring/Summer

Event	Date
New Year's Day (statutory holiday)	**01 Jan**
Undergraduate Classes Start (Winter Term)	**05 Jan**
Supplemental Exams	10 - 11 Jan
Deadline to "Add" a course (winter term) (academic regulation 6.2)	18 Jan
Deadline for Payment of Winter Tuition by Full-Time Students ***(paying per term fees)***	31 Jan
Deadline to "Deregister" from a course (winter term) (academic regulation 6.2) ***Tuition fees forfeited after this date***	01 Feb
Reading Week	**16 - 20 Feb**
Deadline to "Withdraw" from a course with a "WD" (winter term) (academic regulation 6.3) ***Tuition fees forfeited (courses dropped after this date will have a mark assigned)***	22 Feb
Deadline to Submit Application for Graduation ***(Spring Convocation)***	19 Mar
Admissions Application Deadline for Summer Term - Distance Learning	31 Mar
End of Classes (3rd yr Civ Engr)	02 Apr
Good Friday (statutory holiday)	**03 Apr**
Easter Monday (statutory holiday)	**06 Apr**
End of Classes	10 Apr
Examinations	13 - 24 Apr
End of Winter Term	**24 Apr**
Academic Tours (3rd yr Engineering)	27 - 29 Apr
	27 Apr - 15 May
Deadline to Submit Application for Graduation ***(June Convocation)***	29 Apr
First Day of Classes - Distance Learning (Summer Term)	**04 May**

Event	Date
Supplemental Exams ***(graduands)***	04 - 05 May
Professional Development Course (2nd yr Engineering)	04 - 06 May
Supplemental Exams	11 - 12 May
Spring Convocation	**14 May**
Commissioning Parade	15 May
Deadline to "Add" a course (summer term) (academic regulation 6.2)	17 May
Victoria Day (statutory holiday)	**18 May**
Deadline for Payment of Winter Tuition by Full-Time Students ***(paying per term fees)***	31 May
Deadline to "Deregister" from a course (summer term) (academic regulation 6.2) ***Tuition fees forfeited after this date***	31 May
Deadline to "Withdraw" from a course with a "WD" (summer term) (academic regulation 6.3) ***Tuition fees forfeited (courses dropped after this date will have a mark assigned)***	21 Jun
June Convocation | CFC Toronto	**24 Jun**
Canada Day (statutory holiday)	**01 Jul**
Admissions Application Deadline for Fall Term - Distance Learning	31 Jul
Civic holiday (statutory holiday)	**03 Aug**
Examinations - Distance Learning	10 - 14 Aug
End of Summer Term - Distance Learning	**14 Aug**

Dates specific to RMC Online students

Event	Winter [2] 2025	Summer [2] 2025	Fall [2] 2025	Winter [2] 2026	Summer [2] 2026	Fall [2] 2026
Open Online Registration	01 Nov 24	01 Apr 25	15 July 25	01 Nov 25	01 Apr 26	15 Jul 26
Distance Education Online Course Registration Deadline [1]	15 Dec 24	30 Apr 25	30 Aug 25	15 Dec 25	30 apr 26	30 aug 26
Course Start	06 Jan 25	05 May 25	02 Sep 25	05 Jan 26	04 May 26	08 Sep 26
Last date to add a course	18 Jan 25	18 May 25	14 Sep 25	18 Jan 26	17 may 26	20 Sep 26
Last date to withdraw from a course with possible partial reimbursement	01 Feb 25	01 June 25	28 Sept 25	01 Feb 26	31 May 26	04 oct 26
Last date to withdraw from a course	22 Feb 25	22 June 25	19 Oct 25	22 Feb 26	21 Jun 26	25 Oct 26
Deadline to register for exams	18 Mar 25	07 July 25	03 Nov 25	16 Mar 26	06 Jul 26	09 Nov 26
Final Exams	22 - 26 Apr 25	11 - 15 Aug 25	08 - 12 Dec 25	20 - 24 Apr 26	10 - 14 Aug 26	14 - 18 Dec 26
End of Term	26 Apr 25	15 Aug 25	16 Dec 25	24 Apr 26	14 Aug 26	18 dec 26
Release of approved grades via My Services	02 May 25	21 Aug 25	22 Dec 25	30 Apr 26	20 Aug 26	28 dec 26

1 Course registration requests received after the online registration deadline date will be processed on a first-come-first-served and space-available basis. Students who enroll at the last minute are reminded that course material might be late reaching them, that they are expected to submit their first assignment on time and must cover lost time on their own.

2 Summer and Fall terms are 15 weeks long. However, Winter term is 16 weeks long. This includes the exam period.

Dates specific to the CPA prep courses (block format)

Blocks	Block 4	Block 5	Block 6	Block 1	Block 2	Block 3	Block 4	Block 5	Block 6
Corresponding Terms	Winter 2	Summer 1	Summer 2	Fall 1	Fall 2	Winter 1	Winter 2	Summer 1	Summer 2
Start of Classes	03 Mar 25	05 May 25	30 Jun 25	02 Sep 25	27 Oct 25	05 Jan 26	02 Mar 26	04 May 26	29 Jun 26
Deregistration Deadline	16 Mar 25	18 May 25	13 Jul 25	14 Sep 25	09 Nov 25	18 Jan 26	15 Mar 26	17 May 26	12 Jul 26
Withdrawal Deadline	30 Mar 25	01 Jun 25	27 Jul 25	28 Sep 25	23 Nov 25	01 Feb 26	29 Mar 26	31 May 26	26 Jul 26
End of Classes	20 Apr 25	22 Jun 25	17 Aug 25	19 Oct 25	14 Dec 25	22 Feb 26	19 Apr 26	21 Jun 26	16 Aug 26

Notices and Disclaimer

1. The course listings and academic programmes described in this Calendar represent Senate-approved requirements and electives for completion of degree requirements. Circumstances beyond the control of the College, such as severe budget shortfalls, may result in restrictions in the number and range of course and programme choices available to students as compared with those listed herein or in other College publications.
2. The College reserves the right to limit access to courses or programmes and, at its discretion, to withdraw particular programmes, options, or courses altogether. In such circumstances, the College undertakes to the best of its ability to enable students registered in affected programmes to complete their degree requirements in a satisfactory manner.
3. Prospective students or new registrants are advised to consult the most current information available from the College and its various Faculties in printed or electronic form, as well as academic advisors for the programmes concerned, before making registration decisions or course/programme choices.
4. The Senate and the Board of Governors of the Royal Military College of Canada reserve the right to invoke changes in this Calendar, in either its printed or electronic forms, at any time without prior notice.
5. Officer Cadets at the Royal Military College of Canada must select a course of studies that is compatible with their element of the Canadian Forces and with the Military Officer Occupation selected. The Canadian Forces reserve the right to limit enrolment in any given course of studies.
6. Applications are processed through Canadian Forces Recruiting Centres (1-800-856-8488). Applications for admission should be submitted as early as possible in the final year of high school. Transcripts of final marks are not required to initiate an application.
7. Additional information may be found on the Internet at Canadian Forces Recruiting.

Date modified:

2025-04-01

RMC the University

Related links

Undergraduate Admissions

Office of the Registrar

RMC Academic Fees

Transcript and Document Requests

Introduction

The Royal Military College of Canada (RMC) is a national university for educating and developing leaders committed to serving Canada. To achieve this goal, the demands of an RMC education go beyond academic achievement.

For officer and naval cadets of the Regular Officer Training Plan (ROTP), otherwise referred to as Cadets, or the University Training Plan - Non-Commissioned Members (UTPNCM), the RMC degree consists of four interlocking pillars: Academics, Military, Physical Fitness and Bilingualism, each of which is incorporated throughout the formal and informal elements of the RMC programme.

For members of the Canadian Armed Forces (CAF) who undertake their undergraduate studies at RMC through correspondence, on site, at a distance, or at the RMC campus, the RMC degree provides them with the same fundamental philosophical foundation as the officer cadets who complete their studies through one of the subsidized education programmes.

Effective 7 September 2021, any CAF member taking a degree that is open to the Cadets will also be required to pass the mandatory athletics and language courses unless they have been granted legacy rights [1] by Senate.

Long-standing co-operative ventures with Queen's have now been extended to undergraduate courses. Cadets at RMC and students at Queen's may now, subject to departmental approval, take undergraduate courses at the other institution and count these courses as credits towards their degrees. Normally, the choice of courses will be limited to third and fourth year course.

For non-military students, an RMC education provides them with fundamental Canadian values and international values cherished by nations of the free world.

> As of 7 September 2021, non-military students will not be allowed to take any degree open to the Cadets unless they have been granted legacy rights [1] by Senate. Any member of the CAF admitted to a Bachelor of Arts (Honours), Bachelor of Arts, Bachelor of Science (Honours), Bachelor of Science, or Bachelor of Engineering degree who does not have legacy rights and subsequently releases from the CAF before completing their degree will not be allowed to remain in any of these degrees. If they are MOSID qualified before releasing from the CAF then they will be permitted to transfer into one of the following degrees: Bachelor of Arts (General), Bachelor of Science (General), Bachelor of Military Arts and Science, or Bachelor of Military Arts and Science (Honours).

Mission

As a military university, the Royal Military College of Canada educates, develops, and inspires bilingual, fit, and ethical leaders who serve the Canadian Armed Forces and Canada.

Objectives

The objectives of the Royal Military College of Canada are:

1. To prepare and motivate Canadians for effective service as commissioned officers in the Canadian Armed Forces by:
    a. providing a university education in both official languages in appropriate disciplines designed on a broad base to meet the unique needs of the Forces,
    b. developing qualities of leadership,
    c. developing a high standard of personal physical fitness,
    d. developing bilingual competencies, and
    e. stimulating an awareness of the ethic of the military profession;
2. To improve in appropriate fields the educational background of students who will be commissioned officers in the Canadian Armed Forces by providing undergraduate and graduate courses in both official languages; and
3. To foster and encourage faculty participation in research in order to sustain academic excellence. Research with a defence focus is encouraged.

The Four Pillars of an RMC Education

> **Post Nominal:** Only students in ROTP who successfully complete the four interlocking pillars, which includes one of the following acceptable degrees: Bachelor of Arts (Honours), Bachelor of Arts, Bachelor of Science (Honours), Bachelor of Science, or Bachelor of Engineering, merit the "rmc" - post nominal. Senate remains the approving authority for determining successful completion of the four pillars, and hence the awarding of the post nominal.

Academic Pillar

The academics pillar fosters the critical intellectual skills required to understand the complexities of living in the 21st century. The academic programme emphasizes the practical applications of what has been learned to military settings and daily operational demands. All degree programmes offered at RMC are designed to provide a sound, balanced, liberal, scientific and military education. Cadets, while sponsored under ROTP are restricted to the following degrees: Bachelor of Arts (Honours), Bachelor of Arts, Bachelor of Science (Honours), Bachelor of Science, or Bachelor of Engineering. Cadets are not admissible into the following degrees: Bachelor of Arts (General), Bachelor of Science (General), Bachelor of Military Arts and Science, or Bachelor of Military Arts and Science (Honours).

Military Pillar

> Any member of the CAF admitted to a Bachelor of Arts (Honours), Bachelor of Arts, Bachelor of Science (Honours), Bachelor of Science, or Bachelor of Engineering degree who does not have legacy rights and subsequently releases from the CAF before completing their degree will not be allowed to remain in any of these degrees. If they are MOSID qualified before releasing from the CAF then they will be permitted to transfer into one of the following degrees: Bachelor of Arts (General), Bachelor of Science (General), Bachelor of Military Arts and Science (Honours), or Bachelor of Military Arts and Science.

The demands of an officer in today's complex rapidly changing security environment are significant. Thus, the military pillar develops those personal skills and abilities that lead to success in most of life's endeavours. Leadership training provided by the RMC experience will help students, as they begin their studies at RMC and along with other experiences, prepare them to make difficult decisions under stressful conditions through deeper understanding of the factors affecting their role as a leader. The nature of military leadership and military operations necessitates an in-depth understanding of human behaviour. Therefore, studies in military psychology and leadership are part of the required academic curriculum. Particular emphasis is placed on the importance of personal integrity, ethical behaviour, and professional responsibility.

Physical Fitness Pillar

> Any member of the CAF admitted to a Bachelor of Arts (Honours), Bachelor of Arts, Bachelor of Science (Honours), Bachelor of Science, or Bachelor of Engineering degree will be required to take part in the same mandatory athletics courses as the Cadets, unless they are granted legacy rights [1] by Senate.

Under the physical fitness pillar, RMC teaches students the importance of fitness and developing a healthy lifestyle as a lifelong endeavour. Striving for a higher level of physical fitness can inspire those around them and has been shown to improve one's quality of life and learning. All Cadets are required to take part in the physical education programme designed to achieve and maintain a high level of fitness and to learn the basic fundamentals in a wide variety of team and individual sports.

Bilingualism Pillar

> Any member of the CAF admitted to a Bachelor of Arts (Honours), Bachelor of Arts, Bachelor of Science (Honours), Bachelor of Science, or Bachelor of Engineering degree will be required to take part in the same mandatory, second language courses as the Cadets, unless they are exempt by virtue of their linguistic profile or they are granted legacy rights [1] by Senate.

The bilingualism pillar reflects Canada's cultural heritage. As representatives of this heritage, officers are expected to be fluent in both of Canada's official languages - English and French. The responsibilities of an officer in the CAF require them to lead young Canadians that are primarily Anglophone or Francophone. RMC has been training officers to communicate effectively in both French and English for well over 30 years. RMC helps make this learning process an interesting one with class time as well as integration into daily life at RMC.

Officers of Administration

Chancellor and President

Minister of National Defence, The Honourable David McGuinty, MP

Commandant and Vice Chancellor

Brigadier-General Pascal Godbout, CD

Principal

Dr. Jill Scott, PhD

The Board of Governors

The Board of Governors was established in 1997. Its role is to review and approve the strategic direction of the college, and to provide advice to the Minister of National Defence on all matters relating to the college as required.

Senate

The Senate was created when the Royal Military College of Canada Degrees Act, 1959 was enacted. It is composed of the President (Minister of National Defence), the Commandant, the Principal, the Vice-Principal Academic, the Vice-Principal Research, the Associate Vice-Principal of Indigenous Knowledges and Learning, the Dean of Graduate Studies, the Dean of the Faculty of Engineering, the Dean of the Faculty of Science, the Dean of the Faculty of Social Science and Humanities, the Director of Cadets as the Dean of Students, the Director of Athletics, the Director of the Language Centre, a Faculty Association representative, a Faculty representative, the Academic Director of Royal Military College St-Jean, Director of Academics of Canadian Forces College Toronto, and the Registrar of the Royal Military College of Canada, who also acts as Secretary.

Its function is to grant degrees and honorary degrees. To ensure that the quality of RMC degrees being granted meet the highest standards the Senate of the College has empowered a number of Standing Committees, as part of Academic governance.

Note: The Senate possesses the authority to create by-laws, create sub-committees, add new members and is the final authority for all academic matters. [2]

Deans' Council

Deans' Council (DC) is a Standing Committee of Senate. It is composed of the Principal as Chair, the Registrar, who is also the Secretary, the Vice-Principals, the Deans of the Faculties, the Academic Director at RMC Saint-Jean, the Associate Vice-Principal Academic, the Director of Academics at the Canadian Forces College (CFC), the Special Assistant to the Principal, Director AMS, and the Director of Cadets (only for appeals related to matters of academic integrity). DC is a decision-making body within the Academic Wing on all academic matters that are not matters of Senate or Faculty Council. DC is a forum for discussions and deliberation on decisions that affect the leadership and management of the Academic Wing or for matters destined for Senate or Faculty Council. DC is the final authority for academic appeals related to academic integrity violations, except when an appeal is made which involves a sanction of expulsion.

Faculty Council

The Faculty Council (FC) is a Standing Committee of Senate. It is composed of the Principal as Chair, the Registrar, who is also the Secretary, the Vice-Principals, the Deans of the Faculties, the Heads or Acting Heads of the various departments, the Director of Cadets, and other members of the senior staff designated by the Chair.

Its function is to:

- act as the decision-making body on all academic matters that are not matters of Senate (matters of the Senate are contained in the Senate By-laws);
- review and take action as deemed necessary on all Faculty Board recommendations;
- be responsible for the compilation and recommendation to Senate of the graduands' lists for all convocations; and
- recommend to Senate the granting of Emeritus status for deserving faculty; and
- provide academic advice to the Commandant in the form of recommendations concerning any matter of an academic nature.

Faculty Board

The Faculty Board (FB) is a Standing Committee of Senate. It is composed of the Principal as Chair, the Registrar, who is also the Secretary, the Professors, the Associate Professors, the Assistant Professors, the Lecturers, the Chief Librarian, the Director of Administration, the Director of Cadets, the Officers of the Military Wing, all other members of the senior staff designated by the Chair, and students representing the student body invited by the Chair to attend.

The function of the Faculty Board is to:

- make recommendations to the Faculty Council concerning any matter; and in particular, those of an academic nature; and
- elect a Faculty Board Representative to Senate, who will also be RMC's Colleague to the Council of Ontario Universities. An election will be held approximately every three years or earlier, if the incumbent is unable to fulfill their term; and
- provide academic advice to the Commandant in the form of recommendations concerning any matter of an academic nature; however, normally these recommendations will pass through Faculty Council first.

Academic Integrity Council

The Academic Integrity Council (AIC) is a Standing Committee of Senate. It is composed of the Vice-Principal Academic as Chair, the Registrar, who is also the Secretary, the Associate Deans of the Faculties or a Faculty Representative, and the Deputy Director of Cadets. The AIC promotes and develops measures to encourage Academic Integrity. The AIC will advise Faculty Council, Deans' Council and Senate on all aspects of Academic Integrity. The AIC is also responsible to review all investigative files and related documentation for cases involving an Academic Integrity violation, and to determine whether an Academic Integrity violation has occurred, and if so, to decide on the appropriate Academic Sanction to be imposed. Commanding Officers for CAF personnel will be notified of any findings and the sanction imposed by the AIC by the Registrar.

Office of the Registrar

Registrar
Karl Michaud

Assistant Registrar Calendars and Governance
Peter Bennett

Associate Registrar Undergraduate Studies
Naomi Greer-Ballance

Associate Registrar Student Services
Sebastien Proulx

Associate Registrar Graduate Studies
Julia Tapscott

Associate Registrar Admissions
Serena Lavender-Hedrich

Director Prior Learning and Recognition (PLAR)
Shelagh Corbett

Liaison Manager (i.e. Attractions)
Mark Merizzi

Accommodations Coordinator
Nobert Lepage

Prizes and Awards Coordinator
Carol-Ann Bergeron

Contact the Office of the Registrar

Explanation of Course Codes

Each course is identified by a six-character code.

> **Note:** Credit for one-half of a full-year course may be granted and in such cases, a seventh character will augment the course identification code. Addition of the digit "(1)" represents completion of the fall term portion of the course while the addition of the digit "(2)" denotes completion of the winter term portion for all two-term courses. Similarly, for four term courses, the addition of the digit (1) represents the first Fall and first Winter terms combined, while the addition of the digit (2) denotes the second Fall and second Winter terms combined. Students taking ATE101 or students who have transferred from RMC Saint-Jean will receive an In Progress (IP) on their transcript for ATE101(1) until such time that they have successfully completed the entire course. Students taking ATE301 will receive an In Progress (IP) on their transcript for ATE301(1) until such time that they have successfully completed the entire course.

Code	Explanation
EEE	The first two letters indicate the Department or subject of the course; in this example, it is Electrical Engineering. The third letter indicates the language in which the course is given, either E for English, as in the above example, or F for *Français* (French).
331	The three-digit course numbering indicates exactly which course in a subject area is referred to. The first digit indicates the year in which the course is normally offered. The second and third digits indicate the departmental course number.

Credit and Contact Hours (as used in conjunction with course descriptions)

Code	Explanation
Credit	The number of credits students will receive upon finishing the course; these credits can be either academic or military. Normally 1 credit is given for a "one term" course and 2 credits for a "full year" course.
Contact Hours (3 - 2 - 5)	The estimated number of hours per week, the course requires. The first number indicates the hours in the classroom. The second number indicates the hours of laboratory or practical work. The third number indicates the estimated hours of at-home study.

Identification of Course Codes

Code	Subject	Department responsible
AEE	Aeronautical Engineering	Mechanical and Aerospace Engineering
ATE	Athletics Course	Athletic Department
ATH	Physical Fitness Pillar	Athletic Department
BAE	Business Administration	Management and Economics
CEE	Civil Engineering	Civil Engineering
CCE	Chemistry and Chemical Engineering	Chemistry and Chemical Engineering
CSE	Computer Science	Mathematics and Computer Science
ECE	Economics	Management and Economics
EEE	Electrical Engineering	Electrical and Computer Engineering
ENE	English [3]	English
FRF	French, Literature, and Culture [3]	French, Literature, and Culture
GEE	General Engineering	Faculty of Engineering
GOE	Geography	Political Science
HIE	History	History
LCE	Language Course	Language Centre
MAE	Mathematics	Mathematics and Computer Science
MEE	Mechanical Engineering	Mechanical and Aerospace Engineering
MSE	Military and Strategic Studies	Military and Strategic Studies
PHE	Physics	Physics and Space Science
PMT	Professional Military Training	Training Wing
POE	Political Science	Political Science
PSE	Psychology	Military Psychology and Leadership
SCE	General Science	Faculty of Science
SLE	Second Language [3]	Language Centre
SOE	Sociology	Military Psychology and Leadership
SPE	Spanish [3]	French, Literature, and Culture
SSE	General Social Sciences and Humanities	Faculty of Social Sciences and Humanities
WCE	General Writing Centre	Writing Centre

Footnotes

1 Any RMC student (not including those in Preparatory Year at RMC Saint-Jean during the 2020-2021 Academic Year), military or civilian, who is currently enrolled in a programme of study at RMC, and who has taken courses prior to 7 September 2021 will be granted legacy rights by Senate such that they will not be required to pass ATE101, ATE301 or any LCF course in order to meet the requirements of their programme of study, even if they change programmes before or after 7 September 2021 or are required to repeat an academic year provided they remain subsidized under ROTP. ROTP students granted legacy rights will not be required to pass ATE101, ATE301 or any LCF course; however, they will still be required to take Athletics courses (ATH courses). Every ROTP student must pass the Canadian Forces Minimum Physical Fitness Standard (MPFS) in accordance with CAF policy; currently the FORCE Evaluation is the MPFS, and to take Second Official Language and Education Training (SOLET) to obtain BBB on the Public Service Commission (PSC) Second Language Evaluation (SLE) as a requirement of ROTP at RMC.

Any RMC student, military or civilian who is currently enrolled in a programme of study at RMC, and who has taken courses prior to 7 September 2021, or any student who was previously granted and conferred a degree and wishes to obtain a second degree in accordance with Academic Regulation 4 or to upgrade their degree in accordance with Academic Regulation 5 will be granted legacy rights by Senate if they are admitted into their new programme of study no later than 7 September 2021; anyone after this date will not be granted legacy rights by Senate. Any RMC student, military or civilian who is currently enrolled in a certificate at RMC, and who has taken courses prior to 7 September 2021, and is admitted to a Bachelor of Arts (Honours), Bachelor of Arts, Bachelor of Science (Honours), Bachelor of Science, or Bachelor of Engineering will be granted legacy rights by Senate if they are admitted into their new programme of study no later than 7 September 2021; anyone after this date will not be granted legacy rights by Senate.

Any RMC Saint-Jean students who were in their Preparatory Year during the 2020-2021 academic year will not be granted legacy rights by Senate; all remaining RMC Saint-Jean students who were students at RMC Saint-Jean during the 2020-2021 academic year will be granted legacy rights by Senate.

2 **Reference:** Clarification of University Governance for the Canadian Military Colleges, Minister of National Defence, Dated 29 November 2021.

3 In the case of these subjects, the third letter of the code indicates the primary language of the majority of students taking the course.

Date modified:

2025-05-13

Undergraduate Academic Regulations

Note: In the case of a discrepancy between the English and French version of any regulation, Faculty Council will determine, in

interpreting the regulation in question, which is the official version to be used.

1. Degrees and Certificates

1.1 The Senate may, for cause stated, deny a degree or certificate for any student.

1.2 In order to be granted a degree or certificate from RMC, the student must meet all academic requirements, and be in good standing with the college. In the case of a student denied a degree or certificate for cause, Senate may consider the award of a suitable degree or certificate at a later date, upon presentation of evidence permitting the student's good standing at RMC to be restored.

> ℹ **Note:** See Senate Academic Policy Directive #1 – Good Standing located on the RMC intranet.

1.3 With the exception of the Bachelor of Military Arts and Science (BMASc) degree, to receive a degree or certificate from RMC, a student must pass at least 50% of their required credits for their degree or certificate at RMC.

1.4 RMC credits already applied to complete a bachelor's degree from RMC may also be used for up to 50% of the credits required for a certificate from RMC.

2. Certificates and Diplomas

2.1 Certificates and diplomas are granted to students who have successfully completed the Programme of Studies leading to Certificates or Diplomas as specified in the appropriate Calendars published by RMC. Students are restricted from being enrolled in more than one programme of study at the same time.

2.2 Credits earned for certificates may be used as a laddering mechanism to earn degrees; however, credits earned for degrees may only be used for certificates in accordance with Academic Regulation 1.4.

3. Honours Programmes of Study

3.1 To earn a Bachelor of Arts (Honours) degree within a discipline, a student must successfully complete the required courses set out in the applicable Honours Programme of Study, with at least 20 credits within the discipline, must maintain a minimum B average in the Honours courses in all 300 and 400 level courses in their Honours Programme of Study, and must attain at least a B- average in the 400 level courses.

3.2 To earn a Bachelor of Science (Honours) degree within a discipline, a student must successfully complete the required courses set out in the applicable Honours Programme of Study and must maintain a minimum B- average in all 300 and 400 level courses prescribed by the Faculty of Science.

3.3 To earn a Bachelor of Engineering degree within an approved engineering programme, a student must successfully complete all required courses set out within the applicable Programme of Study as prescribed by the Faculty of Engineering.

3.4 To earn a Bachelor of Military Arts and Science (Honours) degree, a student must successfully complete the required courses set out in the applicable Honours Programme of Study, with at least 20 credits in Military Studies, must maintain a minimum B average in the Honours courses in all 300 and 400 level courses in their Honours Programme of Study, must attain at least a B- average in the 400 level courses and must achieve at least a B in the Directed Research Project (MAS 400).

3.5 The Faculty Council may, for cause stated, remove a student from an Honours Programme of Study in Arts or Science at any time, even though the student may have obtained the standard required by these regulations.

4. Second Degrees

4.1 The holder of an Undergraduate Degree from RMC or from another university may complete a second Undergraduate Degree at RMC, subject to the agreement of the Faculty and/or departments involved and to the following restrictions:

a. The holder of an Honours degree from RMC or from another university may not apply to obtain from RMC a Major or a General degree in the same discipline;
b. the student may not apply to register into a Programme of Study leading to a degree which has the same name as the first undergraduate degree he/she has obtained, except that the student may apply to be admitted to an Honours Programme of Study, if the first degree obtained is a Major or a General degree or may apply to be admitted to a Major Programme of Study if the first degree obtained is a General degree;
c. the student has met the requirements for admission into the chosen Programme of Study, as determined by the Faculty and/or departments concerned.

4.2 To obtain a Second Degree, the holder of a first undergraduate degree, whether from RMC or from another university, must complete at least half of the credits required by the chosen Programme of Study through RMC and meet all the requirements of the chosen Programme of Study as specified in RMC's Undergraduate Calendar. In cases that involve 30 credit degrees, to obtain a Second Degree, at least 10 of the required credits for the Second Degree must be new credits earned after being accepted into the Second Degree programme; or at least 10 of the required credits for the Second Degree must be new credits earned after being accepted into the Second Degree programme and/or unused credits from the initial degree.

5. Upgraded Degrees

5.1 The holder of a General Degree from RMC may apply to complete a Major or an Honours Programme at RMC, subject to the agreement of the appropriate Dean involved, if she/he has met the requirements for admission into the chosen Programme of Study, as determined by the Faculties and/or departments concerned.

5.2 The holder of a Major Degree from RMC may apply to complete an Honours Programme at RMC, subject to the agreement of the Faculties and/or departments involved, if she/he has met the requirements for admission into the chosen Programme of Study, as determined by the Dean.

5.3 To obtain an Upgraded Degree, the holder of a General or Major Degree from RMC must meet all the requirements of the chosen Major or Honours Programme of Study as specified in RMC's current Undergraduate Calendar, and they must surrender the degree that is being upgraded.

6. Changes in the Programme of Study

> ℹ **Note:** Barring exceptional circumstances, students in ROTP will not be permitted to change programmes prior to the second semester of their first year.

> ⚠ **Important:** Changes to your academic programme (adding or dropping courses) must be submitted by the applicable deadline, using the appropriate form, to the Office of the Registrar. These forms are available through your "My Services" portal account. Notifying the instructor or discontinuing class attendance does **not** suffice. Deadlines for programme/course changes are specified in relation to the academic term start date. These dates are found online in important dates and deadlines.

6.1 In the case of a transfer of registration in a Programme of Study between Faculties, signatures are required from the Deans and Department Head(s) / Programme Chair(s), those from and to which the transfer is sought.

6.2 Unless a student is required to change programmes, a student may not add courses after the first two weeks (14 days) of a term; exceptions may be approved by the Dean. Students may withdraw from courses at any time during the first four weeks (28 days) of a term without financial penalty or having the course appear on their transcript.

6.3 Normally a student will not be permitted to withdraw from a course after the 7th week (49th day) of the term. Courses dropped between the 4th and 7th week will be reflected as "Withdrawn / Abandonné" on the transcript, whereas after this period a mark will be assigned.

6.4 In exceptional circumstances, and prior to a grade becoming final, the Dean may authorize a student to withdraw from a course at any time; the course will be reflected as "Withdrawn / Abandonné" on the transcript. Once a Department Head has approved the course grade, only Faculty Council or Senate may authorize a withdrawal from the course, since it would involve expungement of the grade; the course will be reflected as "Withdrawn / Abandonné" on the transcript.

7. Course Completion

7.1 A university degree certifies that its holder has attained a measurable level of academic achievement as established by a recognized system of evaluation. Thus the performance of each student in each course must be evaluated by the instructor or instructors responsible for the course. Final grades are determined by students' performance on one or more of the following:

a. Assigned work: assignments, term papers, projects, oral presentations etc.;
b. Class participation which, in certain disciplines, may justify an attendance requirement;
c. Progress tests;
d. Laboratory tests and/or laboratory work;
e. Mid-term and/or final examinations; and/or
f. Level of written and/or oral expression.

7.2 The weight accorded to the various elements is at the discretion of the instructor or instructors responsible for the course. At the beginning of a course the instructor shall provide students with the evaluation scheme in writing, which includes proctored exams. The grading scheme cannot be altered without appropriate notice and normally should not be altered at all after seven weeks (49 days) into the term.

7.3 Students must normally complete all required course work prior to the last day of the term in which the course is offered. Students with incomplete work will normally receive a final grade based on work completed. Under exceptional circumstances, the Department Head may allow an incomplete grade to be assigned followed by the code "IN", provided that the student requests an incomplete grade and the instructor agrees to accept the outstanding work. (Prior to granting such a request, the Department Head may require a written appeal and/or medical certification or other documentation that demonstrates extenuating circumstances.) When the Department Head agrees to allow an incomplete grade to be awarded, the student will be advised in writing of the last acceptable date for receipt of late work.

7.4 If a revised mark has not been submitted before the end of the following term, the "IN" annotation will be automatically deleted from the transcript and the interim mark will stand as the final mark. (This one-term maximum may be extended when failure to complete course requirements is clearly due to exceptional circumstances (i.e., not simply workload demands). However, when it is unlikely that a student will be able to complete a course due to Canadian Armed Forces operational requirements, the student is encouraged to apply to withdraw without penalty).

8. Transcript Related Regulations

8.1 In addition to numeric and letter grades, RMC uses the entries shown in Table 8-1 on the student's Transcript to reflect course status:

Table 8-1 Transcript Notations

Transcript Notation	Meaning
AC	Accepted (refers to thesis or project)
AE	Aegrotat credit
AU	Audit
CG	Credit Granted
CN	No Credit
EX	Extra Course (in excess of normal degree requirements)
EXE	Exempt (no credit given)
IN	Incomplete
IP	In Progress
TC	Transfer Credit
WD	Withdrawn
WDS	Withdrawn (military service commitment)

8.2 Aegrotat Standing: Aegrotat Standing in a course may be granted by Faculty Council to a student who has been unable to write the final examination, but who has received satisfactory term marks. Courses passed with Aegrotat Standing will be so annotated in the transcript and will not be included in the calculation of overall average.

8.3 Audit: A student must formally register to audit a course at the beginning of the term, subject to the permission of the instructor and the Department Head and will not normally be allowed to change to regular course status after registration deadlines have passed. The level of participation of auditing students will be determined by the instructor and will not normally include submission of assignments or writing exams. Audited courses will be annotated by the code "AU" on the transcript.

8.4 Credit Granted: Credits granted are annotated on the transcript with the code "CG". Marks for CG courses will not be included in overall average calculations

8.4.1 Challenge Exam: In conjunction with the respective faculty, Department Heads will determine which courses are appropriate for challenge, and in determining the appropriate method of evaluation. All challenge exams will be conducted in accordance with Academic Policy Directive 3: Standards for the Conduct of Undergraduate End-of-Term Examinations. Course credits earned through successful passing of a Challenge Examination will be annotated as "CG" (Credit Granted) on the transcript. A student cannot request a Challenge Exam, for a course in which they were unsuccessful, in lieu of repeating a course or a supplemental evaluation. This applies both to courses taken at RMC or other institutions. Students must request and receive permission for a challenge exam through the appropriate Department Head before the start of each academic year; exceptions must be approved by the Principal. Once approved, students must register for the course through the Office of the Registrar.

Students authorized to write a Challenge Exam are required to pay normal course fees for the course being challenged, as applicable. Students may not withdraw from a Challenge Exam once registered. The course fees for a challenged course are not refundable. Students will be assigned a course grade. Students who fail to complete the requirements for the Challenge Exam will be assigned a failing grade. A supplemental evaluation cannot be written for a failed Challenge Exam. A course cannot be challenged a second time.

8.5 Extra Course: The grades obtained in Extra Courses are counted in the student's term and cumulative averages, and when the Extra Course is within the field of study or discipline, the grade obtained in that course is taken into account with respect to the award of distinctions.

8.6 Exemption: An exemption does not earn academic credit, but will enable the student to replace the exempted course with another elective course in order to earn sufficient credits to satisfy degree requirements. The transcript is marked with the code "EXE".

8.7 Transfer Credit: Transfer credits may be granted for university courses that are assessed through the PLAR process as satisfying RMC's academic requirements, or as fulfilling the requirements for unallocated credits, provided that marks of C- or higher have been earned and an overall satisfactory academic record has been maintained. The minimum mark of C- is to be waived in cases where RMC has entered into a Memorandum of Understanding with another university or a consortium of universities requiring the parties to reciprocally recognize the passing grade in each other's courses, under conditions stipulated in the Memorandum. A transfer credit for a university-level course taken at a Community College or CEGEP may also be granted provided the mark is satisfactory; normally a maximum of ten such credits may be granted at an appropriate level, depending on the program of study. Course requirements that have been satisfied through Transfer Credit are annotated on the transcript with the code TC. In order to be eligible for transfer credit, an external course must not have been taken via the challenge for credit process. **(Also read academic regulation 8.9)**.

> **8.8** Academic regulation 8.8 has been moved here.

8.9 Letter of Permission: RMC students who wish to take courses at other institutions for credits towards their programme of study must obtain prior written permission in the form of a letter of permission. The course(s) so taken must satisfy a requirement identified in the student's programme plan. Failure to obtain permission prior to the course start date will result in the credits not being accepted. A course calendar description must be submitted with the written request, as well as a Request for a Letter of Permission. The amount of instructional hours should be clearly indicated.

8.10 Credits: Each course has been assigned a credit value, which is included in the Calendar description. Credits are used in determining the average and academic standing of a student. The actual credits assigned to a course are a function of the contact time.

9. Equivalency:

9.1 When a Mandatory Course or its equivalency, delivered by the Royal Military College of Canada (RMC) or the Royal Military College Saint-Jean RMC Saint-Jean (RMCSJ) (Table of Royal Military College Saint-Jean - Royal Military College of Canada Transfer Credits), is failed for a second time, the student will be required to withdraw from his or her Programme of Study. Courses failed at another institution will not be counted as a first or second failure. See Academic Regulations 8.9, 18.1 and 18.2.

10. Final Examination

10.1 Final examinations will be held at dates and times specified in the examination timetables. Final examinations for courses or course sections may be held outside the specified exam period only with prior approval of Faculty Council. This regulation does not apply to individuals who may need to write at a different time from the rest of the students for a given course due to exceptional circumstances. Where a student needs to write at a time different from the scheduled examination due to exceptional circumstances, Academic Regulation 10.3 applies.

10.2 The instructor may refuse a student permission to write a final examination in a course if the requirements with regard to course work have not been met.

10.3 In the case of illness or deployment, a student may be granted permission to reschedule a final examination by the Department Head concerned, even if the exam will occur outside of the dates and times specified in the examination timetable. Students wishing to reschedule a final exam for any other exceptional circumstance must seek Decanal approval. The Office of the Registrar is to be advised of any exceptions granted.

10.4 Final Standing is granted by the Senate upon recommendation from the Faculty Board and Faculty Council.

11. Academic Grades

11.1 Grades for all courses appear on transcripts as letter grades and per cent grades.

11.2 Gradation of Academic Distinctions used by RMC is shown in Table 11-1.

Table 11-1 Conversion Table of Academic Standing

First Class Distinction

Letter Grade	Percentage Grade Relationship
A+	94-100
A	87-93
A-	80-86

Distinction

Letter Grade	Percentage Grade Relationship
B+	76-79
B	73-75
B-	70-72

Pass

Letter Grade	Percentage Grade Relationship
C+	66-69
C	63-65
C-	60-62
D+	56-59
D	53-55
D-	50-52

Failure

Letter Grade	Percentage Grade Relationship
E	40-49

Serious Failure

Letter Grade	Percentage Grade Relationship
F	0-39

12. Academic Distinctions

> ℹ **Note:** Starting in the 2017/2018 Academic year, "*With Distinction*" will no longer be used as an academic distinction. Decision of Faculty Council, June 2017.

12.1 Repeated Courses - Determining Academic Averages for Academic Distinctions: When determining academic averages to be used for Academic Distinctions, any courses that were taken more than once will include only the mark for the most recent attempt.

12.2 Students graduating with a Bachelor of Arts (Honours) or a Bachelor of Science (Honours) who have attained at least an A- average in the 300 and 400 level honours courses will have their transcripts annotated *"First Class Distinction"*.

12.3 Students graduating with a Bachelor of Engineering who have attained at least an A- average in all 400 level courses (HIE289 counted as a 400-level course) will have their transcripts annotated *"First Class Distinction"*.

12.4 Students graduating with a Bachelor of Military Arts and Science (Honours) who have attained at least an A- average in the 300 and 400 level honours courses and achieved at least a B in their Directed Research Project will have their transcripts annotated *"First Class Distinction"*.

12.5 For all other undergraduate degrees, students who have attained at least an A- average for degree specific 300 and 400 level RMC courses, based on a minimum of five courses, will have their transcripts annotated *"First Class Distinction"*.

13. Not Assigned

14. Pass Standing

14.1 A student is on Pass Standing unless the student is placed on Warning, Probation, or is required to Withdraw.

15. Warning

15.1 A Full Time student shall be placed on Warning at the end of a term if the student fails one or more mandatory courses applicable to their programme of study, whose total credit value is less than two (2), provided the student's term average is greater than 50 percent.

15.2 A Full Time student will be removed from Warning when the student has successfully completed all previously failed Mandatory Courses.

15.3 A Part Time student shall be placed on Warning if:

a. The student has failed a Mandatory Course applicable to their programme of study whose total credit value is less than two (2), or
b. After taking courses in any given Programme of Study, the student has failed courses totalling more than four (4) credits.

15.4 A Part Time student must retake successfully the failed Mandatory Course or pass all subsequent courses taken totalling no less than eight (8) credits to be removed from Warning.

16. Probation

16.1 A Full Time student shall be placed on Probation at the end of a term if the student fails mandatory courses such that the cumulative total credit value of Mandatory Courses failed applicable to their programme of study, and which have not been successfully completed is greater than or equal to two (2), but less than or equal to four (4), provided the student's term average is greater than 50 percent.

16.2 A Full Time student will be removed from Probation and placed on Warning upon successful completion of a sufficient number of courses such that the total credit value of the courses that the student must retake is less than two (2).

16.3 A part time student shall be placed on Probation if:

a. The student was on Warning and fails any Mandatory Course; or
b. The student's cumulative average is less than 50 per cent but equal to or greater than 45 percent; or
c. The student has failed courses totalling more than eight (8) credits applicable to their programme of study.

16.4 A Part Time student must retake successfully all failed Mandatory Courses or pass all subsequent courses taken totalling no less than eight (8) credits to be removed from Probation.

17. Failed Term

> ℹ **Note:** A "failed term" at RMC Saint-Jean constitutes a "failed term" at RMC as it applies to our regulations.

17.1 A Full Time Student shall be declared "Failed Term" at the end of a term if:

a. the student fails Mandatory Courses such that the cumulative total credit value of Mandatory Courses failed applicable to their programme of study, and which have not been subsequently successfully completed is greater than four (4);
b. the student's average is less than 50 percent;
c. the student fails any Mandatory Course or Courses such that, due to prerequisite requirements, will be unable to register in the subsequent term in a normal course load as defined in Table D-1 or as determined by the department head, or
d. the student fails any four term, mandatory course such that, due to prerequisite requirements, will require an additional four terms to complete their degree.

17.2 Students who are in a Failed Term Status will not be required to maintain a normal course load as described in Table D-1 of the Academic Regulations. Students in a Failed Term Status may take only courses up to but not exceeding the normal course load as defined in Table D-1.

17.3 In some cases, ROTP or UTPNCM students in "Failed Term" status will be unable to complete their programme within their period of subsidization. In these cases, a decision by the military chain of command will be required in order for the student to continue in the programme.

18. Withdrawal

18.1 Except when exceptional or extenuating circumstances are present, a Full Time student will be required to Withdraw from a Programme of Study if:

a. A Mandatory Course or its equivalency (See Academic Regulation 9.0), delivered by RMC is failed for a second time (it does not include exclusions, suitable substitute courses, or courses taken at another institution); or
b. The term average is less than 45 per cent; or
c. The student fails Mandatory Courses applicable to their programme of study totalling more than four (4) credits in any term; or
d. The student has failed courses applicable to their programme of study totalling more than eight (8) credits.
e. An ROTP or UTPNCM student fails a term having previously failed a term in the same programme.

> ⚠ **Important:** A "Term Failure" at RMC Saint-Jean constitutes a "Failed Term" at RMC as it applies to our regulations.

18.2 Except when exceptional or extenuating circumstances are present, a Part Time student will be required to Withdraw from a Programme of Study if:

a. The student fails a course or its equivalency (See Academic Regulation 9.0), delivered by RMC that the student has previously failed (it does not include exclusions, suitable substitute courses, or courses taken at another institution); or
b. The student has a cumulative average, based on at least four (4) courses taken, of less than 45 per cent; or
c. The Student on Probation fails a Mandatory Course; or
d. The student has failed courses totalling more than twelve (12) credits applicable to their programme of study.

18.3 A student who is required to Withdraw from a Programme of Study may apply for admittance to a different Programme of Study. Permission of the appropriate Dean is required for admittance to a new Programme of Study.

18.4 The Senate of the Royal Military College of Canada may at any time require a student to withdraw from the University if his or her conduct, attendance, work or progress is deemed unsatisfactory.

19. Re-admittance

19.1 A student who has been required to Withdraw from a Programme of Study may apply to be re-admitted to the Programme of Study no sooner than 12 months after receipt of the notification requiring withdrawal.

19.2 A student who is re-admitted to and is subsequently required to Withdraw from a Programme of Study for a second time will not normally be permitted to apply for re-admittance.

20. Supplemental Evaluations

20.1 Supplemental Evaluations at RMC that require scheduling (eg. exams) will be held at dates and times specified in the Supplemental Evaluation timetables. Supplemental Evaluations for courses or course sections may be held outside the specified Supplemental Evaluation period only with prior approval of Faculty Council. This regulation does not apply to individuals who may need to write at a different time from the rest of the students for a given course due to exceptional circumstances. In the case of illness or deployment, a student may be granted permission to reschedule a Supplemental Evaluation by the Department Head concerned even if the evaluation will occur outside of the dates and times specified in the Supplemental Evaluation Timetable. Students wishing to reschedule a Supplemental Evaluation for any other exceptional circumstance must seek Decanal approval. The Office of the Registrar is to be advised of any exceptions granted.

20.2 A student receiving a passing grade (as defined by the academic regulations) or higher on a Supplemental Evaluation will be granted a pass standing for the course for which the Supplemental Evaluation was conducted. Both the original mark and a PASS or FAIL notation for any Supplemental Evaluations will be shown on the student's transcript.

> ℹ **Note:** If a student passes the Supplemental Evaluation, then a grade of 50% will be used for the calculation of their average.

20.3 Unless precluded by Faculty Council, a Full-time student will be granted the option of writing Supplemental Evaluations, provided that:

a. the student's mark in the course is less than 50% but greater than or equal to 40%; and
b. the student's overall Term Average is not less than 50% (The student’s overall Term Average does not apply for supplemental evaluations for ATE or LCF courses).

20.4 A Full-time student will not be permitted to write more than two (2) Supplemental Evaluations in any term; exceptions are at the discretion of the Dean.

20.5 No full-time student will be allowed to undertake more than four (4) Supplemental Evaluations during the student's entire period of undergraduate study at RMC, which includes any RMC equivalent undergraduate courses taken at the Royal Military College Saint-Jean. These four (4) Supplemental Evaluations cannot be used for ATE or LCF courses, however, students will be permitted:

a. up to an additional two Supplemental Evaluations that can only be used for ATE course failures,
b. one additional Supplemental Evaluation that can only be used for LCF100, LCF200, LCF301 or LCF302, and
c. one additional Supplemental Evaluation that can only be used for LCF400.

20.6 Part-time students are not permitted to write Supplemental Evaluations except for ATE and LCF courses.

20.7 Supplemental Evaluations can take many forms, such as, but not limited to an exam, an essay, a lab report, an oral exam, some other assignment, or a combination of these formats, which will be determined by the instructor responsible for the course or course section in consultation with the Department Head or Programme Chair responsible. The form will be in accordance with the respective Dean's discretion regarding commonality.

20.8 Supplemental Evaluations that address particular learning outcomes of a course or course section will be the same for all students that have failed to meet the same learning outcomes of that course or course section.

21. Language Used in Examinations and Course Work

21.1 A student may write examinations in either English or French, except that the examinations in language courses must be written in the language concerned.

21.2 With the exception of language courses, a student may write assignments or other course work in the student's first official language. However, the student must inform the instructor of the student's intention of handing in assignments and other course work written in the official language different from the one in which the course is given no later than seven days after the beginning of the term. If the instructor is unable to mark course work written in that language, the instructor must immediately inform the department responsible for the course of the student's request. The department shall make arrangements for the course work written in that language to be properly marked.

22. Academic Appeals

> **Note:** The "new" academic appeals form is available through My Services at academic_appeals_forms_bil.pdf

22.1 What can be appealed?

22.1.1 Medical Grounds as Basis for Appeals

Students wishing to make an academic appeal on medical grounds must provide medical documentation from a health care professional that states the limitations or impacts on the student and the length of time the student was affected by the limitations and impacts.

> **Important:** Under no circumstances will a student or their health care professional be asked to provide a medical diagnosis as part of the appeals process.

Students must specify whether the appeal applies to a portion of a course, a single course, or multiple courses.

A student may request a late withdrawal (WD) on medical grounds from a course for which a final grade has been submitted. Faculty Council (FC) may grant retroactive withdrawals provided that the appropriate medical documentation has been presented.

- *Academic Policy Directive No 13: Accommodations for students with Mental Health Disabilities* (APD13) applies to appeals; however, APD13 also allows students with medical documentation to coordinate directly with their respective Department Head to determine an appropriate accommodation prior to final marks approval.
- *Academic Policy Directive No 3: Standards for the Conduct of Undergraduate End-of-Term Examinations* (APD3) applies to appeals; however, APD3 also allows students with medical documentation to coordinate directly with their respective Department Head to defer a final exam on medical grounds.

Students wishing to make an academic appeal based on medical grounds concerning their admissibility to a faculty, thereby overruling a Dean's decision, must be presented to Senate. Faculty Council does not have the authority to overrule a Dean's decision on admissibility.

22.1.2 Compassionate Grounds as Basis for Appeals

Students wishing to make an academic appeal on compassionate grounds should provide supporting documentation. Faculty Council may rule on the application of any academic regulation in concert with the compassionate grounds presented; however, students wishing to make an academic appeal based on compassionate grounds concerning their admissibility to a faculty, thereby overruling a Dean's decision, must be presented to Senate. Faculty Council does not have the authority to overrule a Dean's decision on admissibility.

22.1.3 College approved activities

> **Note:** This appeal process applies to ROTP and UTPNCM students.

If the instructor does not support participation in approved activities because absence will compromise successful completion of the course, the student may appeal to the Director of Cadets. In assessing the appeal, the Director of Cadets shall share the appeal and consult with the instructor. The decision of the Director of Cadets is final.

22.1.4 Assessment outcomes

An appeal will normally be entertained only for assignments and exams for which the instructor retains copies of the original work and where the assignments and exam contribute at least 15% to the final mark. Appeals on assessments of assignments or exams must follow the following steps:

a. The student shall first communicate in writing their concerns to the instructor responsible for assessing the assignment or exam. This communication will normally occur within 5 working days after the student has been made aware of the assessment results. The communication of the concerns by the student must identify the specific reasons for the student's appeal, including all of the facts that the student believes have a bearing on the issue and that could affect the instructor's reconsideration of the assessment.
b. The instructor will reconsider the initial assessment on the basis of the information provided by the student. The instructor will normally provide a written response to the student within 5 working days.

> ***Note:*** *If the student is satisfied with the instructor's response, the instructor will provide a copy of the response to the Department Head who will forward the decision to the Dean and the Registrar.*

c. If the student is not satisfied with the instructor's decision, the student shall next submit an Academic Appeals Form by email to the responsible Dean who forwards the appeal to the responsible Department Head and the instructor. The appeal will normally be submitted within 5 working days of receiving the decision of the instructor.
d. The Department Head will review the submitted Academic Appeals Form and meet with the instructor and student separately to ensure that all relevant information has been provided. The Department Head will assess the grounds for an appeal and will normally communicate the decision to the instructor, the student, and the Dean within 5 working days of receiving the appeal.
    i. If the appeal is not upheld, the student may appeal as per paragraph "e".
    ii. If the request for the appeal is upheld, the Department Head will select a second assessor whose teaching and research experience is as relevant as possible to the assignment or exam being reassessed. The Department Head will provide an anonymized unmarked copy of the assignment or exam and any relevant materials, such as exam instructions, rubrics, and syllabi. This step will normally be completed within 5 working days.
    iii. The second assessor shall assess the assignment.
        - If the original grade and the reassessed grade are within 5% of each other and fall within the same letter grade (A, B, C, D, E, or F), and do not alter the student's Term status the Department Head shall find that the original grade was appropriate and shall stand.
        - If the original grade and the reassessed grade have a difference of over 5% or fall within different letter grades or alter the student's Term status, the Department Head shall share the results with the original instructor and hold a meeting with the original instructor, the second assessor, and the Dean to identify the source of the difference and determine a fair and appropriate outcome for the student.
        - In cases where a fair and appropriate outcome cannot be found, the Department Head will apply a grade between the original and reassessed grade. In considering the final mark, the Department Head should take into account potential effects on the student's overall academic progression and record.
        - Possible outcomes include but are not limited to retention of the original mark, adoption of the reassessed mark, and adoption of the average of the original and reassessed marks.
        - This decision will normally be communicated in writing to the student and the instructor by the Dean within 5 working days and must clearly explain the decision with direct reference to the stated reasons for requesting the appeal and all relevant facts identified by the student.
e. If the student is not satisfied with the decision communicated by the Dean, the student shall next appeal to Faculty Council by submitting the following documents to the Registrar within 5 working days of receiving the decision of the Department Head: the Academic Appeals Form clearly identifying new information to be considered; the previous decisions and communications; and all relevant documents. The Registrar will forward all relevant information to the corresponding Dean, Department Head, and instructor and will request

their input. The Registrar will then forward the appeal and all input to Faculty Council within 5 working days. Appeals will be heard by Faculty Council only if they are based on new information or a breach of process. Merely disagreeing with the decision of the Department Head will not be considered a legitimate basis for an appeal.

f. Appeals to Faculty Council will normally be considered at the next scheduled meeting of Faculty Council. In considering the final mark, Faculty Council should take into account potential effects on the student's overall academic progression and record. The Department Head or Programme Chair responsible for the course in which the appeal was made will provide the Registrar with a written response outlining the reasons for Faculty Council's decision to support or deny the appeal. The Registrar will inform the student in writing of the decision made by Faculty Council, normally within 5 working days. The written decision must address previous decisions and any additional factors raised by the student and instructor that were not addressed at the previous levels. The appropriate Dean and instructor will be included in the communication of Faculty Council's decision.
g. In all cases where the instructor is a member of Faculty Council, the instructor must recuse themselves from the discussion and assessment of the appeal.
h. If the student is not satisfied with the decision of Faculty Council, the student may next appeal to Senate. The student must submit the Academic Appeals Form to the Registrar within 5 working days of receiving the decision of Faculty Council. The student must include previous appeals, decisions, and communications and all relevant documents. The Registrar will forward all relevant information to the corresponding Dean, Department Head and instructor and will request their input. Appeals will be heard by Senate only if they are based on new information or a breach of process. Merely disagreeing with the decision of Faculty Council will not be considered a legitimate basis for an Appeal. Appeals to Senate will normally be heard at the next scheduled meeting of Senate. In considering the final mark, Senate may take into account potential effects on the student's overall academic progression and record. The Registrar will notify the student in writing of the Senate's decision concerning the Appeal within five working days of the decision being made. The decision of Senate is final and may not be appealed further. A copy of the decision will be shared with the appropriate Dean, Department Head, and instructor.

22.1.5 Other academic appeals

Academic appeals for any reason other than medical, compassionate or college-approved activities shall follow the process outlined in section 22.1.4.

22.2 Outside the scope of this regulation

- Labor management
- Military grievances
- Appeals related to Academic Sanctions imposed due to the application of Academic Regulation 23 must be appealed through the process described in Academic Regulation 23.

23. Academic Integrity

23.1 Integrity –When you do the right thing even though no one is watching. Integrity is essential to the academic enterprise and its foundations in the open, independent, and free exchange of ideas. The core values of integrity, both academic and otherwise include: honesty, fairness, respect, responsibility, and trust. Academic Integrity demands that all members of RMC act in accordance with these values in the conduct of their academic work, and that they shall follow the rules and regulations concerning the legitimate and accepted conduct, practices and procedures of academic research and writing. Academic Integrity violations are defined as Cheating, Plagiarism or other violations of academic ethics. (It is important to note that, while the list below is comprehensive, it should not be considered exhaustive.)

Cheating includes:

a. An act or attempt to give, receive, share, or utilize unauthorized information or unauthorized assistance at any time for assignments, tests or examinations. Unauthorized assistance includes generative artificial intelligence (AI) help beyond 23.1.a.i below and/or instructors' permissions. Students are permitted to mentor or assist other students with assignments and laboratory reports, but, students will not permit other students to copy their work, nor will students copy other students' work, and they must acknowledge when they have received assistance from others, including generative AI assistance, as outlined below;
    i.) Students may use AI tools for the same tasks they accomplish with tools such as internet search engines, library database searches, online dictionaries, and online thesauruses, unless any of these uses go against a specific instructor's direction.
    ii.) Unless specifically authorized by instructors, any use of generative AI tools beyond 23.1.a.i above is prohibited.
    iii.) In any case in which an instructor allows the use of generative AI beyond what is stated in 23.1.a.i above (e.g., to go through the process of generating content or to study AI), AI-generated content must be fully disclosed, cited, and described in any work or presentation.
b. Failure to follow rules on assignments, presentations, exercises, tests, or examinations as detailed by the respective professor or test/exam invigilator;
c. Unauthorized co-operation or collaboration;
d. Tampering with official documents, including electronic records;
e. Falsifying research, experimental data, or citations;

f. The inclusion of sources that were not used in the writing of the paper or report; and
g. The impersonation of a candidate at presentations, exercises, tests or an examination. This includes logging onto any electronic course management tool or program (e.g. Moodle, Black Board, etc.) using someone else's login and password.

Plagiarism includes:

a. Using the work of others, including generative AI content, and attempting to present it as original thought, prose or work. This includes failure to appropriately acknowledge a source, (including AI content and the use of generative AI to generate content), misrepresentation of cited work, and misuse of quotation marks or attribution;
b. Failure to acknowledge adequately collaboration or outside assistance and;
c. Copying.

Other violations of academic ethics include:

a. Not following ethical norms or guidelines in research;
b. Failure to acknowledge that work or any part thereof has been submitted for credit elsewhere;
c. Misleading or false statements regarding work completed; and
d. Knowingly aiding or abetting anyone in committing any form of an Academic Integrity violation.

23.2 All cases of suspected Academic Integrity violations must be reported to the Department Head responsible for the course in which the alleged Academic Integrity violation took place. The Department Head must in turn inform the appropriate Dean of the suspected Academic Integrity violation. Students suspected of an Academic Integrity violation cannot avoid an investigation or its potential ramifications by withdrawing from the course. A committee made up of the Department Head, Dean and the Chair of the AIC will first decide whether there is a reasonable suspicion that an Academic Integrity Violation has occurred. If there is reasonable suspicion, this committee will refer the file for investigation. If there is not, the Academic Integrity investigation process will stop, and the file returned to the instructor. The Department Head will explain the findings to the instructor. Depending on the situation, there may be an opportunity to mentor the student. Investigations of alleged incidents of Academic Integrity violations shall be under the control of the Faculty Dean with jurisdiction over the course in which the infraction occurred. The Dean will decide who will be delegated to carry out the investigation. The results of all such investigations are reviewed at a regular meeting of the Academic Integrity Council. If the Academic Integrity Council determines that an Academic Integrity violation has taken place, the Academic Integrity Council may award one or more Academic Sanctions listed in Regulation 23,3. All cases involving expulsion will generate an automatic appeal to Senate. The Senate in accordance with Regulation 18.4 has the authority to require a student to withdraw. Faculty Council will be informed on a regular basis of any Academic Sanctions that are awarded. The findings with respect to Academic Integrity violations will be published in a public forum without names or other identifiers, such as student numbers on a periodic basis

23.3 Academic Sanctions imposed upon students found guilty of an Academic Integrity violation will consist of one or more of:

a. Recorded Caution;
b. Reduction in mark for the work involved;
c. Reduction in mark of the course for which the work involved was submitted;
d. Suspension for a fixed period of time;
e. Annotation of Official Transcript and;
f. Expulsion.

When determining the appropriate Academic Sanction mitigating or aggravating circumstances may be considered.

In addition to the Sanctions described above, a student found guilty of an Academic Integrity violation may be required to re-submit any work that was deemed to constitute an Academic Integrity violation. If work is required to be re-submitted, the student will be informed in writing by the appropriate Department Head or Programme Chair within seven (7) calendar days of the decision being made of the nature of the required submitted work, the maximum mark it will be eligible to receive and the date by which it must be submitted. Work that is re-submitted may be awarded a reduced mark or zero. If a student fails to re-submit the required work to a satisfactory standard by the required date a mark of zero will be awarded for the course and the student will normally be deemed to be in a Failed Term Status. Academic sanctions imposed may also include exclusion from or suspension, cancellation, or forfeiture of any scholarships, bursaries, or awards with any academic component.

23.4 When it is determined that a member of the Canadian Armed Forces has committed an academic integrity violation(s), the Academic Integrity Council, through the Registrar, will notify the respective Commanding Officer (CO) of the findings and the sanction(s) imposed by the Academic Integrity Council. In any instance of an Academic Integrity violation by a Canadian Armed Forces member further administrative or disciplinary action may be taken, as deemed appropriate by the member's Commanding Officer.

23.5 Students who are found guilty of repeated or aggravated Academic Integrity and, as a consequence, are expelled from RMC will not be considered for admission or readmission to any programme of study or course offered by or through RMC. After a period of not less than five years from the date of expulsion, the Senate may, upon receipt of a written request, review an expelled student's case and consider an application for admission or re-admission.

23.6 All Academic Sanctions will become part of a student's permanent academic record. For serious cases of Academic Integrity violations, and upon specific direction by the Academic Integrity Council, a student's Official Transcript may be annotated so as to indicate that an Academic Integrity violation took place and that an Academic Sanction was awarded.

23.7 RMC and its faculty members reserve the right to employ originality checking and plagiarism detection instruments or services to protect, preserve, and promote the academic integrity of the credits and degrees and certificates it grants. Students enrolled in a RMC course may, as part of the requirements to receive credit for that course, be required to submit their work to such originality checking and plagiarism detection instruments or services.

23.8 Students must be provided with the investigation report and any other documents or evidence that may be used in determining their culpability. In addition, they have a right to provide a written response to the investigation and any other evidence that may be used by the Academic Integrity Council in determining culpability. Students have the right to appeal any decision of an Academic Integrity violation or any sanction awarded as a result of a finding of an Academic Integrity violation. If the student is not satisfied with the decision of the Academic Integrity Council an appeal may be made to the Deans' Council. The final authority to hear any appeals arising from decisions made by the Academic Integrity Council will be Deans' Council, except for sanctions that involve expulsion; all cases involving expulsion will generate an automatic appeal to Senate. The student must submit the appeal in writing within twenty-one (21) calendar days of receiving the decision of the Academic Integrity Council. The student must submit the appeal in writing to the Deans' Council through the Registrar, and should attach to the appeal copies of all relevant documents including a statement describing the basis of the appeal. Appeals will only be heard by Deans' Council if they are based on new information or an abuse of process. Merely disagreeing with the decision of the Academic Integrity Council will not be considered a legitimate basis for an Appeal. Deans' Council may decline to hear an appeal if it finds that there is no legitimate basis for the appeal. Appeals to Deans' Council or Senate will normally be heard at the next scheduled meeting of Deans' Council or the Senate. Normally, appeals to Deans' Council or Senate will be on a paper basis only. At the request of the student, Deans' Council or Senate may agree to hear the appeal in *viva voce* but this is at the discretion of Deans' Council or Senate. The Registrar will notify the student in writing of Deans' Council's or the Senate's decision concerning the appeal within seven (7) calendar days of the decision being made. In cases not involving expulsion, the decision of Deans' Council is final and may not be appealed further. In cases involving a sanction of expulsion, the decision by Senate is final and may not be appealed further.

23.9 Academic Policy Directive No 1: Academic Integrity amplifies this academic regulation, describes the process to be followed in greater detail, and provides sample documentation.

23.10 Academic Integrity Violations Occurring at RMC Saint-Jean – Information pertaining to an RMC student found guilty of having committed an Academic Integrity Violation at RMC Saint-Jean will be transferred to the Academic Integrity log of violators at RMC. All transferred cases will be treated as though they had occurred at RMC when determining sanctions. Conversely, all relevant details of an Academic Integrity violation will be forwarded to RMC Saint-Jean when a student who has committed an Academic Integrity violation at RMC transfers to RMC Saint-Jean.

23.11 In cases where the conclusions of AIC are not in agreement with the instructor's allegations, the applicable Academic Integrity Council representative will explain the Academic Integrity Council's finding to the instructor and the student, comprised of a summary of the considerations that were discussed prior to the AIC vote.

Academic Integrity Course Description

> **Note:** The following course or an equivalent course on academic integrity is mandatory for all students enrolled in a undergraduate studies programme at RMC.

AI100 Academic Integrity

Academic integrity is fundamental to teaching, learning, and research at RMC. For this reason, all RMC undergraduate students must complete this course, which outlines the values and principles of academic integrity at RMC; explores in detail RMC's academic integrity regulations, including with regard to the use of generative artificial intelligence (GenAI) in academic work; and provides guidance for avoiding academic integrity violations. Upon completion of the course, students should have the knowledge and awareness to apply the values of academic integrity at RMC and beyond. Successful completion of the Moodle modules will constitute a pass in the course.

24. Full Time Undergraduate Students

24.1 Except for First Year, a full time student may, with the permission of the responsible department head, enrol in a maximum of one credit per term over the normal course load for the Programme of Study. Students wishing to enrol in more than one extra credit per term beyond the normal programme must first obtain permission of the responsible Dean. Minimum and maximum credits for full time status are presented in Table D-1.

Table D-1 (minimum and maximum credits permitted by term)

Programme	Minimum number of credits	Normal Course Load	Maximum number of credits
Arts: 1st Year	3 per term | 8 per academic year	5 credits per term | 10 per academic year	6 per term
Arts (except Business Administration): 2nd, 3rd or 4th Year	3 per term | 8 per academic year	5 credits per term | 10 per academic year	6 per term
Business Administration: 2nd, 3rd or 4th Year	3 per term | 8 per academic year	Variable across Years	1 per term above the normal programme
Science: All Years	3 per term | 8 per academic year	5 credits per term | 10 per academic year	6 per term
Engineering: All Years	3 per term | 8 per academic year	Variable across programmes and years	1 per term above the normal programme
BMASc: all Years	3 per term | 8 per academic year	5 credits per term | 10 per academic year	6 per term
Indigenous Leadership Opportunity Year (ILOY)	3 per term | 6 per academic year	3 per term | 6 per academic year	1 per term above the normal programme

25. Part-Time Undergraduate Students

25.1 A Part-Time Student may take a maximum course load of 3 credits in any one term and must complete at least one course every two years to remain registered in a Programme of Study.

Standing Regulations applying to any student who started in a Programme for a Bachelor of Arts, Bachelor of Arts (Honours), Bachelor of Science, Bachelor of Science, (Honours) or Bachelor of Engineering degree before Academic Year 2021/2022.

> **Note:** The Academic Regulations for RMC's Undergraduate Programme were amended effective 7 September 2021. The following Academic Regulations were in effect prior to 7 September 2021 and continue to apply to students who graduated from RMC under the ROTP, RETP and UTPNCM programmes until officially amended or rescinded.

8.8 Second Language Credits - ROTP/RETP/UTPNCM Students: ROTP/RETP/UTPNCM Students achieving the bilingual standard (BBB) on official language tests will be awarded an unallocated junior credit with a mark of 90 percent. For comprehension, writing, and speaking, students will be awarded an additional credit with a mark of 90% for each score indicating fluency or better (C or E). A maximum of four such credits will be awarded for a student's second official language. A further two credits may be awarded on the same basis for other languages, subject to formal testing, for a maximum of 6 second language credits. All BBB and above credits will normally be allocated to the third year in a four year *full-time* programme. Credits achieved in fourth year will be applied to that year. Credits granted on this basis are annotated on the transcript with the course.

> **Note:** These credits do not count towards any degree. These credits do not count towards term averages, but they do count towards overall average.

Standing Regulations Applying to Students Prior to 1 September 2003

> **Note:** The Academic Regulations for RMC's Undergraduate Programme were amended effective 1 September 2003. The following Academic Regulations were in effect prior to 1 September 2003 and continue to apply to students who graduated from RMC under the ROTP, RETP and UTPNCM programmes until officially amended or rescinded.

29. To be granted pass standing a cadet must:

a. achieve a satisfactory standard in Physical Education and in Military Training;
b. achieve a satisfactory standard in Second Language Training; and
c. obtain a favourable report in Officer-Like Qualities.

46. A cadet who, in the opinion of the staff, fails to develop the necessary officer-like qualities will, on the approval of the Commandant for such action, be required to withdraw.

Definitions

Academic Year:

For full-time students, the period from September to May. The academic year is divided into three terms: Fall Term, Winter Term, and Summer Term. For the purposes of determining academic standing the Summer term is not normally considered to make up the academic year.

Audit:

Courses that are taken without the purpose of earning academic credit. See Academic Regulation 8.3.

Challenge Examination:

An examination to test the knowledge of candidates in the subject matter of a particular course. The purpose of the Challenge Exam is to establish a basis for the granting of credit for the course, without the normal requirements for attending the course and completing the usual course requirements. See Academic Regulation 8.4.1.

Contact Hours:

The estimated number of hours per week, the course requires. The first number indicates the hours in the classroom. The second number indicates the hours of laboratory or practical work. The third number indicates the estimated hours of at-home study.

Core Curriculum of RMC:

Courses RMC students are required to take in order to prepare them to take on positions of leadership within the Canadian Armed Forces (CAF).

Corequisite:

A course which must be completed successfully before, or studied concurrently with, the course for which it is prescribed.

Course:

A unit of study designated by a code and number in the Academic Calendar.

Course Grade:

The grade assigned on completion of the course, based on assignments, practical work, examinations and/or other course requirements as determined by the course instructor.

Credit:

The equivalent, for all academic programmes, of a course consisting of about 39 hours of lectures, normally delivered in one term.

Credit Granted:

Credit granted based on challenge exams, through the appropriate Department, non-university courses, or other types of experience which are assessed through the Prior Learning Assessment and Recognition (PLAR) process as duplicating RMC's academic requirements. See Academic Regulation 8.4.

Discipline:

A field of study within a Programme of Study. A discipline will be either Major, Concentration, or Minor depending on the number of credits completed in the field of study.

Elective:

A course belonging to another discipline that a student may take to complete the minimum requirements of a Programme of Study or an optional course that is not required for a Programme of Study.

End of Term:

The end of term coincides with the end of the final exam period for that term.

Equivalency:

A course that has been reviewed by the faculty through PLAR and/or Syllabus Committee, as appropriate, and has been approved as covering at least 60% of the course content and all required key elements of the course to which it has been defined as equivalent. See Academic Regulation 9.

Exception:

A course that has been reviewed by faculty, and approved to replace another course, based on exceptional circumstances.

Exclusion:

Two courses which are anti-requisites, meaning credit will not be granted for both courses. All equivalencies are exclusions while all exclusions are not necessarily equivalencies.

Exemption:

Granted when a student is not required to complete a Mandatory course within a Programme of Study because of prior exposure to related material. See Academic Regulation 8.6.

Extra course:

A course which exceeds the requirements of the Programme of Study and which is taken only with the special permission of the Dean responsible for the programme in which the student is registered. See Academic Regulation 8.5.

Failure of a Course:

A student is deemed to have failed a course if the student fails the normal requirements for a course and does not successfully pass the supplemental evaluation.

Full Time Undergraduate Students:

Those students registered in the minimum number of credits by term and academic year in accordance with Table D-1 for their Programme of Study once the deadline for course withdrawals has expired. See Academic Regulation 24.

Good Standing:

Good standing implies that all a student's obligations to the College have been met. The requirements differ depending on the category of student. For example, the student must have paid all required fees, and must be of good character, such that the award of the degree or certificate requested does not impugn the values and reputation of the College.

Interest Only Student:

An Interest Only student is a student who is taking one or more courses at RMC without being admitted to a programme of study or certificate.

Letter of Permission:

A letter signed by the Registrar that RMC students require in order to take courses at other institutions for credits towards their programme of study at RMC. See Academic Regulation 8.9.

Mandatory Course:

A specific course which a student must pass, or otherwise receive credit, in order to complete a Programme of Study.

Optional Courses:

Courses within a discipline that are not Mandatory Courses.

Part-Time Undergraduate Students:

Students who are registered in less than the minimum number of credits of the full year programme for their Programme of Study. See Academic Regulation 25.

Pass:

A student is deemed to have passed a course if the student completes all requirements for that course to the satisfaction of the instructor.

Post Nominal:

Students who successfully complete the four interlocking pillars merit the "*rmc*" post nominal.

Prerequisite:

A course which must be successfully completed prior to commencing the course for which it is required.

Programme of Study:

The minimum set of courses required for the completion of a particular degree or certificate.

Suitable Substitute:

A course that has been reviewed by the faculty through PLAR and/or Syllabus Committee, as appropriate, and while it has not been approved as an equivalency, has been approved to replace a specific course to meet a given requirement in a degree or certificate. This is based on the common learning objectives shared by the required course and the suitable substitute. While both courses meet the requirement, because they are not equivalencies, both may be taken for credit, and either one may be applied as meeting the requirement and the other as an elective.

Supplemental Evaluation:

A Supplemental Evaluation assesses a student`s capability to fulfill the minimum learning outcomes of the course for students who have failed the course. See Academic Regulation 20.

Term Average:

The student's weighted average calculated at the end of any academic term based on all courses completed in that term plus the marks of all full-year courses which are in progress at that point. Weighted averages are based on the number of credits.

Transfer Credits:

Credits for work done at an accredited post-secondary institution. See Academic Regulation 8.7.

Visiting Students:

A visiting student is a student enrolled in a programme at another university who is authorized by that institution and by RMC to take courses at RMC.

Date modified:

2025-06-11

Prizes and Awards

General Information

Naval and officer cadets who are members of the Regular Officer Training Plan have their fees for the entire programme paid by the Department of National Defence and, in addition, are entitled to pay and allowances prescribed by the Department.

Scholarships and Prizes awarded may be retained under the Regular Officer Training Plan.

Scholarships and Bursaries

General Scholarship Fund

Administered by Faculty Council, the General Scholarship Fund permits the introduction of new scholarships, bursaries and prizes, or the augmentation of existing awards. The Fund is made possible through contributions in memory of Ex-Cadet No. 5804 S.G. Esdaile and No. 5522 T.A. Spruston; gift of the late Mrs. Lilian Grier in memory of Ex-Cadet No. 599 Colonel Leroy Fraser Grant; and also through the kind generosity of Bull HN Information Systems Ltd.; Pyrolysis Systems Incorporated; and of Emeritus Professor of Mechanical Engineering, the late Lieutenant-Colonel P.C. King.

The Leonard Foundation

Through the Leonard Foundation created by the late Lieutenant-Colonel Reuben Wells Leonard, RMC No. 87, financial awards are made available on the basis of need to provide assistance to students enrolled in undergraduate programmes. Preference in the selection of students for financial assistance is given to the sons and daughters of clergy, military personnel, schoolteachers, graduates of the Royal Military College of Canada, members of the Engineering Institute of Canada and members of the Mining and Metallurgical Institute of Canada. The numbers of the awards will vary depending on the applicant's financial situation, but on average will be $1250 and may be renewed on reapplication.

Dominion Cadetships

A Dominion Cadetship may be granted by the Minister of National Defence to a naval or officer cadet who, being a member of the Reserve Force enters the initial year at the Royal Military College of Canada.

1. The value of a Dominion Cadetship encompasses:
    1. the annual college fee for the First Year;
    2. the cost of single quarters and rations for the First and subsequent years; and
    3. the annual Recreation Club fee for the First and subsequent years.
2. Not more than fifteen Dominion Cadetships may be granted in a college year.
3. A candidate, to be eligible for a Dominion Cadetship, must meet the enrolment and academic standards for admission and be the child of a person who was killed, has died, or is severely incapacitated as a result of service in:
    1. the Canadian Forces, or
    2. the Canadian Merchant Marine, during hostilities.
4. Application for a Dominion Cadetship shall be made in writing, giving full particulars of the candidate's eligibility under subparagraph c. and shall normally be forwarded by the first day of March to a Canadian Forces Recruiting Centre or Detachment.

5. The final board of selection shall submit to the Minister of National Defence for approval a list of candidates recommended for Dominion Cadetships, in order of merit.
6. A Dominion Cadetship is forfeited on failure of an academic year.

Prizes and Awards

General Information

Awards in which studies, academic standing, or academic proficiency is a qualification normally requires that the year must have been clearly passed at the first attempt without conditions and with at least Second Class standing. Students who meet the requirements as specified by the donors or as determined by the Faculty Council and approved by the commandant may win the following annual awards.

> **Definitions:** For the purposes of Prizes and Awards eligibility; "naval or officer cadet" is defined as a student enrolled as a naval or officer cadet through either the Regular Officer Training Plan (ROTP), the Reserve Entry Training Plan (RETP) or, the University Training Plan - Non-Commissioned Members (UTPNCM) and "student" would include all students enrolled in a programme at the Royal Military College of Canada (RMC).

May Convocation / Commissioning

Fourth Year

The Sword of Honour

The Sword of Honour is awarded to the RETP or ROTP naval or officer cadet of the graduating class who best combines high standards of proficiency in each of the four pillars of the RMC programme.

The Department of National Defence Award of Merit

The Department of National Defence Award of Merit is awarded to the graduating RETP or ROTP naval or officer cadet attaining highest standards in each of the four pillars of the RMC programme.

The Governor General's Silver Medal

The Governor General's Silver Medal is awarded to the student with the highest overall average in the fourth year of study at RMC, on completion of an Honours or Engineering degree programme with First Class Distinction, provided that a four-year programme of study has been completed and that an overall average of at least "A-" has been recorded in third year.

The Van der Smissen-Ridout Award

The Van der Smissen-Ridout Award is awarded to the graduating ROTP or RETP naval or officer cadet deemed to stand highest morally, intellectually, and physically at the Royal Military College of Canada (based on a vote by the cadets).

The Navy League of Canada Prize

The Navy League of Canada Prize is awarded to the best Sea Operations naval cadet (Maritime Surface and Sub-Surface or Maritime Engineering) in the graduating class, based on high standards of proficiency in each of the four pillars of the RMC programme.

The Air Force Association of Canada Award of Merit

The Air Force Association of Canada Award of Merit is awarded in alternate years (even) to the best Air Operations or Aerospace Controller graduating officer cadet, based on high standards of proficiency in each of the four pillars of the RMC programme.

The UTPNCM Award of Merit

The UTPNCM Award of Merit is awarded to the graduating UTPNCM naval or officer cadet attaining the highest standards of proficiency in the four pillars of the RMC programme.

The Canadian Forces Engineering Prize

The Canadian Forces Engineering Prize is awarded to the best graduating naval or officer cadet enrolled in the military occupations of Naval Combat Systems Engineering, Marine Systems Engineering, Engineers, Signals, Electrical and Mechanical Engineering, Construction Engineering, Aerospace Engineer, Communications and Electronics Engineering based on high standards of proficiency in each of the four pillars of the RMC programme.

The Military Support Award of Merit

The Military Support Award of Merit is awarded annually to the best naval or officer cadet in the graduating class from the Logistics, Health Care Administration, Military Police Officer, or other military occupation of the Support Group, based on high standards of proficiency in each of the four pillars of the RMC programme.

The Canadian Defence Academy Profession of Arms Award for Excellence in Military Professionalism (CDA)

The Canadian Defence Academy Profession of Arms Award for Excellence in Military Professionalism is awarded to a Canadian Defence Academy (CDA) student for demonstrating excellence in military professionalism, leadership and character, and who has consistently displayed the highest values of the Canadian Forces – integrity, courage, academic achievement, fitness, loyalty, comradeship and commitment. (Spring)

The Karagianis Cup

Awarded annually to the graduating Social Science and Humanities student who holds the highest overall 4th-year academic average upon graduating from an Honours Social Science and Humanities programme. This award is sponsored annually by Maj (ret'd) John M. Karagianis.

H5604 Ken Smee Physics Prize

Awarded annually to an outstanding graduating naval or officer cadet in the Department of Physics and Space Science achieving the highest academic standing in Physics.

The Stuart S. Barton Science Award

The Stuart S. Barton Science Award is awarded to the student who has maintained the highest overall academic average in the 4th year of an Honours Science programme, provided this average is above 80%. This award was sponsored by Mrs. Ruth Barton in memory of the late Dr. Barton, a distinguished member of the RMC Chemistry Department.

The Professional Engineers of Ontario Gold Medal for Academic Achievement

The Professional Engineers of Ontario Gold Medal for Academic Achievement is awarded each year to the engineering student with the highest academic standing in the final year.

The Major General John Arthur Stewart Trophy

The Major General John Arthur Stewart Trophy is awarded to the top Military Engineer officer cadet in his or her graduating year whose occupation classification is Engineer (MOC 24) or Construction Engineer (MOC 46). Sponsored by the Canadian Military Engineer Association, it is based on high standards of proficiency in each of the four pillars of RMC. (Spring)

The Duncan Sayre MacInnes Memorial Scholarship

The Duncan Sayre MacInnes Memorial Scholarship is awarded to the graduating officer cadet who is considered the most deserving of those who accept a regular commission in the military occupation of Aerospace Control Officer by reason of academic standing, character, and proficiency in occupational training.

The Squadron Leader McAlpine Cadet Trust Fund Award

The Squadron Leader McAlpine Cadet Trust Fund Award is awarded to the graduating officer cadet in an Air Force officer cadet classification who obtains the highest academic marks.

The Canadian Forces Military College Academic Awards for Graduating Students

The Canadian Forces Military College Academic Awards for Graduating Students is awarded annually in each of Honours Arts, Honours Science, and Engineering to the graduating UTPNCM naval or officer cadet with Advanced Standing who, having First Class Distinction, stands highest of the graduating UTPNCMs in the course of study, provided that an overall average of Second Class Distinction without failures or conditions was maintained in the previous year.

The Canadian Forces Military College Academic Award

The Canadian Forces Military College Academic Award is awarded annually to the UTPNCM naval or officer cadet with Advanced Standing who stands highest among the Advanced Standing naval or officer cadets, provided that the year has been clearly passed without condition and that an overall weighted average of A- or better, has been obtained in the third year of 3-year (Pass) programme.

The Toronto Branch Award in Honour of Sydney Frost

The Toronto Branch Award in Honour of Sydney Frost is awarded to the graduating ROTP or RETP naval or officer cadet who has demonstrated the greatest improvement from 1st year to 4th year in Academics and Fitness, thereby reflecting the value of a military college degree.

The Harris-Bigelow Trophy

The Harris-Bigelow Trophy is awarded to the fourth year naval or officer cadet who has displayed the best combination of academic and athletic ability throughout the entire course of study at RMC. This trophy was given for annual competition by the Class of 1932 in memory of their classmates, No. 2039 T.W.E. Harris and No. 2021 J.G. Bigelow.

The Lieutenant-Colonel Leroy Fraser Grant Memorial Prize

The Lieutenant-Colonel Leroy Fraser Grant Memorial Prize is awarded in any year to the student of any year who, in open competition, submits the best original essay on an international topic other than Canada or the Commonwealth.

The Class of ’78 – Dr. Walter S. Avis UTPNCM Honour Shield

Presented annually to the UTPNCM graduate who has contributed most to the positive development of the UTPNCM squadron during the entire time at RMC, as determined by a secret ballot of the members of the UTPNCM squadron.

The Jack C. Sargant Memorial Scholarship

Awarded annually to a member of a men's varsity team and a member of a women’s varsity team who demonstrate combined proficiency in academic standing, sportsmanship, leadership, and athletic ability.

Sean FrankHam Award for the Top Graduating Air Force Cadet in Business Administration

This award will be bestowed on the top graduating Air Force cadet in Business administration. It will be awarded on a yearly basis at the departmental level. Sean Frankham was a proud graduate of the Royal Military College with a degree in Business Administration. Sean was an accomplished management consultant with expertise in operational excellence and leadership. Skilled in change management, coaching, team building, and continuous improvement, Sean held an Executive MBA from Athabasca University and a Lean Six Sigma Green Belt Certification. Sean’s core values were steeped in tradition, and he strongly believed in service to country and to others.

Departmental Medals – Graduating Year

A medal is awarded annually in each academic programme to the graduating naval or officer cadet standing highest in the programme, providing an overall average of A- or better has been earned by the recipient. Recipients must have maintained a minimum overall average of B- or better without failures or conditions in the previous year of study.

The Fort St-Jean Chapter Prize

Awarded to a graduating student registered in second language courses (SOLET/LCF or FLF) during the year in question who demonstrated an outstanding interest in bilingualism and achieved excellent results.

The Lieutenant-Colonel Victor B. Rivers Award

Awarded annually to the top graduating naval or officer cadet (MOSID 00213 Intelligence Officer) who demonstrates excellence in all four pillars and achieves First Class Distinction in academics.

The Doreen and John Windsor Award

The Doreen and John Windsor Award is awarded annually to the student in the final year of study in Honours History or Military and Strategic Studies programmes who demonstrated excellence in an area of Canadian or international history.

Canadian Psychological Association Military Psychology Award

Canadian Psychological Association Military Psychology Award is awarded annually to the graduating honours psychology student with the highest standing in the programme, provided a minimum of ten 300 and 400 level psychology courses are taken at RMC.

The Society of Chemical Industry Award, Canadian Section

The Society of Chemical Industry Award, Canadian Section, is awarded to the graduating students who have the highest standing in the final year of the course in each of Chemical Engineering and Chemistry; provided that the overall average is at least A- and that the course of study has been completed in, at most, the normal number of years.

The A.C. Leonard Award

The A.C. Leonard Award is awarded annually by the Department of Mechanical Engineering to the Fourth Year project group judged by the faculty to have presented the best project in MEE471/GMF471.

The Chikhani Award

The Chikhani Award is awarded annually to the fourth year project group in electrical and computer engineering deemed to have the best project by the members of the Electrical and Computer Engineering Department. The prize is awarded in memory of Dr. Aziz Chikhani, PhD, PEng, former Dean of Engineering and Head of the Electrical and Computer Engineering Department. The winners receive the references required to

prepare for the Practice of Professional Engineering exams.

The W.C. Moffatt Aeronautical Engineering Award

The W.C. Moffatt Aeronautical Engineering Award is awarded to the student who contributed to a positive learning experience for his or her entire class not only through demonstrated academic excellence but also through sound leadership in the classroom and laboratories. The winner must have enhanced his or her intellectual achievements with maturity, creativity and a breadth of learning. The nominee is selected by a secret ballot of the students in the Aeronautical Engineering programme. The nominee is confirmed by the Mechanical and Aerospace Engineering Department faculty to have met the prize criteria.

The J.F. Lott Award

The J.F. Lott Award is awarded annually by the Department of Civil Engineering to the student group judged to have presented the best Fourth Year design project. The award honours 06106 John Frederick Lott, twice a graduate from the Department.

The R. Mann Award

The R. Mann Award is awarded annually by the Department of Chemistry and Chemical Engineering to the fourth year students judged by the faculty to have completed the best design project.

The M. Evans Award

The M. Evans Award is awarded annually by the Department of Chemistry and Chemical Engineering to the Fourth Year student judged by the faculty to have completed the best chemistry senior project.

The Mathematics Prize for Arts Students

The Mathematics Prize for Arts Students is awarded annually in any years by the Mathematics and Computer Science Department to the Arts student who achieves the highest standing in the courses of the Department of Mathematics and Computer Science, provided that the year has been passed without conditions and a grade of at least A-, has been obtained in one of the courses of the department.

The Mohan Chaudhry Award in Operations Research

Awarded annually to the graduating student who has the highest standing in the operations research courses of a mathematics program, provided that the overall average is at least A-. The prize may be split between two students who meet the criteria.

The Ammunition Technical Officer Award for Academic Excellence

Awarded annually to the Ammunition Technical Officer candidate achieving the highest standing in the Ammunition Technology Certificate, providing an overall average of A- or better has been earned by the recipient.

The Sword of Distinction for Leadership

Awarded to the graduating RETP or ROTP naval or officer cadet who displays outstanding leadership through attaining the highest cadet appointment of Cadet Wing Commander (CWC) in their graduating year.

The MacArthur Leadership Award

Awarded to the naval or officer cadet who demonstrates outstanding leadership performance based on General Douglas MacArthur’s credo of Duty-Honour-Country and potential for future service in the profession of arms.

The Commander Arturo Prat Leadership Award

Awarded to the graduating naval cadet who has demonstrated outstanding leadership, moral values, performance, and potential for future service in the Profession of Arms. The award is sponsored by the Chilean Embassy.

The Leinster Shield

Awarded to the ROTP/RETP squadron amassing the most points in the Commandant's Competition, with events involving military, athletic and academic prowess. After each event, the squadron leading in the competition flies its pennant from a designated flagstaff and takes the right-of-the-line position on parade. At year's end, the winning squadron will take the right-of-the-line on the Commissioning Parade. The position of right-of-the-line is traditionally a place of honour, as this was the unit that lead an Army into battle. The Leinster Shield was originally inaugurated in 1892 by the 1st Battalion, Prince of Wales Leinster Regiment (Royal Canadians) for their inter-company challenge shield. The shield came to RMC in 1922 when the Leinster Plate was entrusted to Canada on the disbanding of the regiment. The Class of 1933 refurbished the Shield for use in the Commandant's Competition

The J. Douglas Young Sword of Excellence

Awarded in conjunction with the Leinster Shield on Graduation Parade to the Cadet Squadron Leader (CSL) of the Squadron winning the Commandant's Competition. The sword will be carried by the CSL of the Squadron until the next graduation parade. The fall and winter term CSL of the winning squadron will receive a commemorative plaque for personal retention. The College Number of the CSLs will be engraved on the scabbard to permit a continuing record. The J. Douglas Young Sword of Excellence was donated by the Class of 1933 in memory of their classmate #2360 John Douglas Young, who was killed in action on D-Day, 6 June 1944

The Toronto Branch RMC Club Prize

Awarded to the Fourth Year ROTP or RETP naval or officer cadet who obtains the highest combined marks in Drill and Physical Education during the entire course of study at RMC.

The Panet Cup

The Panet Cup is awarded to the graduating naval or officer cadet who achieves the highest average score in all four years in the Spring RMC Physical Fitness Test.

The Padre W.A Ferguson Shield of Duty

Awarded to the Officer Cadet who best exemplifies the qualities of civic duty that are the hallmark of an Ex-Cadet, through contributions to the College, the Club, and his/her community

The Robert Bradshaw Award

Awarded each year to the fourth year officer cadet who has distinguished him or herself in the field of mentorship.

The UTPNCM Prize for Military Professionalism and Physical Fitness

Awarded to the graduating UTPNCM cadet who has maintained, throughout the complete course of study, the highest standard in Military Professionalism and physical fitness among those graduating.

Badging / Reunion Weekend

Third Year

The English Prize for Engineering or Science Students

The English Prize for Engineering or Science Students is awarded annually by the English Department to the Science or Engineering student who achieves the highest standing in English 100, provided that the year has been passed without condition and at least A-, has been achieved in English 100.

Military Leadership Excellence Award in Third Year

The Military Leadership Excellence Award in Third Year is awarded to the ROTP or RETP naval or officer cadet attaining the highest standards of proficiency in each of the four pillars in the third year of the RMC programme.

Howard B. Ripstein Award of Excellence for Third Year

The Howard B. Ripstein Award of Excellence for Third Year is awarded to a naval or officer cadet of each of the Navy, Army and Air Force elements who have completed the third year of undergraduate studies and has demonstrated excellence in all four pillars of the Royal Military College of Canada programme.

The Naval Operations Sword

The Naval Operations Sword is awarded to the best overall naval operations cadet based on third year academic marks and overall performance in naval training during summer training periods.

The Naval Engineering Sword

The Naval Engineering Sword is awarded to the best overall naval engineering cadet based on third year academic marks and overall performance in naval training during summer training periods.

The Sea Logistics Sword

The Sea Logistics Sword is awarded to the best overall sea logistic naval cadet based on third year academic marks and overall performance in naval training during summer training periods.

The Captain Matthew Dawe Memorial Sword

The Captain Matthew Dawe Memorial Sword is awarded to the most deserving Combat Arms officer cadet in third year.

The Captain Nichola Goddard Memorial Sword

The Captain Nichola Goddard Memorial Sword is awarded to the most deserving Artillery officer cadet in third year.

The Royal Military College of Canada Award for Academic Excellence in Third Year

The Royal Military College of Canada Award for Academic Excellence in Third Year is awarded annually to the student who has obtained the highest academic standing in the third year.

The P.F. Fisher Memorial Trophy and Scholarship

The Dr. P.F. Fisher Memorial Trophy and Scholarship is awarded to the third year naval or officer cadet considered most deserving by reason of academic standing and qualities of leadership and sportsmanship.

The Frank R. Kossa Army, Navy and Air Force Veterans in Canada-United States Unit Memorial Scholarship (ANAVICUS)

The Frank R. Kossa Army, Navy and Air Force Veterans in Canada-United States Unit Memorial Scholarship (ANAVICUS) is awarded to the best naval or officer cadet of third year on the basis of personal qualities, academic performance and leadership potential.

The J.W. Brown Memorial Medal

The J.W. Brown Memorial Medal is awarded to the cadet who obtains the highest academic standing in the third year of an Arts programme. The medal is presented in memory of No. 7268 J.W. (Jim) Brown, a 1967 graduate in Commerce and President of the RMC Club of Canada in 1985/86.

The Ontario Professional Engineers Foundation for Education Undergraduate Scholarship

The Ontario Professional Engineers Foundation for Education is an Undergraduate Scholarship Awarded annually to two in-course students enrolled in CEAB-accredited programme within the Faculty of Engineering who have demonstrated an equal combination of high academic achievement and demonstrated leadership through participation in professional affairs and extracurricular activities.

The Canadian Forces Military College Academic Awards

The Canadian Forces Military College Academic Awards will be awarded annually to those UTPNCM naval or officer cadets with advanced standing who stand highest among the advanced standing naval or officer cadets in the years and programmes listed below, provided that the year has been clearly passed without condition and that an overall weighted average of A- or better has been obtained:

- second sear of a 3-year (Pass) programme; and
- third year of a four-year programme in each of Arts, Science, and Engineering.

The Chemical Institute of Canada Undergraduate Prize

Awarded to the student who obtains the highest standing in each of third year Chemical Engineering and Chemistry.

The Royal Canadian Air Force Women's Division Scholarships (RCAF)

The Royal Canadian Air Force Women's Division Scholarship (RCAF) is awarded to naval or officer cadets entering the third year of a four-year degree programme on the basis of high scholastic achievement and outstanding personal qualifications. One or more awards may be made annually.

The Corps of Guides Prize

The Corps of Guides Prize is awarded to the naval or officer cadet who obtains the highest marks in Surveying and Terrain Analysis.

Second Year

The Military Leadership Excellence Award in Second Year

The Military Leadership Excellence Award in Second Year is awarded to the ROTP or RETP naval or officer cadet attaining the highest standards of proficiency in each of the four pillars in the Second Year of the RMC programme.

The Royal Military College of Canada Award for Academic Excellence in Second Year

The Royal Military College of Canada Award for Academic Excellence in Second Year is awarded annually to the student who has obtained the highest academic standing in the Second Year.

The Class of 1942 Memorial Trophy

The Class of 1942 Memorial Trophy is awarded to the best all-around ROTP or RETP naval or officer cadet of the second year in academic standing, leadership, and sportsmanship.

First Year

The Military Leadership Excellence Award in First Year

The Military Leadership Excellence Award in First Year is awarded to the ROTP or RETP naval or officer cadet attaining the highest standards of proficiency in each of the four pillars in the first year of the RMC programme.

The Royal Military College of Canada Award for Academic Excellence in First Year

The Royal Military College of Canada Award for Academic Excellence in First Year is awarded annually to the student who has obtained the highest academic standing in the first year.

The Howard B. Ripstein Award of Excellence for First Year

The Howard B. Ripstein Award of Excellence for First Year is awarded to a naval or officer cadet of each of the Navy, Army, and Air Force elements who have completed the first year of undergraduate studies and summer training and has demonstrated excellence in all four pillars of the Royal Military College of Canada programme.

The C. Raymond Grandy Memorial Scholarship

The C. Raymond Grandy Memorial Scholarship is awarded to the best naval or officer cadet entering second year at RMC as determined by academic standing, leadership potential, and overall performance in the first year.

The Queen's University Challenge Shield

The Queen's University Challenge Shield is awarded to the best all-around ROTP or RETP naval or officer cadet of the first year in academic standing, leadership, and sportsmanship.

The Ontario Professional Engineers Foundation for Education Entrance Scholarships

Awarded annually to well-rounded entrance students enrolled in CEAB-Accredited programme within the Faculty of Engineering who have demonstrated a combination of high academic achievement and exhibit characteristics of leadership. As a minimum requirement, recipients must have graduated with an Ontario Secondary School Graduation Diploma with an overall average of at least 80 percent in academic subjects. One of the awards is made to an eligible female student and one to an eligible male student.

The Squadron Leader McAlpine Cadet Trust Fund Award (Bilingual)

Awarded to the third year Air Force cadet registered in second language courses (SOLET/LCF or FLF) during the year in question who demonstrated an outstanding interest in bilingualism and achieved excellent results.

The Anthony Daniel Bowie Memorial Medallion

Awarded to the recruit who best demonstrates determination, enthusiasm, and genuine concern for the welfare of others in the lead up to the Recruit Obstacle Course.

The Captain John Bart Teamwork Prize

Awarded to the First Year Team that wins the College’s Obstacle Course Competition.

The Captain John Bart Leadership Award

Awarded to the best leader in each Squadron during the Obstacle Race.

The Squadron Leader McAlpine Cadet Trust Fund Award (Athletic)

Awarded to an Air Force cadet in the first year, with achievement in the athletic area.

The Squadron Leader McAlpine Cadet Trust Fund Award (Military)

Awarded to an Air Force cadet in the second year, with achievement in the military area.

The Strong Challenge

Awarded to the cadet of the Third Year attaining the highest physical fitness score in the RMC Physical Fitness Test.

The Grant Prize

Awarded to the officer or naval cadet in the second year attaining the highest physical fitness score in the RMC Physical Fitness Test.

The Fulton Award

Awarded to the cadet in First Year attaining the highest physical fitness score in the RMC Physical Fitness Test.

The UTPNCM Prize for Military Professionalism and Physical Fitness

Awarded to the UTPNCM cadet not in the graduating year who achieves the highest standard in Military Professionalism and physical fitness in the year.

Indigenous Leadership Opportunity Year (ILOY)

Indigenous Leadership Opportunity Year Top Officer Cadet

Indigenous Leadership Opportunity Year Top Officer Cadet Awarded to the best overall ILOY naval or officer cadet based on performance in all four pillars of the ILOY programme (academic, military, cultural, and athletic). (June)

Ammunition Technical Officers Certificate (ATO)

The Ammunition Technical Officer Award for Academic Excellence

Awarded annually to the Ammunition Technical Officer candidate achieving the highest standing in the Ammunition Technology Certificate, providing the recipient has earned an overall average of “A-” or better.

Graduate Studies Prizes & Awards

The Milton Fowler Gregg VC Memorial Trust Fund Bursary

Offered annually to those students enrolled in the Royal Military College of Canada’s Division of Graduate Studies whose programmes will include environmental studies or international affairs. The student should not normally be in receipt of full Department of National Defence financial support for these studies. The bursary is sponsored by the Royal Canadian Regiment Trust and is presented on the recommendation of the Faculty of the Division of Graduate Studies.

The Royal Canadian Logistics Services Medal of Academic Excellence in the MBA Programme

The Royal Canadian Logistics Services Medal of Academic Excellence in the MBA Programme is awarded annually to the graduating student of the RMC Master of Business Administration (MBA) programme who has achieved the highest academic standing.

The Colonel Geoff Parker Memorial Award

Presented to an officer of the Canadian Forces who displayed outstanding leadership, professionalism, perseverance and academic excellence in the pursuit of technical studies, following the completion of a graduate degree from the Department of Electrical and Computer Engineering of the Royal Military College of Canada. The award is given in memory of Colonel Geoff Parker, CD, MEng of the Royal Canadian Regiment who obtained a Master’s in Electrical Engineering from the Royal Military College of Canada and was tragically killed in action in Kabul, Afghanistan on 18 May 2010.

3346 Dr. Jay Howard Mechanical and Aerospace Engineering Postgraduate Scholarship

Created through the generosity of Dr. Jay Howard to recognize academic excellence and research promise in a candidate taking a Master’s or Doctoral degree in the disciplines of Mechanical or Aeronautical Engineering.

The G.L. Pickard Prize

Awarded annually to the outstanding Master of Science (MSc) graduating student in Ocean Sciences, based on marks achieved in graduate courses and on the quality of the thesis. Should no outstanding candidate be identified, the award will not be allocated.

The Wolfgang Ernst Eder Bursary in Mechanical Design

Awarded annually to an outstanding graduate student in the Department of Mechanical and Aerospace Engineering based on marks achieved in graduate-level courses and on the quality of the thesis and research publications. Preference will be given to a student working on a research topic related to the area of Mechanical Design.

The Governor General Gold Medal

Awarded to the graduating student who achieves the highest academic standing in a Master’s or Doctoral degree programme.

The Mohan Chaudhry Award in Operations Research

Awarded annually to the graduating student who has the highest standing in the operations research courses of a mathematics program, provided that the overall average is at least A-. The prize may be split between two students who meet the criteria. (Spring)

The Barry Hunt Memorial Prize

Awarded annually to the best graduate student graduating in War Studies or in History. The prize was established in the memory of the late Dr. Hunt, former Dean of Arts and Chair of the War Studies programme.

The Royal Canadian Naval College Class of ‘46 Scholarship

Awarded to the graduating Regular Force member of the Naval environment with the highest academic average.

Date modified:

2025-06-09

Undergraduate Academic Programmes

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General information

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Bachelor of Arts

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Science Degree Programmes and Minors

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Minors

Engineering Degree Programmes

Bachelor of Engineering

Core courses for engineering programmes

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Bachelor of Science (General)

Bachelor of Military Arts and Science (B.M.A.Sc.)

Bachelor of Military Arts and Science (Honours) (B.M.A.Sc. (Hons))

Certificates and CORS Diploma

Faculty of Social Sciences and Humanities Certificates

Faculty of Science Certificates and CORS Diploma

Certificate in Military Leadership and Management (CMLM)

Note: Any RMC student (not including those in Preparatory Year at RMC Saint-Jean during the 2020-2021 Academic Year), military or civilian, who is currently enrolled in a programme of study at RMC, and who has taken courses prior to 7 September 2021 will be granted legacy rights by Senate such that they will not be required to pass ATE101, ATE301 or any LCF course in order to meet the requirements of their programme of study, even if they change programmes before or after 7 September 2021 or are required to repeat an academic year provided they remain subsidized under ROTP. ROTP students granted legacy rights will not be required to pass ATE101, ATE301 or any LCF course; however, they will still be required to take Athletics courses (ATH courses). Every ROTP student must pass the Canadian Forces Minimum Physical Fitness Standard (MPFS) in accordance with CAF policy; currently the FORCE Evaluation is the MPFS, and to take Second Official Language and Education Training (SOLET) to obtain BBB on the Public Service Commission (PSC) Second Language Evaluation (SLE) as a requirement of ROTP at RMC. Any RMC student, military or civilian who is currently enrolled in a programme of study at RMC, and who has taken courses prior to 7 September 2021, or any student who was previously granted and conferred a degree and wishes to obtain a second degree in accordance with Academic Regulation 4 or to upgrade their degree in accordance with Academic Regulation 5 will be granted legacy rights by Senate if they are admitted into their new programme of study no later than 7 September 2021; anyone after this date will not be granted legacy rights by Senate. Any RMC student, military or civilian who is currently enrolled in a certificate at RMC, and who has taken courses prior to 7 September 2021, and is admitted to a Bachelor of Arts (Honours), Bachelor of Arts, Bachelor of Science (Honours), Bachelor of Science, or Bachelor of Engineering will be granted legacy rights by Senate if they are admitted into their new programme of study no later than 7 September 2021; anyone after this date will not be granted legacy rights by Senate. Any RMC Saint-Jean students who were in their Preparatory Year during the 2020-2021 academic year will not be granted legacy rights by Senate; all remaining RMC Saint-Jean students who were students at RMC Saint-Jean during the 2020-2021 academic year will be granted legacy rights by Senate.

General Information

All degree programmes are offered in English and in French. Students will normally register in academic courses given in the student's first official language. Students who have reached the functional level in their second language may register in courses in their second language and in courses taught in a bilingual format. The academic year is divided into three terms, the Fall Term, the Winter Term and the Summer term. The academic year for full-time students normally extends from late August until May.

Degrees and programmes

⚠ Important Notice:

New enrollments into the following programmes, **for September 2025**, have been paused, noting that current students in these programmes will continue, as will the remainder of the undergraduate arts programmes. Determination on the future status of these paused programmes for Academic Year 2026-2027 is ongoing.

- Business Economics
- Chemistry (Honours)
- Chemistry
- Economics (Honours)
- Economics
- Electrical Engineering
- English, Culture, and Communications
- French, Literature, and Culture
- Mathematics (Honours)
- Mathematics

The Royal Military College of Canada offers academic programmes leading to the undergraduate degrees listed below. It should be noted that not all programmes are open to all students.

Undergraduate degree	Minimum credits required	Programmes available
Bachelor of Arts (Honours) [1] B.A. (Hons)	40	Business Administration Business Economics (New enrollments paused for Academic Year 2025-2026) Economics (New enrollments paused for Academic Year 2025-2026) English, Culture, and Communication (New enrollments paused for Academic Year 2025-2026) French, Literature, and Culture (New enrollments paused for Academic Year 2025-2026) History Military and Strategic Studies Political Science Psychology
Bachelor of Arts [1] B.A.	40	Business Administration Business Economics (New enrollments paused for Academic Year 2025-2026) Economics (New enrollments paused for Academic Year 2025-2026) English, Culture, and Communication (New enrollments paused for Academic Year 2025-2026) French, Literature, and Culture (New enrollments paused for Academic Year 2025-2026) History Military and Strategic Studies Political Science Psychology
Bachelor of Arts (General) B.A. (Gen) [2]	30	
Bachelor of Science (Honours) [1] B.Sc. (Hons)	42	Chemistry (New enrollments paused for Academic Year 2025-2026) Computer Science Mathematics (New enrollments paused for Academic Year 2025-2026) Physics Space Science
Bachelor of Science [1] B.Sc.	42	Chemistry (New enrollments paused for Academic Year 2025-2026) Computer Science Mathematics (New enrollments paused for Academic Year 2025-2026) Physics Space Science
Bachelor of Science (General) B.Sc. (Gen) [2]	30	

Undergraduate degree	Minimum credits required	Programmes available
Bachelor of Engineering [1] B.Eng.	*Programme specific*	Aeronautical Engineering Chemical Engineering Civil Engineering Computer Engineering Electrical Engineering (New enrollments paused for Academic Year 2025-2026) Mechanical Engineering
Bachelor of Military Arts and Science (Honours) B.M.A.Sc. (Hons) [3]	40	Specialization in Military Studies
Bachelor of Military Arts and Science B.M.A.Sc. [3]	30	

Notes

1 Unless granted Legacy Rights, students must be a member of the Canadian Armed Forces (CAF) to be admitted to this degree. Any member of the CAF admitted to a Bachelor of Arts (Honours), Bachelor of Arts, Bachelor of Science (Honours), Bachelor of Science, or Bachelor of Engineering degree who does not have legacy rights and subsequently releases from the CAF before completing their degree will not be allowed to remain in any of these degrees. If they are MOSID qualified before releasing from the CAF then they will be permitted to transfer into one of the following degrees: Bachelor of Arts (General), Bachelor of Science (General), Bachelor of Military Arts and Science, or Bachelor of Military Arts and Science (Honours).

2 The 30-credit Bachelor of Arts (General) and Bachelor of Science (General) degrees are not open to ROTP students. These degrees are open to all other students and are not subject to the Military, Physical Fitness or Bilingualism Pillars.

3 The B.M.A.Sc.(Hons) and B.M.A.Sc. degrees are not open to ROTP students. These degrees are open to all other students and are not subject to the Military, Physical Fitness or Bilingualism Pillars.

College Core Curriculum

The college core curriculum represents the minimum content in certain areas which are required content of all RMC degrees. However, all students need not pass exactly the same pattern of courses in order.

The college core curriculum contains within it two separate themes;

1. The first theme is the minimum standard for Mathematics (which also includes Logic and Information Technology) and Sciences (Chemistry or Biology and Physics).
2. The second theme is a basic requirement in the study of Canadian History, Language and Culture, Political Science, International Relations and Leadership and Ethics.

First year

First Year may be completed in; Arts, Science, or Engineering. Students who complete the First Year Science Programme or the First Year Engineering Programme may proceed in Engineering or in Science in subsequent years. ***(They may also enter Second Year Arts but will be required to make up specific Arts courses from First Year)***.

Double major

Students, who successfully completes the **16 credits required for each Major of two separate disciplines**, will receive a Double Major. See your department for details.

Combined or joint programme

Some departments offer a Combined Major or a Joint Major. When the Combined Major or Joint Major is in conjunction with a Science Programme, the Science Programme takes precedence, and the core courses for Science programmes must be followed. See your department for details.

Minor

In addition to the Bachelor of Arts (Honours), the Bachelor of Science (Honours), the Bachelor of Arts or the Bachelor of Science students may also develop a Minor in one subject which is not an integral part of their B.A. or B.Sc. (***See your department for details)***.

Physical conditioning and second language courses

> ⚠ **Important:** The physical conditioning courses and the second language courses are part of the four-pillar degree and apply to all RMC degree programmes except the 30-credit (General) degree programmes.

- ATE101: Foundations of Fitness, Health and Sports
- ATE301: Unarmed Combatives, Military Skills and Individual Sports
- LCF100 : Compétence de base – partie I
- LCF200 : Compétence de base – partie II
- LCF301 : Compétence intermédiaire – partie I
- LCF302 : Compétence intermédiaire – partie II
- LCF400 : Compétence intermédiaire - partie III

> ℹ **LCF courses:** Based on the result of a placement test, students will be registered in LCF courses at the 100, 200, 300, or 400-level. Students will automatically be exempt from applicable lower level LCF courses once placed in the appropriate course. Students who attain a Second Official Language (SOL) proficiency level of at least BBB or higher on the Public Service Commission (PSC) Second Language Evaluation (SLE) will be exempt from LCF courses at RMC.

> ℹ **Note:** The PSC SLE is the only SOL certification-testing instrument currently accredited and used by the CAF to assess the SOL proficiency level. *(DAOD 5039-8, Canadian Armed Forces Second Official Language Certification Testing)*

Arts degree programmes

> ℹ **Note:** Students in a Bachelor of Arts will normally select a Major in their second year. Application for entry into B.A. (Honours) programmes will be made to the department and will normally be done during the third year. ***(or at the beginning of the third year in the case of Business Administration)***

Bachelor of Arts (Honours)

A Bachelor of Arts (Honours) degree will be awarded if the following conditions are completed:

- core courses for arts programmes;
- 20 programme specific credits ***(including any applicable college core curriculum courses)***;
- elective credits, as required, to meet the total programme credits.

Bachelor of Arts

A Bachelor of Arts degree will be awarded if the following conditions are completed:

- core courses for arts programmes;
- 16 programme specific credits ***(including any applicable college core curriculum courses)***;
- elective credits, as required, to meet the total programme credits.

College core courses for arts programmes

The following is the list of courses **(21 credits)** required by all students enrolled in a Bachelor of Arts (Honours) or a Bachelor of Arts offered by the Faculty of Social Sciences and Humanities.

- ENE111: Introduction to Literary Studies and University Writing Skills 1 (1 credit)
- ENE112: Introduction to Literary Studies and University Writing Skills 2 (1 credit)
- ENE211: Reading the Contemporary World 1 (1 credit)
- ENE212: Reading the Contemporary World 2 (1 credit)
- HIE101: The Historical Origins of the Contemporary World (1 credit)
- HIE103: Canada (1 credit)
- HIE203: Introduction to Canadian Military History (1 credit)
- HIE271: Introduction to Military History and Thought (1 credit) [4]
- PSE103: Introduction to Human Psychology (1 credit)
- PSE301: Organizational Behaviour and Leadership (1 credit)
- PSE401: Military Professionalism and Ethics (1 credit)
- POE116: Introduction to International Relations (1 credit)
- POE205: Canadian Politics and Society (1 credit)
- MAE107: Mathematics Fundamentals for the Arts and Social Sciences (1 credit)
- MAE108: Probability and Statistics for the Arts and Social Sciences (1 credit)
- MAE109: Defence Models and Applications for the Arts and Social Sciences (1 credit)
- 1 Physics Course (1 credit)
- 1 Chemistry or Biology Course (1 credit)
- 1 Information Technology: (1 credit) [5]

Plus one (1) of the following two courses: [6]

- ECE103: Introduction to Microeconomics (1 credit)
- ECE104: Introduction to Macroeconomics (1 credit)

Plus one (1) of the following four courses:

- POE202: Introduction to Political Geography (1 credit)
- PSE105: Social Psychology (1 credit)
- ECE103: Introduction to Microeconomics (1 credit)
- ECE104: Introduction to Macroeconomics (1 credit)

> **Note:** Detailed descriptions of the requirements for each arts programme can be found by following the links: Business Administration; Economics; English, Culture, and Communication; French Literature and Culture; History; Military and Strategic Studies; Political Science; Psychology

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Notes

4 Military Strategic Studies and History students will take HIE270: An Introduction to Military History instead of HIE271: Introduction to Military History and Thought.

5 Students can choose from the following courses: "CSE101: Introduction to Algorithms and Computing," "CSE260: Introduction to Computer Concepts," or "BAE220: Introduction to Information Technology."

6 Students enrolled in Business Administration or Economics must take both ECE103: Introduction to Microeconomics and ECE104: Introduction to Macroeconomics.

Minors

The following minors and certificates are also available through the departments of the Faculty of Social Science and Humanities:

- Minor in Business Administration
- Minor in Culture et Diversity
- Minor in Economics
- Minor in English, Culture, and Communication
- Minor, Certificate and Attestation in French as a Second Language
- Minor in French, Literature, and Culture
- Minor in History
- Minor in Military and Strategic Studies
- Minor in Political Science
- Minor In Psychology

Science degree programmes

> **Note:** Students in the Science will normally select a Major in their second year. With the approval of the Dean of Science, students who complete second year Engineering may be permitted to enter any third year Science programme. With the approval of the Dean of Engineering, students who complete second year of a Science programme may be permitted to enter third-year engineering with some additional courses.

Bachelor of Science (Honours)

A Bachelor of Science (Honours) degree will be awarded if the following conditions are completed:

- college core courses for science programmes;
- 20 programme specific credits ***(including the college core curriculum courses for the science programmes if the course meets the programme requirement)***:
- A senior project (2 credits);
- elective credits, as required, to meet the total programme credits ***(normally 50% from science or engineering, subject to department approval)***.

Eligibility requirements for entry into a Bachelor of Science (Honours) programme:

- a 70% average in the first year to be eligible for entry into a Bachelor of Science (Honours) programme in the second year.
- students with a 70% average in the second year may be eligible to enter the Bachelor of Science (Honours) in the third year.
- students with an average of 70% in second and third years combined may be eligible to enter the Bachelor of Science. (Honours) in the fourth year. ***(SLT marks are not to be included in calculating the average*)**

Students must normally maintain:

- a 70% average in the subsequent years of the programme of study or may be required to withdraw from the Bachelor of Science (Honours) and continue in a Bachelor of Science.

> **Note:** Students who has been required to withdraw from the Bachelor of Science (Honours) may apply to the Dean for reinstatement after two academic terms.

Bachelor of Science

A Bachelor of Science will be awarded upon successful completion of:

- college core courses for science programmes;
- 16 programme specific credits ***(including the college core courses for the science programmes, if the course meets the programme requirement)****;*
- elective credits, as required, to meet the total programme credits ***(normally 50% from science or engineering, subject to department approval)***.

College core courses for science programmes

The following is a list of courses **(18 credits)** required by all students enrolled in a Bachelor of Science (Honours) or Bachelor of Science offered by the Faculty of Science.

- ENE121: Introduction to Literary Studies and University Writing Skills 1 (1 credit)
- ENE122: Introduction to Literary Studies and University Writing Skills 2 (1 credit)
- PSE103: Introduction to Human Psychology (1 credit)

- PSE301: Organizational Behaviour and Leadership (1 credit)
- PSE401: Military Professionalism and Ethics (1 credit)
- CCE101: Introductory Chemistry (2 credits) [7]
- CSE101: Introduction to Algorithms and Computing (1 credit)
- MAE101: Introductory Calculus (2 credits)
- MAE129: Introduction to Algebra (1 credit)
- HIE203: Introduction to Canadian Military History (1 credit)
- HIE207: Canada (1 credit)
- HIE271: Introduction to Military History and Thought (1 credit) [8]
- PHE104: General Physics (2 credits)
- POE116: Introduction to International Relations (1 credit) [9]
- POE205: Canadian Civics and Society (1 credit)

Note: Detailed descriptions of the requirements for each science programme can be found by following the links: Chemistry; Computer Science; Mathematics; Physics; Space Science

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Notes

7	With the permission of the Dean of Science, "CCE240: Molecular and Cellular Biology" can be taken in lieu of CCE101(2)
8	This course is taken in the third year.
9	This course is taken in the fourth year.

Minors

The following minors are also available through the departments of the Faculty of Science:

- Minor in Chemistry
- Minor in Chemical, Biological, Radiological and Nuclear Warfare (CBRN)
- Minor in Computer Science
- Minor in Environment
- Minor in Experimental Chemisrty
- Minor in Life Science
- Minor in Mathematics
- Minor Physics
- Minor in Space Science

Engineering degree programmes

Bachelor of Engineering

The Faculty of Engineering is responsible for the education of future officers for professional careers in engineering in the Canadian Armed Forces. Of primary concern is the development of professional competence in areas applicable to the military and society at large. The curriculum is a mixture of domain-specific engineering courses rounded out by knowledge-broadening courses in the humanities.

RMC offers six engineering programmes: Chemical, Civil, Computer, Electrical, Aeronautical and Mechanical Engineering. All Engineering programmes are based on a common first year with specialization commencing in the second year of study. The successful solution to any engineering problem will inevitably involve the interaction of several subject areas. To give emphasis to this fact, the fourth-year programme includes a realistic engineering project for which students must define the problem as well as find an appropriate engineering solution.

Engineering programmes are a primary focus of this university, with approximately 40% of our graduates being engineers. All RMC programmes are accredited by the Canadian Engineering Accreditation Board (Engineers Canada). These programmes are highly regarded due to their practical application to military problems and the low student to professor ratio. These unique characteristics, along with a commitment for excellence in education, assure successful candidates of an Engineering degree with a difference.

In addition to these accredited engineering programmes, the Faculty of Engineering is also responsible for the Army Technical Staff Officer Program (ATSOP) and the Army Technical Warrant Officer (ATWO) programmes in the Department of Applied Military Science. This commitment provides continuing technical education and responsiveness to the Canadian Forces training needs.

College core courses for engineering programmes

The following is the list of courses **(22.5 credits)** required by all students enrolled in a Bachelor of Engineering offered by the Faculty of Engineering.

- ENE121: Introduction to Literary Studies and University Writing Skills 1 (1 credit)
- ENE122: Introduction to Literary Studies and University Writing Skills 2 (1 credit)
- PSE103: Introduction to Human Psychology (1 credit)
- PSE301: Organizational Behaviour and Leadership (1 credit)
- PSE401: Military Professionalism and Ethics (1 credit)
- CCE101: Introductory Chemistry (2 credits)
- CSE101: Introduction to Algorithms and Computing (1 credit)
- MAE101: Introductory Calculus (2 credits)
- MAE129: Introduction to Algebra (1 credit)
- MAE209: Probability and Statistics (1 credit)
- MAE226: Multivariable and Vector Calculus (1 credit)
- MAE227: Differential Equations and Infinite Series (1 credit)
- HIE203: Introduction to Canadian Military History (1 credit)
- HIE207: Canada (1 credit)
- HIE271: Introduction to Military History and Thought (1 credit)
- HIE289: The Impact of Science and Technology on Society and the Environment (0.5 credit) or POE372: Science, Technology, Politics, Society and the Environment (0.5 credit)
- PHE104: General Physics (2 credits)
- POE205: Canadian Civics and Society (1 credit)
- GEE167: Engineering Graphics I (1 credit)
- GEE293: Managing Engineering Projects (1 credit)

> ℹ **Note:** Detailed descriptions of the requirements for each engineering programme can be found in the pages of the corresponding department by following the links: Aeronautical Engineering; Chemical Engineering; Civil Engineering; Computer Engineering; Electrical Engineering; Mechanical Engineering.

General degree programmes

> ℹ **Note:** Course offerings, via distance learning, for Bachelor of Arts (General) or a Bachelor of Science (General) with a Minor or a Concentration are limited at this time and completion of such a degree may require attendance at RMC or the completion of some courses at other universities.

Bachelor of Arts (General)

> ⚠ **Important:** The Bachelor of Arts (General) is not open to, or availble for direct entry to, students enrolled in the ROTP programme.

The Faculty of Social Sciences and Humanities offers a 30-credit Bachelor of Arts (General) degree.

Of the 30 credits:

- at least 20 must be in Arts;
    - at least 10 of the 20 credits in Arts must be at the senior level, and;
- at least 15 of the 30 credits must be RMC credits.

Interested students have the option of enrolling in:

- a Bachelor of Arts (General);
- a Bachelor of Arts (General) with a Minor (8 credits);

- a Bachelor of Arts (General) with a Concentration (12 credits).

For the Concentration:

- 12 credits must be in the chosen discipline (Business Administration; History; Psychology; English, Culture, and Communication; French, Culture, and Language; Political Science; or Economics);
  - at least six of the 12 credits in the chosen concentration must be at the senior level;
  - at least six of the 12 credits in the chosen concentration must be earned through RMC.

Electives may include credits earned as per the RMC Table of Credit Granted.

Common Core Curriculum - Bachelor of Arts (General) with a Concentration

The Bachelor of Arts (General) with a Concentration incorporates, in much the same manner as the B.M.A.Sc., a compulsory core. Of the 30 credits required, the following 11 credits are mandatory:

All of:

- BAE206: Fundamentals of Management (1 credit)
- PSE401: Military Professionalism and Ethics (1 credit) *(PSE402: Leadership and Ethics is an acceptable alternative in this programme)*

One of:

- POE205: Canadian Civics and Society (1 credit)
- POE116: Introduction to International Relations (1 credit)

One of:

- HIE271: Introduction to Military History and Thought (1 credit)
- HIE275: Survey of Technology and Warfare (1 credit)
- HIE475: Technology, Society and Warfare (1 credit)

A minimum of one (1) credit in Military History:

- HIE208: Canadian Military History: A Study of War and Military History, 1867 to the Present (or another course in Military History, such as HIE205: Canadian Military History: (Origins to 1870), or HIE203: Introduction to Canadian Military History) (1 credit)

A minimum of one (1) credit in Canadian History:

- HIE207: Canada (1 credit) (or another course in Canadian History, such as HIE103: History of Canada (2 credits)

A minimum of one (1) credit in Military Psychology and Leadership:

- PSE103: Introduction to Human Psychology (1 credit) or Equivalent

A minimum of two (2) credits each in:

- English, Culture, and Communication (2 credits)
- Mathematics, Computer Science, Chemistry or Physics (2 credits)

> ℹ **Note:** The Bachelor of Arts (General) without a Concentration includes the 11 core credits listed above plus one of the following courses for a total of 12 mandatory credits. ECE103: Introduction to Microeconomics or ECE104: Introduction to Macroeconomics

The Bachelor of Arts (General) with or without a Concentration

- The Bachelor of Arts (General) **with a Concentration** is offered to students who already have an interest in a given field of study in Arts. The Concentrations in Arts have been designed by the departments in the Faculty of Social Sciences and Humanities in such a way as to make it easy for students who have completed the programme with distinction to upgrade their degree to a Bachelor of Arts (Honours) with a view to pursuing studies at the graduate level.
- The Bachelor of Arts (General) **without a Concentration** is offered to students who are interested in Arts courses, but who initially have no particular interest in a specific field of study in Arts. The students who have chosen this programme will always have the option later in the course of their studies to register in the Bachelor of Arts (General) with a Concentration.

Bachelor of Science (General)

> ⚠ **Important:** The Bachelor of Science (General) is not open to, or availble for direct entry to, students enrolled in the ROTP programme.

The Faculty Science offers a 30-credit Bachelor of Science (General) degree.

Of the 30 credits:

- at least 20 must be in science;
  - 8 of the 20 are either those of the basic First Year Science Core Requirements of RMC (listed below) or equivalent;
  - 12 of the 20 can be from any science course that count towards a science degree, provided the prerequisites for the courses are met.
- at least 15 of the 30 must be earned through RMC.

Interested students have the option of applying to:

- a Bachelor of Science (General)
- a Bachelor of Science (General) with a chosen Minor in Science (Chemistry, Physics, Mathematics or Computer Science)

For the Minor:

- the requirements of a Minor as defined by the relevant department or by the Faculty of Science must be met if the student has opted to register in the Bachelor of Science (General) with a Minor.

Common Core Curriculum - Bachelor of Science (General)

The Bachelor of Science (General) incorporates a compulsory core of courses. Of the 30 credits required, the following 16 credits are mandatory:

RMC First Year Science Core Requirements (8 credits):

- MAE101: Introduction to Calculus (2 credits)
- MAE129: Introduction to Algebra (1 credit)
- CSE101: Introduction to Algorithms and Computing (1 credit)
- PHE104: General Physics (2 credits)
- CCE101: Engineering Chemistry (2 credits)

All of:

- BAE206: Fundamentals of Management (1 credit)
- PSE401: Military Professionalism and Ethics (1 credit) *(PSE402: Leadership and Ethics is an acceptable alternative in this programme)*

One of:

- HIE271: Introduction to Military History and Thought (1 credit)
- HIE275: Survey of Technology, Society and Warfare (1 credit)
- HIE475: Technology, Society, and Warfare (1 credit)

One of:

- POE116: Introduction to International Relations) (1 credit)
- POE205: Canadian Politics and Society (1 credit)

A minimum of one (1) credit in Military History:

- HIE208: Canadian Military History: A Study of War and Military History, 1867 to the Present (or another course in Military History, such as HIE205: Canadian Military History: (Origins to 1870)) (1 credit)

A minimum of one (1) credit in Military Psychology and Leadership:

- PSE103: Introduction to Human Psychology (1 credit)

A minimum of two (2) credits in:

- English, Culture, and Communication (2 credits)

The Bachelor of Science (General) with or without a Minor

- The Bachelor of Science (General) **with a Minor** is offered to students who already have an interest in a given field of study in Science. The Minors in Science have been designed by the departments in the Faculty of Science in such a way as to make it possible for students who have completed the programme with distinction to upgrade the degree to a Bachelor of Science (Honours) with a view to pursuing studies at the graduate level.
- The Bachelor of Science (General) **without a Minor** is offered to students who have a general interest in science courses, but who initially have no particular interest in a specific field of study in Science. Students who have chosen this programme will always have the option later in the course of their studies to register in the Bachelor of Science (General) with a Minor or in any other university programme requiring basic science courses.

Bachelor of Military Arts and Science (B.M.A.Sc.)

> ⚠ **Important:** The Bachelor of Military Arts and Science (B.M.A.Sc) is not open to, or availble for direct entry to, students enrolled in the ROTP programme.

The Bachelor of Military Arts and Science reflects the unique mission of RMC as the Canadian military university with a national vision of educating leaders for the country. Through a multidisciplinary programme, students receive an education of atypical breadth, which is oriented towards those issues fundamental to the profession of arms. Core courses in military professionalism and ethics, military history and defence resource management, contribute to the education of military members and civilians with interest in defence issues. The broad scope of courses in the social sciences, humanities and sciences provides students with a rich educational background and with opportunities to develop their unique interests.

Interested students have the option of applying to pursue a minor, of their choice, from among the minors currently available at RMC in the Faculty of Social Sciences and Humanities, and for which sufficient distance learning (DL) offerings are available.

General programme learning outcomes

The general learning outcomes for the Bachelor of Military Arts and Science are:

- Develop the ability to reason scientifically;
- Develop an understanding of the basics of modern technology;
- Acquire an understanding of civics and the structure of the Canadian government;
- Develop knowledge of international affairs;
- Obtain grounding in military history;
- Obtain grounding in military theory and strategy;
- Develop an understanding of ethics and leadership
- Develop critical thinking and analytical skills; and
- Develop writing and communication skills.

Programme requirements

The Bachelor of Military Arts and Science (B.M.A.Sc.) is equivalent to a conventional 30 credit degree in terms of quality and quantity of instruction. The B.M.A.Sc. degree is designed to be earned over an extended period, integrating professional training and academic study.

The compulsory core for the B.M.A.Sc. programme includes the following 11 credits:

- BAE206: Fundamentals of Management (1 credit)
- HIE205: Canadian Military History: Origins to 1870 **or** HIE208: Canadian Military History: A Study of War and Military History, 1867 to the Present (1 credit)
- One of the following courses (1 credit):
  - HIE270: An Introduction to Military History
  - HIE271: Introduction to Military History and Thought
  - HIE275: Survey of Technology, Society and Warfare
  - HIE371: Introduction to War and Strategy
  - HIE474: Military Technology: Men, Machines and War
  - HIE475: Technology, Society and Warfare
- POE116: Introduction to International Relations
- POE205: Canadian Politics and Society (1 credit)
- PSE103: Introduction to Human Psychology (1 credit)
- PSE401: Military Professionalism and Ethics (1 credit)

- 2 credits in English: one credit in literature, plus one credit in either literature or grammar
- 2 credits in Science (Chemistry, Computer Science, Mathematics, or Physics)

The 30 credits taken in the B.M.A.Sc. programme must also meet the following conditions/requirements:

- **Residency requirement:** at least 10 credits must be taken through RMC.
- **Senior level requirement:** at least 10 credits must be at the senior level (300 or 400-level courses), and among these at least 5 credits must be earned through RMC.
- **Military Content requirement:** at least 15 credits of the minimum 30 required credits must have military content

For the purpose of the B.M.A.Sc. degree, a credit with military content is defined as one in which the learning is directly related to a military topic. There are several ways in which a credit is considered to contain military credit:

- students who have completed a course in which the main focus is clearly of a military nature (e.g., CCE204: Military Chemistry, or HIE371: War and the Military Profession).
- students who have taken a general course but directed his/her personal research to areas of a military nature (ex: the student is taking a course on the rise of modern Germany but in which papers are focused on military aspects, such as "German Defensive Innovations on the Eastern Front, 1943-44"). In these cases, students are required to submit proof of their research (i.e., a copy of the relevant papers) before any military content credits are granted.

> **Note:** Students have the option of applying to a Bachelor of Military Arts and Science without a chosen Minor or to a Bachelor of Military Arts and Science with a Minor in the following disciplines: *(Business Administration; English, Culture, and Communication; Economics; French, Literature, and Culture; History; Political Science; Psychology)*.

References:

- RMC Courses Meeting the Military Course Content Requirements of the B.M.A.Sc.
- RMC Table of Credit Granted

Bachelor of Military Arts and Science (Honours) (B.M.A.Sc. (Hons))

> **Important:** The Bachelor of Military Arts and Science (Honours) (B.M.A.Sc (Hons)) is not open to, or availble for direct entry to, students enrolled in the ROTP programme.

Programme requirements

The Bachelor of Military Arts and Science (Honours) is equivalent to a conventional 40 credit Honours degree in terms of quality and quantity of instruction. The B.M.A.Sc. (Hons) degree is designed to be earned over an extended period, integrating professional training and academic study. This 40 credit Honours degree, with a specialization in Military Studies, is designed for students registered in the B.M.A.Sc. programme who intend to pursue graduate studies. The completion of an Honours degree is generally an important condition for admission into a graduate studies programme.

Those interested in registering in the B.M.A.Sc. (Hons) programme are required to:

- file the Request to Change Programme form once they have earned at least 20 university credits;
- have maintained an average of not less than B- in their university courses; and
- fax the form to Admissions.

The compulsory core for the B.M.A.Sc. (Hons) programme includes the following (13 credits)

The B.M.A.Sc. (Hons) programme has the same 11 credit core curriculum as the General programme, plus a Directed Research Project (MAS400), which counts for 2 credits, for a total of 13 compulsory credits.

The 40 credits taken in the B.M.A.Sc. (Hons) programme must also meet the following conditions/requirements:

- **Residency requirement:** at least 20 (i.e., 18 one-term credits, plus 2 credits for the Directed Research Project (DRP)) of the course credits must be taken through RMC.
- **Senior level requirement:** at least 20 credits must be at the 300 or 400-level of which 10 credits must be RMC credits.
  - To ensure honours standing, students must achieve at least a B in the DRP (MAS400) and maintain, as a minimum, a B average in senior-level courses and at least a B- average in 400-level courses.
- **Military content requirement:** at least 20 credits of the minimum 40 credits must have military content

> **Note:** Students have the option of applying to a Bachelor of Military Arts and Science (Honours) without a chosen Minor or to a Bachelor of Military Arts and Science (Honours) with a Minor (8 credits) in the following disciplines: Business Administration, English, Culture, and Communication, French, Literature, and Culture, History, Political Science and Psychology.

Directed Research Project (MAS400)

The Directed Research Project (DRP) is seen as a major component of the B.M.A.Sc. (Hons) degree in that it affords the students the opportunity to demonstrate their ability to critically analyze some element of their military experience. Students are required to submit a proposal to the Faculty of Social Sciences and Humanities, along with their application to be admitted into the programme. Upon acceptance of the proposal, a supervisor will be assigned and the work will be carried out under the guidance of that individual. If appropriate, this project may take the form of a technical project or a directed reading course with one or two major essays. Directed Readings allow students to explore subjects of particular interest through the execution of a series of assignments, while under the supervision of a university professor.

The proposal (1-3 pages) must identify a general area of interest (e.g., twentieth-century Canadian Naval Strategy). Specifically, it must provide the following information:

- why the area is of military interest
- why the student is interested in the topic
- the overall objective of the project
- what issues the student would like to discuss
- whether or not the research materials are expected to be readily available (i.e. is the material classified)
- any extraordinary sources that might be required to carry out the work
- a preliminary bibliography (approximately 20 titles)
- the name of an advisor in the local area of the student (if applicable)

During the review period, the Chair of the B.M.A.Sc. programme, in consultation with the appropriate department head, will approve or reject the proposal. If approved, an appropriate supervisor will be selected for the student (or the suggested supervisor will be appointed).

The supervisor will then, in consultation with the student, determine the specific aim of the research and direct the student's efforts towards the completion of a major research paper (generally at least 50 pages) or two or more smaller research papers (between 20 and 25 pages each). These papers must have a definite military content and represent significant individual research and critical analysis. All papers must be submitted according to an essay format deemed acceptable by the supervisor (e.g., The Chicago Manual of Style, or The Modern Language Association).

The student and the supervisor will work out a timetable for the various parts of the work and for final submission. The paper(s) will be submitted to a second reader and the second reader, in conjunction with the supervisor, will determine the grade. The Directed Research Project must earn at least a B to be counted as two credits towards the B.M.A.Sc. Honours degree.

The DRP is awarded two senior credits and should be likened to an Honours thesis, which is normally completed within two consecutive terms. Because most DRPs are completed at a distance, there are some delays to be expected due to this circumstance. Thus, a 12-month due date is set for the final draft of the DRP, starting from the date the project has a supervisor and has been approved. An extension beyond this 12-month due date may only be granted by the Chair of the B.M.A.Sc. programme, and only due to deployment/operational, medical or other exceptional circumstances.

Certificates and CORS Diploma

Faculty of Social Sciences and Humanities Certificates

The following certificates are also available through the departments of the Faculty of Social Sciences and Humanities:

- Certificate in Management with Applications to Defence
- Certificate in Accounting
- Certificate in Applied Economics
- NCM Executive Professional Development Programme (NEPDP)
  - Certificate of General Military Studies (CGMS)
  - Certificate of Advanced Military Studies (CAMS)

Faculty of Science Certificates and CORS Diploma

The following certificates and the CORS diploma are also available through the departments of the Faculty of Science:

- Ammunition Technology Certificate
- Certificate in Environmental Protection
- Canadian Operational Society Diploma (CORS) Diploma

Certificate in Military Leadership and Management (CMLM)

The Certificate in Military Leadership and Management (CMLM) is an interdisciplinary certificate at the undergraduate level, offered via distance learning through the Royal Military College of Canada (RMC). The CMLM is open to mature students and any person able to take courses at RMC, with the exception of officer cadets enrolled in the Regular Officer Training Plan (ROTP). The certificate can be applied to the Bachelor of Military Arts and Science, the Bachelor of Military Arts and Science (Honours) and the Bachelor of Arts (General).

Requirements

This is a 10 credit certificate, 6 credits of which are required courses from Military Psychology and Leadership and from Management. At least 5 credits must be RMC credits.

Mandatory courses (6 credits)

- PSE103: Introduction to Human Psychology (1 credit)
- PSE301: Organizational Behaviour and Leadership (1 credit)
- PSE401: Military Professionalism and Ethics (1 credit)
- BAE202: Financial Accounting (1 credit)
- BAE206: Fundamentals of Management (1 credit)
- BAE238: Introduction to Strategic Management (1 credit)

Elective courses (4 credits)

To complete the CMLM, students will complete an additional four credits. Students may choose any courses, depending on their interests, selected from the Sciences, Humanities or Social Sciences. To obtain the most knowledge within the disciplines emphasized in the CMLM, it is recommended that students choose elective courses in Military Leadership or Management. The following course choices are recommended.

Military leadership

- PSE312: Applied Military Psychology (1 credit)
- PSE328: Group Dynamics (1 credit)
- PSE454: Advanced Leadership (1 credit)

Management

- BAE208: Management Accounting (must have completed BAE202) (1 credit)
- BAE220: Management Information Systems (1 credit)
- BAE326: Human Resource Management (1 credit)
- BAE314: Marketing Fundamentals (1 credit)

Date modified:

2025-08-20

Undergraduate Arts Programmes

Related links

Department of Management

Department of English, Culture, and Communication

Department of French, Literature, and Culture

Department of History

Department of Military Psychology and Leadership

Department of Political Science and Economics

Faculty List by Department

Undergraduate Admissions

The Royal Military College of Canada, Faculty of Social Sciences and Humanities, offers eight undergraduate degree programmes and a Minor in Military Arts in both English and French. The subjects in the curriculum are selected for their value to future officers in the Canadian Armed Forces.

The eight undergraduate arts programmes listed below have a high proportion of time devoted to mathematics and science. Students pursuing an Bachelor of Arts not only gain knowledge relevant to their field of specialization while eight exercising their communication and and critical thinking skills, but they also examine situations from a military perspective and become aware of contemporary and global issues. A key component of the programme is using examples based on real-life experiences of young officers on operational deployment.

A minor, not linked to any individual programme, is also available through the Faculty of Science; the Minor in Military Arts is an interdisciplinary minor, awarded to students enrolled in four-pillar Science and Engineering degrees recognizing the unique value of the Royal Military College of Canada core curriculum. These are the requirements for the minor in military arts.

Two courses, not linked to any individual programme, are also available through the Faculty of Science; these credit(s) may be applied to approved international exchanges, internships with professionally relevant organizations, and approved experiential learning opportunities These are the details of SSE401 Internship, Exchange, Experiential Learning I and SSE402 Internship, Exchange, Experiential Learning II

Undergraduate Arts Programmes

> ## ⚠ Important Notice:
>
> New enrollments into the following programmes, **for September 2025**, have been paused, noting that current students in these programmes will continue, as will the remainder of the undergraduate arts programmes. Determination on the future status of these paused programmes for Academic Year 2026-2027 is ongoing.
>
> - Business Economics
> - Economics (Honours)
> - Economics
> - English, Culture, and Communications
> - French, Literature, and Culture

The links below will connect you to web pages containing the requirements and the course descriptions for the undergraduate programmes leading to a Bachelor of Arts (Honours) or Bachelor of Arts.

Business Administration Programme

Economics Programme

English, Culture, and Communication Programme

French, Literature, and Culture Programme

History Programme

Military and Strategic Studies Programme

Psychology Programme

Political Science Programme

Additional Undergraduate Arts Programmes

The links below will connect you to the requirements for the undergraduate arts programmes leading to a Bachelor of Arts (General), Bachelor of Military Arts and Science (B.M.A.Sc) or Bachelor of Military Arts and Science (Honours) (B.M.A.Sc (Hons)).

> ⚠ **Important:** The Bachelor of Arts (General), the Bachelor of Military Arts and Science (B.M.A.Sc.) Bachelor of Military Arts and Science (Honours) (B.M.A.Sc. (Hons)) are not open to, or availble for direct entry to, students enrolled in the ROTP programme.

Bachelor of Arts (General)

Bachelor of Military Arts and Science (B.M.A.Sc.)

Bachelor of Military Arts and Science (Hons) (B.M.A.Sc. (Hons))

Minor in Military Arts

The Minor in Military Arts will include eight (8) credits of which two must be senior level (300/400). It will be structured as follows:

Mandatory courses (3 credits)

- PSE103
- PSE301
- PSE401

Optional courses (5 credits)

- One of (ENE121 & ENE122) or FRF151
- Two of HIE203, HIE207, HIE271
- One of POE116, POE205

Internship, Exchange, Experiential Learning Courses

SSE401 Internship, Exchange, Experiential Learning I

This course provides a framework to continue studies and professional development in an internship, partner institution, or through experiential learning. Each opportunity must be approved for credit **before beginning the work** by a sponsoring academic department, which will provide a supervising faculty member, approved course outline and evaluation scheme.

Note(s):	These are elective credits usually offered to students working away from the campus and are like directed study for specific circumstances.
Prerequisite(s):	Students must normally have completed at least twenty credits in their programme to be eligible and must have a member of programme faculty supervising and evaluating completed work.
Co-requisite(s):	Satisfactory performance in other aspects of the RMC programme.
Exclusion(s):	Students cannot be awarded this credit for work identified with another named RMC course credit.
	Students must normally have completed at least twenty credits in their programme to be eligible and must have a member of program faculty supervising and evaluating completed work.
Contact Hours(s):	0 - 0 - 9
Credit(s):	1

SSE402 Internship, Exchange, Experiential Learning II

This course provides a framework to continue studies and professional development in an internship, partner institution, or through experiential learning. Each opportunity must be approved for credit **before beginning the work** by a sponsoring academic department, which will provide a supervising faculty member, approved course outline and evaluation scheme.

Note(s):	These are elective credits usually offered to students working away from the campus and are like directed study for specific circumstances.
Prerequisite(s):	Students must normally have completed at least twenty credits in their programme to be eligible and must have a member of programme faculty supervising and evaluating completed work.
Co-requisite(s):	Satisfactory performance in other aspects of the RMC programme.
Exclusion(s):	Students cannot be awarded this credit for work identified with another named RMC course credit.
Contact Hours(s):	0 - 0 - 18
Credit(s):	2

Peer Tutoring Courses

WCE201 Peer Tutoring Theory and Practice I

Students will be introduced to the principles of peer tutoring and collaborative learning necessary to successfully work as peer tutors in a university setting. Building on the foundation of theory, the course guides students through observations and then practice tutorials. This course will prepare 2nd, 3rd, or 4th year students to offer tutoring support to their peers in the discipline of their choice (e.g., mathematics, psychology, writing).

Note(s):	This course is only offered through the RMC Writing Centre. Students will meet for 2 hours every Monday evening and have approximately 3 hours of homework (readings, reflections, etc.) and 2 hours of observations (first half of the semester) or tutoring practice (second half of the semester) per week. No final exam.
Prerequisite(s):	1st Year completed, good grades overall, excelled in the course(s) they want to apply for tutoring, and have at least one letter of recommendation from professor(s) who taught them.
Exclusion(s):	WCE202

Contact Hours(s):	2 - 2 - 3
Credit(s):	1

WCE202 Peer Tutoring Theory and Practice II

Students will be introduced to the principles of peer tutoring and collaborative learning necessary to successfully work as peer tutors in a university setting. Building on the foundation of theory, the course guides students through observations and then practice tutorials. This course will prepare 2nd, 3rd, or 4th year students to offer tutoring support to their peers in the discipline of their choice (e.g., mathematics, psychology, writing).

Note(s):	This course is only offered through the RMC Writing Centre. Students will meet for 2 hours every Monday evening and have approximately 2 hours of homework (readings, reflections, etc.) and 1 hour of observations (first half of the semester) or tutoring practice (second half of the semester) per week. No final exam.
Prerequisite(s):	1st Year completed, good grades overall, excelled in the course(s) they want to apply for tutoring, and have at least one letter of recommendation from professor(s) who taught them.
Exclusion(s):	WCE201
Contact Hours(s):	2 - 2 - 1
Credit(s):	0.5

Date modified:
2025-12-08

Business Administration Undergraduate Programme

Related links

Business Administration courses

Undergraduate Arts Programmes

Department of Management

Admissions

General Information

The primary purpose of the Department of Management is to provide the officer cadets of the Royal Military College of Canada with the best possible university-level education in Business Administration. This education must benefit foremost the students themselves and, as a direct consequence, the professional development of the future officers of the Canadian Forces. The quality of this education must be such that upon the completion of the undergraduate degree the doors of every graduate school will be open to the best of these students.

The study of business administration involves a number of functional areas including accounting, information systems, finance, marketing, operations management and human resource management. These functional areas are developed from a number of basic disciplines. For example, marketing relies on the disciplines of microeconomics, statistics and psychology: finance and operations management rely on mathematics and statistics and human resource management relies on psychology and sociology. The practice of business administration does not take place in a vacuum. Understanding the environmental context and its relationship with a functional area is essential to the development of effective decisions, policies and strategies.

The Business Administration programme will have a threefold thrust. The programme will provide the student with a basic understanding of certain core disciplines such as quantitative methods, economics and psychology. It will also provide the student with a basic understanding of each of the functional areas such as finance, accounting, human resources and marketing. Finally, it will include courses, which require integration of the functional areas. The overarching goal is to provide the student with a broad, well-grounded education in business administration.

Students successfully completing their first year Arts, with at least a "D" average, are eligible for entry into the programme leading to a B.A. (Honours) Business Administration or B.A. Business Administration starting in second year.

In consultation with the Department Head, students will select courses each year, which fulfil the degree requirements that are best suited to students' interests.

All 300/400 level courses in business administration are limited to students enrolled in the following programmes:

- B.A. (Honours) Business Administration / B.A. Business Administration

- All Joint Programmes with Business Administration
- Minor in Business Administration
- Concentration in Business Administration
- Certificate in Management with Applications in Defence
- Bachelor of Military Arts and Science

or with permission of the department.

Physical Conditioning and Second Language Courses

⚠ **Important:** The physical conditioning courses and the second language courses are part of the four-pillar degree and apply to all RMC degree programmes except the 30-credit general degree programmes.

ℹ **LCF:** Based on the result of a placement test, students will be registered in LCF courses at the 100, 200, 300, or 400-level. Students will automatically be exempt from applicable lower level LCF courses once placed in the appropriate course. Students who attain a Second Official Language (SOL) proficiency level of at least BBB or higher on the Public Service Commission (PSC) Second Language Evaluation (SLE) will be exempt from LCF courses at RMC.

- ATE101: Foundations of Fitness, Health and Sports
- ATE301: Unarmed Combatives, Military Skills and Individual Sports
- LCF100 : Compétence de base – partie I
- LCF200 : Compétence de base – partie II
- LCF301 : Compétence intermédiaire – partie I
- LCF302 : Compétence intermédiaire – partie II
- LCF400 : Compétence intermédiaire - partie III

ℹ **Note:** The PSC SLE is the only SOL certification-testing instrument currently accredited and used by the CAF to assess the SOL proficiency level. *(DAOD 5039-8, Canadian Armed Forces Second Official Language Certification Testing)*

B.A. (Honours) Business Administration

ℹ **Note:** To earn a Bachelor of Arts (Honours) a student must meet the requirements of Academic Regulation 3.1.

A 40-credit programme, including the core courses for arts programmes.

Mandatory Courses

- BAE202: Financial Accounting
- BAE206: Fundamentals of Management
- BAE208: Management Accounting
- BAE220: Introduction to Information Technology [1]
- BAE242: Quantitative Methods I
- BAE300: Finance
- BAE314: Marketing Fundamentals
- BAE326: Human Resources Management
- BAE330: Organizational Theory
- BAE344: Operations Management
- BAE470: Strategic Management I
- BAE472: Strategic Management II
- ECE206: Macroeconomic Theory and Policy I or ECE224: Microeconomics I

Optional courses

- 6 Business Administration credits at the 300/400 level [2]

Electives

- 1 credit

B.A. Business Administration

A 40-credit programme, including the core courses for arts programmes.

Mandatory Courses

- BAE202: Financial Accounting
- BAE206: Fundamentals of Management
- BAE208: Management Accounting
- BAE220: Introduction to Information Technology [1]
- BAE242: Quantitative Methods I
- BAE300: Finance
- BAE314: Marketing Fundamentals
- BAE326: Human Resources Management
- BAE330: Organizational Theory
- BAE344: Operations Management
- BAE470: Strategic Management I
- BAE472: Strategic Management II
- ECE206: Macroeconomic Theory and Policy I or ECE224: Microeconomics I

Optional courses

- 5 Business Administration credits at the 300/400 level [2]

Electives

- 2 credits

Programme Outlines for Business Administration

The following tables are examples of a typical outline, by year, of a B.A. (Honours) Business Administration programme of study or a B.A. Business Administration programme of study that would cover the required courses.

> **Note:** Course offerings may vary from year to year. For planning purposes, students enrolled in this programme should access the official list of courses offered each semester through their My Services portal account.

> **Important:** Students who started their 40-credit programme prior to Academic Year 2024-2025 will follow the old mathematics requirement MAE103, MAE106 and, MAE113. Students starting their 40-credit programme in Academic Year 2024-2025 and thereafter will follow the new mathematics requirement MAE107, MAE108 and, MAE109.

B.A. (Honours) Business Administration

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ENE111 HIE101 POE116 ECE104 PSE103 ATE101 LCF	ENE112 HIE103 MAE107 ECE103 BAE220 ATE101 LCF	ENE211 MAE108 BAE202 BAE206 ECE206 or ECE224 [4] ATE101 LCF	ENE212 HIE203 MAE109 BAE208 BAE242 ATE101 LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	PSE301 1 science credit [3] BAE300 BAE330 BAE344 ATE301 LCF	BAE314 BAE326 HIE271 **Optional** [5] 2 credits ATE301 LCF	POE205 1 science credit [3] BAE470 **Optional** [5] 2 credits ATE301 LCF	PSE401 BAE472 **Optional** [5] 2 credits **Elective** 1 credit ATE301 LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

B.A. Business Administration

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ENE111 HIE101 POE116 ECE104 PSE103 ATE101 LCF	ENE112 HIE103 MAE107 ECE103 BAE220 ATE101 LCF	ENE211 MAE108 BAE202 BAE206 ECE206 or ECE224 [4] ATE101 LCF	ENE210 HIE203 MAE109 BAE208 BAE242 ATE101 LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	PSE301 1 science credit [3] BAE300 BAE330 BAE344 ATE301 LCF	BAE314 BAE326 HIE271 **Optional** [5] 2 credits ATE301 LCF	POE205 1 science credit [3] BAE470 **Optional** [5] 2 credits ATE301 LCF	PSE401 BAE472 **Optional** [5] 1 credit **Elective** 2 credits ATE301 LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

Notes for B.A. (Hons) and B.A.

1 CSE101 or CSE260 may replace BAE220, with approval from the department

2 Students meeting the requirement may take "BAE490: Thesis" in lieu of 2 credits at the 300/400 level in Business Administration.

3 A credit in Physics is required. A credit in Chemistry or Biology is required.

4 One of ECE206 or ECE224

5 Optional courses must be chosen from 300/400 level Business Administration.

Concentration in Business Administration

> **Note:** The Concentration in Business Administration is not open to ROTP cadets

30 credits must be completed, and of these:

- At least 15 must be earned through RMC, (including six in the chosen discipline)
- At least 10 must be at the senior level
- At least 20 must be in Arts, (of which at least 12 must be in Business Administration)
- At least 5 of the 12 Business Administration credits must be at the senior level
- At least 6 of the 12 Business Administration credits must be earned through RMC

Note: *A credit may fulfil several requirements at the same time, e.g. a course could be in Arts (including Business Administration), at the senior level and taken through RMC. The B.A. Programme includes a compulsory core.*

Mandatory courses

- HIE208: Canadian Military History: A Study in War and Military History, 1867 to Present *(or another course in Military History, such as HIE205)*
- HIE275: Technology, Society and Warfare
- MAE107: Mathematics Fundamentals for the Arts and Social Sciences
- MAE108: Probability and Statistics for the Arts and Social Sciences
- POE205: Canadian Politics and Society *(or POE116: Introduction to International Relations)*
- PSE103: Introduction to Human Psychology
- PSE401: Military Professionalism and Ethics
- At least 2 credits in English Literature and Grammar
- At least 1 credit in Canadian History

Business Administration courses

Students who select the Concentration in Business Administration are required to take the following courses or their equivalent from a recognized university.

- BAE202: Financial Accounting
- BAE206: Fundamentals of Management
- BAE208: Management Accounting
- BAE220: Introduction to Information Technology
- BAE238: Introduction to Strategic Management
- BAE242: Quantitative Methods I
- BAE300: Finance
- BAE314: Marketing Fundamentals
- BAE326: Human Resources Management
- BAE330: Organizational Theory
- BAE344: Operations Management
- ECE103: Introduction to Microeconomics
- ECE104: Introduction to Macroeconomics

Electives

- 7 additional credits in Arts, Science or Technology are also required

Minor in Business Administration

> **Note:** The Minor is open to students from all faculties.

Mandatory courses

- BAE202: Financial Accounting

- BAE242: Quantitative Methods (or equivalent)

Optional courses

6 of the following Business Administration courses:

- BAE208: Management Accounting I
- BAE206: Fundamentals of Management
- BAE220: Introduction to Information Technology
- BAE238: Introduction to Strategic Management
- BAE300: Finance
- BAE314: Marketing Fundamentals
- BAE326: Human Resource Management
- BAE330: Organizational Theory
- BAE344: Operations Management

Certificate in Management with Applications to Defence

> **Note:** This certificate is closed to any student with a B.A. (Honours) Business administration, B.A Business Administration, Minor in Business Administration, or Concentration in Business Administration.

- This Certificate in Management with Applications to Defence is intended to allow individuals to gain a basic understanding of the defence management field.
- The topics cover the basics of management theory across multiple disciplines. In addition, the courses can be applied to the B.A. (General) and the Bachelor of Military Arts and Science (B.M.A.Sc.) degree programmes.
- The equivalent of 10 one-credit courses are required for completion of the Certificate.

Mandatory courses (or their equivalent)

- BAE202: Financial Accounting
- BAE208: Managerial Accounting
- BAE220: Introduction to Information Technology
- BAE238: Introduction to Strategic Management
- BAE242: Quantitative Methods I
- BAE300: Finance
- BAE314: Marketing Fundamentals
- BAE326: Human Resources Management
- BAE330: Organizational Theory
- BAE344: Operations Management

Certificate in Accounting

> **Note:** This certificate is not available to ROTP students. It is for Canadian Armed Forces (CAF) personnel that are taking courses from RMC to complete the requirements of the Chartered Professional Accountant (CPA) preparatory program. This is part of the RMC – Logistics Officer (Finance) Professionalization project. Department of National Defence (DND) personnel in the Financial Management (FI) and Administrative Services (AS) classifications may also be admitted to the program on a space-available basis.

The 15 courses listed in the certificate represent the Chartered Professional Accountant (CPA) preparatory courses, which are necessary for entry into the two-year professional program. A 6-week distance-learning option for each course listed below was created. The contents of the compressed online course and its corresponding in class course are the same.

CPA Course Code	Course Title	RMC Course Code
IFA	Financial Accounting	BAE202
IF1	Intermediate Accounting I	BAE302

CPA Course Code	Course Title	RMC Course Code
IF2	Intermediate Accounting II	BAE414
AFR	Advanced Accounting	BAE424
IMA	Managerial Accounting	BAE208
MAA	Intermediate Management Accounting	BAE404
PMA	Introduction to Strategic Management	BAE238
AUA	Audit	BAE310
COF	Finance	BAE300
TAX	Taxation I	BAE316
TAX	Taxation II	BAE318
ECO	Introduction to Economics	ECE101
STA	Quantitative Methods I	BAE242
BUL	Business Law	BAE420
ITE	Introduction to Information Technology	BAE220

Date modified:

2024-07-02

Business Administration Undergraduate Courses

BAE202 Financial Accounting

BAE206 Fundamentals of Management

BAE208 Managerial Accounting

BAE220 Introduction to Information Technology

BAE238 Introduction to Strategic Management

BAE242 Quantitative Methods I

BAE300 Finance

BAE302 Intermediate Accounting I

BAE310 Audit

BAE312 Taxation

BAE314 Marketing Fundamentals

BAE316 Taxation I

BAE318 Taxation II

BAE326 Human Resources Management

BAE330 Organizational Theory

BAE336 International Financial Management

BAE344 Operations Management

BAE364 Decision Analysis

BAE400 Advanced Finance

BAE404 Intermediate Management Accounting

BAE406 Management of Technology

BAE408 Management Control Systems

BAE410 Information Systems

BAE412 e-Business

BAE414 Intermediate Accounting II

BAE416 Quantitative Analysis

BAE420 Business Law

BAE422 Business Ethics

BAE424 Advanced Accounting

BAE426 Labour Relations

BAE434 Managerial Challenges in Organizational Behaviour

BAE436 Public Financial Management

BAE440 International Management

BAE442 Project Management

BAE444 Supply Chain Management

BAE446 Operations Planning

BAE448 Selected Readings in Management

BAE450 Advanced Topics in Management

BAE452 Business Policy

BAE454 Seminar in Entrepreneurship

BAE460 Consumer Behaviour

BAE462 Brand Strategy

BAE464 Organizational Change and Culture

BAE466 Management of Health and Safety at Work

BAE468 Training and Development

BAE470 Strategic Management I

BAE472 Strategic Management II

BAE490 Thesis

Related links

Business Administration programme requirements

Course details guide

Courses 200-299

BAE202 Financial Accounting

This course provides an introduction to the principles, practice and process of financial accounting. The student is introduced to the theory and mechanics of financial accounting with an emphasis on the presentation and development of accounting as an information system. Major topic areas include accounting theory, the processing of accounting data, accounting for assets, liabilities, owner's equity and the preparation and interpretation of financial statements.

Note(s):

Also offered through Distance Education. A 6-week distance-learning option will be offered for the Certificate in Accounting.

Exclusion(s):

BAE202 (previous version)

Contact Hours:

3 - 0 - 6 (Distance Learning: 0 - 0 - 9) (Distance Learning [6-week condensed version]: 0 - 0 -18)

Credit(s):

1

BAE206 Fundamentals of Management

This course provides a broad introduction to management. It covers basic topics of organizational management, includes a general framework of the functional disciplines of management, and identifies key challenges and factors affecting management in the private and public sector, including defence and security organizations. In working through these issues, students will develop skills in business communication and case study analysis.

Note(s):
Also offered through Distance Education.

Exclusion(s):
BAE264, BAE268, BAE270

Contact Hours:
3 - 0 - 6, (Distance Learning: 0 - 0 - 9)

Credit(s):
1

BAE208 Managerial Accounting

This course introduces students to the fundamentals of management accounting within the organization. The early part of the course examines basic terms, concepts and systems of management accounting before moving on to more specific topics such as activity-based costing, budgeting, variance analysis, and cost allocation. The course emphasizes the use of accounting information for planning and control within the organization and the appropriate use of accounting information for other types of decision-making such as pricing and product profitability decisions. The role of management accounting in systems supporting quality programmes and just in time delivery is considered. Other types of decision-making using accounting information such as capital budgeting and transfer pricing are examined as time permits. Consideration will be given to the behavioural and motivational impact of various management accounting systems.

Note(s):
Also offered through Distance Education. A 6-week distance-learning option will be offered for the Certificate in Accounting.

Prerequisite(s):
BAE202 or equivalent.

Semester:
Usually Offered in the Winter Term

Contact Hours:
3 - 0 - 6, (Distance Learning: 0 - 0 - 9), (Distance Learning [6-week condensed version]: 0 - 0 -18)

Credit(s):
1

BAE220 Introduction to Information Technology

This course is intended for students who will use Information Technology (IT) in the workplace. It is not intended for computer or systems professionals. The course will provide students with an introduction to the fundamentals of IT and its applications in an organizational setting. Students will be expected to have basic computer skills such as the ability to use a modern integrated office software package. Students who lack these skills will be required to take part in a skills lab. Topics include Computer Hardware, Computer Software, Networking, Data Management, Uses of IT in Organizations, Development of Information Systems, Ethics and Information Technology.

Note(s):
Also offered through Distance Education. A 6-week distance-learning option will be offered for the Certificate in Accounting.
For Arts students only. This course cannot be applied to a degree in Science or Engineering.

Semester:
Usually Offered in the Winter Term

Contact Hours:
3 - 0 - 6, (Distance Learning: 0 - 0 - 9), (Distance Learning [6-week condensed version]: 0 - 0 -18)

Credit(s):
1

BAE238 Introduction to Strategic Management

The course focuses on introducing the principles of general management of the business organizations. Definitions, frameworks and conceptual models are presented to provide principles for strategy formulation, implementation, execution, leadership and control. Topics include, but are not limited to, competitive forces and value chain analysis, strategic intent, core competencies, corporate social responsibility, strategic and organizational performance, internal and external analysis, and management of change. Particular attention is given to strategic management in the military context of defence and security.

Note(s):
Only offered through Distance Education. A 6-week distance-learning option will be offered for the Certificate in Accounting.

Exclusion(s):
BAE470

Contact Hours:
0 - 0 - 9, (Distance Learning [6-week condensed version]: 0 - 0 -18)

Credit(s):
1

BAE242 Quantitative Methods I

This course introduces students to the application of probabilistic and statistical techniques to business problems. Major topics include probability theory, estimation, confidence intervals and inference, all in the context of business problems.

Note(s):
Also offered through Distance Education. A 6-week distance-learning option will be offered for the Certificate in Accounting.

Exclusion(s):
ECE242 and PSE213

Semester:
May be offered in the Fall Term & Winter Term

Contact Hours:
3 - 0 - 6, (Distance Learning: 0 - 0 - 9), (Distance Learning [6-week condensed version]: 0 - 0 -18)

Credit(s):
1

Courses 300-399

BAE300 Finance

This course introduces the students to principles of financial decision-making. Topics include the theory of present value and interest, risk, capital markets, and valuation, and decision-making within the firm including the financing decision, and capital budgeting. The emphasis is on the application of the principles to solve business, military and administrative problems.

Note(s):
A 6-week distance-learning option will be offered for the Certificate in Accounting.

Prerequisite(s):
BAE202

Semester:
Usually Offered in the Fall Term

Contact Hours:
3 - 0 - 6, (Distance Learning [6-week condensed version]: 0 - 0 -18)

Credit(s):
1

BAE302 Intermediate Accounting I

This course provides a continued examination of the principles, practice and process of financial accounting. The students continue their introduction to the theory and mechanics of financial accounting with an emphasis on the presentation and development of accounting as an information system. Major topic areas include accounting theory, the processing of accounting data, accounting for assets, liabilities, owner's equity and the preparation and interpretation of financial statements. Time permitting; the accounts of the federal government will also be introduced.

Note(s):

Also offered through Distance Education. A 6-week distance-learning option will be offered for the Certificate in Accounting.

Prerequisite(s):

BAE202 (previous or current version)

Exclusion(s):

BAE302 (previous version)

Contact Hours:

3 - 0 - 6, (Distance Learning: 0 - 0 - 9), (Distance Learning [6-week condensed version]: 0 - 0 -18)

Credit(s):

1

BAE310 Audit

This course aims to provide students with a foundational understanding of contemporary auditing concepts, techniques, and other assurance services. Students will also learn about the evaluation of internal audit, management audit, and "value-for-money" audit procedures used in the public sector.

Note(s):

A 6-week distance-learning option will be offered for the Certificate in Accounting.

Prerequisite(s):

BAE202 and BAE208

Semester:

Usually offered in the Fall Term

Contact Hours:

3 - 0 - 6, (Distance Learning [6-week condensed version]: 0 - 0 -18)

Credit(s):

1

BAE312 Taxation

This course introduces Federal income tax laws and regulations with a focus on the taxation of individuals and corporations. Topics covered include administration of the tax system, residence, employment income, business and property income, capital gains, other income and deductions, computation of taxable income and taxes payable for individuals and corporations. GST/HST will also be covered.

Note(s):

A 6-week distance-learning option will be offered for the Certificate in Accounting.

Prerequisite(s):

BAE202

Exclusion(s):

BAE316, BAE318

Contact Hours:

3 - 0 - 6, (Distance Learning [6-week condensed version]: 0 - 0 -18)

Credit(s):

1

BAE314 Marketing Fundamentals

This course provides an introduction to the fundamentals of marketing within a business organization. The course will begin with an examination of consumer and business-to-business markets, before moving on to the major components of competitive marketing strategy, namely product/service development, pricing, distribution and promotion. The course will provide a foundation for future work in this area. No prerequisites are required although knowledge of differential calculus or microeconomics is helpful.

Note(s):

Also offered through Distance Education

Contact Hours:

3 - 0 - 6 (Distance Learning: 0-0-9)

Credit(s):

1

BAE316 Taxation I

This course aims to enable students to master the tax rules related to determining the net taxable income for all taxpayers, as well as those concerning taxable income and the income tax payable for individuals. By the end of this course, students should be able to file an individual income tax return. This course covers the following main content: Understanding the tax rules on liability. Calculation of employment and property income. Depreciation of tangible and intangible assets. Calculation of capital gains. Other income and other deductions. Calculation of the taxable income of individuals and, in particular, carry-forward losses. Calculation of the tax payable by individuals as an understanding of procedures and administration. Taxation of foreign income. Consumption Taxes.

Note(s):

A 6-week distance-learning option will be offered for the Certificate in Accounting.

Prerequisite(s):

BAE202 and BAE206

Exclusion(s):

BAE312

Contact Hours:

3 - 0 - 6, (Distance Learning [6-week condensed version]: 0 - 0 -18)

Credit(s):

1

BAE318 Taxation II

This course aims to enable students to: 1) acquire mastery of the tax rules related to the determination of taxable income and the income tax payable by a corporation; 2) gain knowledge of the basic tax rules related to various transactions to which a corporation may be subjected (e.g., incorporation of the company, sale of the company, transfer of the company, etc.); 3) master the basic rules applicable to consumption taxes. Following this course, students should not only be able to produce a corporation's income statement but also use tax rules from a tax planning perspective. This course covers the following main content: Calculation of Business Income. Calculation of taxable income and income tax payable by a corporation. Benefits to shareholders. Deemed dividends. Sales of shares/assets. Capital gains deduction. Property rollover in favor of a corporation. Restructuring of a corporation's share capital. Taxation of partnerships and trusts.

Note(s):

A 6-week distance-learning option will be offered for the Certificate in Accounting.

Prerequisite(s):

BAE316

Exclusion(s):

BAE312

Contact Hours:

3 - 0 - 6, (Distance Learning [6-week condensed version]: 0 - 0 -18)

Credit(s):

1

BAE326 Human Resources Management

The basic purpose of every human resource system is to acquire, develop and maintain the right kinds and numbers of people necessary to achieve organizational objectives. Taking a general systems approach this course examines the major human resource management (HRM) functions and their impact on organizational effectiveness. Representative topics include demographics and personnel supply; human rights legislation and employment equity; human resource planning; recruiting and selection; training and development; and compensation and benefits.

Note(s):

Also offered through Distance Education

Semester:

Usually Offered in the Winter Term

Contact Hours:

3 - 0 - 6 (Distance Learning: 0-0-9)

Credit(s):

1

BAE330 Organizational Theory

This course examines organizational theories, including but not limited to classical management theories on organizations and management, contingency theory, open systems theories, theories based on technological imperatives, institutional theories, and theories of bureaucracy. Emphasis will be placed on issues relating to processes such as politics, power and control in organizations, organizational legitimacy and organizational design. The course advances the understanding of how an organization functions within its social context as well as how its organizational design can be improved.

Prerequisite(s):

BAE206 or BAE238

Note(s):

Also offered through Distance Education

Semester:

Usually Offered in the Fall Term & Winter Term

Contact Hours:

3 - 0 - 6 (Distance Learning: 0-0-9)

Credit(s):

1

BAE336 International Financial Management

This course focuses on international financial management and international economics. The objective of the course is to develop the student's ability to understand and analyze the major problems of economics and financial decisions in an international context. Specifically, the course covers the following aspects: Foreign exchange markets, exchange rate determination, international money and capital markets, currency futures, options, and swaps, corporate exposure management, Managing Foreign Exchange Risk in the Department of National Defence, international capital budgeting and investing.

Prerequisite(s):

ECE206 and BAE300

Semester:

Usually Offered in the Winter Term

Contact Hours:

3 - 0 - 6

Credit(s):

1

BAE344 Operations Management

This course presents a qualitative overview and introduces quantitative methods used in planning and managing operations in the service and production sector of the economy. Topics include design, process selection, capacity planning, project control, quality control, response to customer, cost/benefit analysis, facility layout, inventory and, supply chain management.

Note(s):
Also offered through Distance Education

Prerequisite(s):
BAE242

Semester:
Usually Offered in the Winter Term

Contact Hours:
3 - 0 - 6 (Distance Learning: 0-0-9)

Credit(s):
1

BAE364 Decision Analysis

This course provides the fundamental concepts of business analytics, with strong emphasis on business applications. Topics include linear programming, network modelling, project management, regression analysis and data mining. Each topic is illustrated through business applications to show how data analysis works in today's organizations. Special attention is given to the use of software as well as to the presentation and interpretation of results.

Prerequisite(s):
BAE242

Semester:
Usually Offered in the Fall Term & Winter Term

Contact Hours:
3 - 0 - 6

Credit(s):
1

Courses 400-499

BAE400 Advanced Finance

This course provides a framework for formulating and considering financial decisions that affect the long-term performance and value of an enterprise. The course further develops the areas of finance covered in the introductory finance course and introduces and develops new topics essential to advanced study in finance. The course covers such topics as raising capital, capital budgeting , interaction of financing and investment decisions, options in corporate finance, capital structure choices, distribution policy, and corporate governance. Cases are used to promote discussion of the application of financial principles to realistic business scenarios.

Prerequisite(s):
BAE300

Contact Hours:
3 - 0 - 6

Credit(s):
1

BAE404 Intermediate Management Accounting

This second course in management accounting builds on the principles learned in the introductory course. The course will continue the examination of cost management and the analysis of business decisions. Topics include but are not limited to costs and pricing, cost behaviour, relevant costs for decision-making, cost allocations, transfer pricing, sales mix decisions, and inventory management. The course will also examine how costs, pricing, and performance measurement apply in Not for Profit and public organizations.

Note(s):

A 6-week distance-learning option will be offered for the Certificate in Accounting.

Prerequisite(s):

BAE208

Semester:

Usually offered in the Fall or Winter

Contact Hours:

3 - 0 - 6, (Distance Learning [6-week condensed version]: 0 - 0 -18)

Credit(s):

1

BAE406 Management of Technology

The aim of this course is to help students develop a strong conceptual foundation for managing technology. It introduces concepts and frameworks for analyzing how organizations can create, develop, commercialize, diffuse and capture value from high technology-based products and services. It studies how organizations manage the technological change process (marketing, R&D, engineering, and manufacturing) in new organizational forms. Topics covered include: 1) technological change and how it affects competition between new and existing organizations, 2) strategies for organizations competing in high-technology industries, 3) management of innovation within a corporation, 4) management of innovation across organization boundaries (strategic alliances, entrepreneurship, venture capital), 5) technology commercialization, and 6) protection of an invention that might someday be commercialized.

Prerequisite(s):

BAE220

Semester:

Usually offered in the Winter Term

Contact Hours:

3 - 0 - 6

Credit(s):

1

BAE408 Management Control Systems

Management control focuses on the process of assuring that the resources of the organization are used effectively and efficiently in the accomplishment of its objectives. This course deals with the design and implementation of accounting and non-accounting related controls from a managerial perspective. Using case analysis, the course focuses on the broad aspects of management control.

Prerequisite(s):

BAE208

Semester:

Usually offered in the Fall Term

Contact Hours:

3 - 0 - 6

Credit(s):

1

BAE410 Information Systems

The objectives of this course are to provide a solid managerial perspective in the concepts essential to 1) analyze and understand the capabilities and limitations of information technology so one can be an effective user of computers 2) analyze, design, develop, implement and use MIS in organizations. Subjects covered include role of information technology in organizations; strategic role of information systems in organizations; concepts, tools and techniques for systems development; managing information systems implementation; managing information system resources, Decision Support Systems; and managing International Information Systems.

Prerequisite(s):

BAE220

Semester:

Usually Offered in the Fall Term & Winter Term

Contact Hours:

3 - 0 - 6

Credit(s):

1

BAE412 e-Business

E-Business has become a key enabler for business transformation through the use of Electronic Service Delivery (ESD) in both the public and private sectors. This course covers the essential elements necessary for planning and implementing successful ESD initiatives and strategies. It examines what has fundamentally changed for business and government with the advent of the World Wide Web (WWW) technologies on the Internet and looks at their impact on marketing, emergence of new business models, and the nature of business transactions with customers and between business entities. The course also provides an introduction to the technical dimension of planning and building ESD infrastructure such as security, electronic payment systems and supply chain integration. A balanced approach is taken in addressing issues from both the private sector and government ESD planner's perspectives.

Prerequisite(s):

BAE220

Semester:

Usually offered in the Winter Term

Contact Hours:

3 - 0 - 6

Credit(s):

1

BAE414 Intermediate Accounting II

This course examines the theoretical underpinnings and accounting decision-making related to such topics as long- term debt, pensions, leases, complex financial instruments and accounting for income taxes. International financial reporting standards (IFRS) and their implications play an important role of the discussion in topics covered in the course.

Note(s):

Also offered through Distance Education. A 6-week distance-learning option will be offered for the Certificate in Accounting.

Prerequisite(s):

BAE302 (previous or current version)

Exclusion(s):

BAE416 (previous version)

Contact Hours:

3 - 0 - 6, (Distance Learning: 0 - 0 - 9), (Distance Learning [6-week condensed version]: 0 - 0 -18)

Credit(s):

1

BAE416 Quantitative Analysis

This course will examine both advanced deterministic and probabilistic methods of decision analysis and problem solving in management and economics areas. The course will be targeted at several methods of mixed integer and integer programming, decision and risk analysis, multi-criteria decision problems, simulation, forecasting, calculus of variations and optimal control, Markov Chains and Dynamic Programming. That is, both descriptive and prescriptive methods will be used and where possible, examples from the civilian world, DND or the CAF will be used to motivate the discussion, formulate problems and come to solutions.

Prerequisite(s):

BAE242

Semester:

Usually offered in the Winter Term

Contact Hours:

3 - 0 - 6

Credit(s):

1

BAE420 Business Law

A basic introduction to the Canadian legal system with a focus on the areas of law of particular relevance to business. The course will briefly discuss the court system and civil procedure. Greater emphasis will be placed on the law of tort and contract.

Note(s):

A 6-week distance-learning option will be offered for the Certificate in Accounting.

Semester:

Usually Offered in the Fall Term & Winter Term

Contact Hours:

3 - 0 - 6, (Distance Learning [6-week condensed version]: 0 - 0 -18)

Credit(s):

1

BAE422 Business Ethics

Ethics should underlie every aspect of organizational life, yet is often seen as a separate issue. In this course, students explore various tools contributing to building ethical cultures as well as the associated challenges. The ethical dilemmas fundamental to important decisions such as reporting misconduct and whistleblowing are deciphered. Ethical issues associated with common organizational practices and activities as well as ethical concerns related to current trends in organizations will be critically analyzed, including corporate social responsibility and environmental responsibility, fair trade, the sharing economy, consumerism, pandemics, persuasive technologies, surveillance, artificial intelligence and big data. Organizational practices and mechanisms setting the stage for ethical (mis)conduct and (in)equity in defence organizations are explored.

Contact Hours:

3 - 0 - 6

Credit(s):

1

BAE424 Advanced Accounting

This course deals with advanced topics in financial reporting with an emphasis on business combinations and foreign currency transactions and translation of financial statements. Accounting for non-profit organizations will also be examined.

Note(s):

Also offered through Distance Education. A 6-week distance-learning option will be offered for the Certificate in Accounting.

Prerequisite(s):

BAE414 (previous or current version)

Exclusion(s):

BAE424 (previous version)

Contact Hours:

3 - 0 - 6, (Distance Learning: 0 - 0 - 9), (Distance Learning [6-week condensed version]: 0 - 0 -18)

Credit(s):

1

BAE426 Labour Relations

This course examines the basic issues in labour relations such as union certification and negotiation and administration of collective agreements. Other selected topics in labour relations and employee relations will also be covered.

Prerequisite(s):

BAE326

Semester:

Usually Offered in the Fall Term & Winter Term

Contact Hours:

3 - 0 - 6

Credit(s):

1

BAE434 Managerial Challenges in Organizational Behaviour

This course aims to give students the opportunity to apply the knowledge they have acquired in introductory courses in Organizational Behaviour and Organizational Theory. The course focuses on analyzing managerial challenges through case studies, introspection, and active learning techniques. Contemporary management challenges guide the selection of topics included in the course.

Prerequisite(s):

BAE330 and PSE301

Semester:

Usually offered in the Winter Term

Contact Hours:

3 - 0 - 6

Credit(s):

1

BAE436 Public Financial Management

This course aims at developing student capabilities in the analysis of financial operations and the management of the public sector at all level of government. The course covers the principles of finance, economics, accounting and fiscal administration that are relevant to the understanding of financial functions and financial management in the public sector.

Prerequisite(s):

BAE202, BAE300, ECE224

Semester:

Usually Offered in the Winter Term

Contact Hours:

3 - 0 - 6

Credit(s):

1

BAE440 International Management

This course will focus upon the opportunities and threats with which a firm must contend to become globally competitive and to be able to effectively operate within an international setting. A particular emphasis will be placed on multinational corporations, that is, companies that have significant interests across nations. Course topics include consideration of: the international macro-environment, including its economic, political, legal, technological and social elements; the role of culture, including the challenges faced when managing, motivating and leading persons across a variety of cultures; and international strategic management, including strategic planning, organizing international operations and decision-making in an international context.

Prerequisite(s):

BAE330

Semester:

Usually Offered in the Fall Term & Winter Term

Contact Hours:

3 - 0 - 6

Credit(s):

1

BAE442 Project Management

This course examines approaches to the management of major projects within and between organizations. Topics covered include, but are not limited to, requirement definition, project selection, organization, planning, scheduling, budgeting control and termination. Skills necessary for successful project management such as the ability to negotiate and the ability to identify and manage risk is also considered.

Prerequisite(s):

BAE242

Contact Hours:

3 - 0 - 6

Credit(s):

1

BAE444 Supply Chain Management

Supply-chain management (SCM) is a system that helps manage the entire flow of information, materials, services and financials from raw materials suppliers through factories and warehouses, retailers to the end customer (end user). SCM stresses particularly processes and integration. Globalization and the rapid development of electronic business have heightened the strategic importance of supply chain management. The course develops a solid grounding, and includes strategies for customer service, inventory management, integrated processes and virtual integration, information sharing and the management of the bullwhip effect phenomena, matching supply and demand and managing uncertainties, business logistics outsourcing, supply chain network design and postponement, managing partnerships and how to create value through global networks.

Prerequisite(s):

BAE344

Contact Hours:

3 - 0 - 6

Credit(s):

1

BAE446 Operations Planning

This course will examine advanced techniques and the thought processes with respect to Operations Management. The course will examine Reliability and Maintainability, Learning Curves, Aggregate Operations Planning, one of Operations Planning, advanced Inventory Control, Job and Staff Scheduling, Process Control and Project Management. Where possible, the course will examine these issues for both profit-oriented firms as well as not for profit organizations such as DND.

Prerequisite(s):

BAE344

Semester:
Usually offered in the Winter Term

Contact Hours:
3 - 0 - 6

Credit(s):
1

BAE448 Selected Readings in Management

This course allows students to explore an area of management that they are particularly interested in. This course can only be undertaken if a faculty member agrees to participate. Instructor participation will include providing/approving course readings, meeting with the student periodically to discuss these readings, developing a set of deliverables and providing appropriate assessment.

Note(s):
Permission of head and support of sponsoring faculty member required

Contact Hours:
3 - 0 - 6

Credit(s):
1

BAE450 Advanced Topics in Management

This course examines topics from a number of management areas. The course will provide the student who has completed the more basic courses with exposure to more complex issues in areas such as accounting, marketing, production, quantitative methods and human resources management. In addition, the course examines areas of management the student has not previously been exposed to such as international business and logistics. Coverage of topics will be on a selective basis.

Semester:
Usually Offered in the Fall Term & Winter Term

Contact Hours:
3 - 0 - 6

Credit(s):
1

BAE452 Business Policy

This course is intended to pull together material from the various Business Administration courses and illustrates the complex overlap that exists between areas in applied situations. In the examination of corporate strategy the focus will be on the application of theories, concepts and analytical techniques developed in other courses, to a variety of case problems and situations. The course examines how the internal resources of the firm, the organization of the firm and the environment of the firm, all influence the strategic choices that the firm makes. Over the two terms of the course, students will also be required to work on a major project involving the development of a comprehensive business plan, for presentation to faculty and invited guests.

Prerequisite(s):
BAE202, BAE208, BAE220, BAE242, BAE314, BAE326, BAE344

Contact Hours:
3 - 0 - 6

Credit(s):
2

BAE454 Seminar in Entrepreneurship

This advanced seminar course is designed for business students who wish to learn about entrepreneurship and its role in bringing new business models, new products and services into the market. The course surveys the entrepreneurial process, including starting, operating and ending an entrepreneurial venture. Topics include entrepreneurship, venture creation, business planning, entrepreneurial economics, financial projections,

capitalization and debt, legal and taxation issues, franchising, marketing, technology, leadership in an entrepreneurial enterprise, and business expansion. Upon completion, students should understand a wide range of entrepreneurship concepts, and gain sufficient knowledge in the course to initiate their own business venture.

Prerequisite(s):
BAE208, BAE314, BAE300, BAE330

Contact Hours:
3 - 0 - 6

Credit(s):
1

BAE460 Consumer Behaviour

Consumer behaviour is about how people select, purchase, use or dispose of goods, services, ideas or experiences to satisfy their needs and wants. The study of consumer behaviour is rooted in market research and how it informs marketers on how to reach and influence consumers. The course begins with the study of individual processes that influence consumers, such as perception, learning, motivation and personality. Next, decision-making theories and practices are studied and analyzed. This is followed by in-depth discussions and analyses about group and cultural influences. Specific modules on service marketing and consumer behaviour research are included. The course challenges students to apply different conceptual lenses and adopt a rigorous critical stance by considering various perspectives to consumer behaviour theory and application.

Prerequisite(s):
BAE314

Semester:
Usually Offered in the Winter Term

Contact Hours:
3 - 0 - 6

Credit(s):
1

BAE462 Brand Strategy

In this course, students will be exposed to different brand concepts and principles underlying the creation and development of the brand over time. We will address issues of recovery, repositioning, brand extension, architectural scenario and the orchestration of brands in the portfolio. Through several examples, the course will also address the identity and culture of brand concept of internal and external branding. The student will become familiar with the assessment of the value of trademark through a review of the strengths and weaknesses of the various measurement models used in industry and in the literature. In the context of globalization, this course also aims to present the different branding strategies: global brands, "global" and local. The student will learn to identify the factors that favour the emergence of global brands.

Prerequisite(s):
BAE314

Semester:
Usually Offered in the Winter Term

Contact Hours:
3 - 0 - 6

Credit(s):
1

BAE464 Organizational Change and Culture

Change is a constant aspect of organizational life. This course provides students with the tools they need to understand the overt and hidden aspects of the organizational changes they are subject to, and to influence change processes at various stages. The course equips current and future change leaders to design and conduct better change processes. Concrete tools will be provided, real life cases will be studied and current

changes in defence organizations will be analyzed. Emphasis will be placed on the challenges and tools for culture change. Topics include: leveraging change management frameworks that reflect the complexity of real-life situations, managing recipients of change and influencing stakeholders, action planning and implementation, sustaining change, and using data throughout the change process.

Prerequisite(s):
BAE330

Semester:
Usually Offered in the Winter Term

Contact Hours:
3 - 0 - 6

Credit(s):
1

BAE466 Management of Health and Safety at Work

The high costs of work accidents and occupational health problems constitute a major concern for managers. In addition to the contributions made to regulatory bodies for compensation, workplace accidents generate many hidden costs for organizations, such as material losses and reduced production levels, among others. Employers are generally concerned with any level of accidents and work-related illnesses that result in significant work interruptions and slowdowns, and which often curtails the availability of personnel often indispensable to the effective functioning of the organization. Thus, workplace health and accident prevention have become priorities for organizations. This course aims to familiarize the student with the effective management of workplace health and safety. It will introduce students to fundamental concepts and issues in workplace health and safety, to work-related dangers and risks, and will focus on an integrated approach to managing workplace health and safety.

Prerequisite(s):
BAE326

Semester:
Usually Offered in the Winter Term

Contact Hours:
3 - 0 - 6

Credit(s):
1

BAE468 Training and Development

This course examines the theory and practice of the training and development function of human resources management in work organizations. Students will learn how to assess needs, set learning objectives, design learning activities, and evaluate program effectiveness through hands-on experience. Related topics include: learning theory, budgeting, alternatives to training, staffing and societal issues, and training. Specific attention will be paid to training and professional development in the CAF because of the unique needs of the military related to their requirement to develop all of their senior personnel internally.

Prerequisite(s):
BAE326

Semester:
Usually Offered in the Winter Term

Contact Hours:
3 - 0 - 6

Credit(s):
1

BAE470 Strategic Management I

The course focuses on the strategic management of organizations. Definitions, frameworks and conceptual models are presented to provide basic principles for strategy formulation, implementation, execution and control. Topics include internal and external analysis, industry analysis, competitive forces and value chain analysis, strategic intent, core competencies, competitive advantage, strategic and organizational design fit, competitive rivalry, business-level strategy, corporate-level strategy, corporate governance, cooperative strategies, strategic alliances, mergers,

and acquisitions. Students use short case studies related to organizations of differing sectors (public and private) and structures to help analyze business environments. The course provides an enhanced understanding of the strategic management approach for the organization, including defence and security organizations.

Note(s):
Also offered through Distance Education.

Prerequisite(s):
ECE103, ECE104, BAE202, BAE206, BAE208, BAE220, BAE314, BAE326, BAE330, BAE344

Exclusion(s):
BAE238

Semester:
Usually offered in the Fall Term

Contact Hours:
3 - 0 - 6 (Distance Learning: 0 - 0 - 9)

Credit(s):
1

BAE472 Strategic Management II

This course is the practical component of "BAE70: Strategic Management I"; it integrates material from the various management courses to illustrate the complex overlap that exists between areas in applied situations. In the examination of corporate strategy in a variety of cases and situations, the focus will be on the application of theories, concepts and analytical techniques learned in other courses. The students will work on a major management project to develop a comprehensive strategic plan.

Prerequisite(s):
BAE202, BAE206, BAE208, BAE220, BAE242, BAE300, BAE314, BAE326, BAE330, BAE344, BAE470

Exclusion(s):
BAE402

Semester:
Usually offered in the Winter Term

Contact Hours:
3 - 0 - 6

Credit(s):
1

BAE490 Thesis

This two-term course is available only to students of Business Administration who have an average of at least "A-" in 3rd year Business Administration courses. Students who take the course may substitute it in place of *(BAE440 and BAE450)* two business electives. Before enrolling in the course a student must obtain the approval of a professor in the Department of Business Administration who will supervise the thesis. The topic of the thesis will be mutually agreed upon by the student and the professor and should be in one of the areas covered in one or more of the Business Administration core courses.

Prerequisite(s):
Permission from the Head of the Department.

Contact Hours:
3 - 0 - 6

Credit(s):
2
Date modified:
2024-03-05

Undergraduate Political Science and Economics Programmes

Political Science Programmes

Economics Programmes

Related links

Political Science and Economics courses

Undergraduate arts programmes

Department of Political Science and Economics

Admissions

> ⚠ **Important Notice:**
>
> New enrollments into Economics (Honours), Economics and, Business Economics, for September 2025, have been paused, noting that current students in Economics (Honours), Economics, and Business Economics will continue, as will the remainder of Economics programmes. Determination on the future status of these paused programmes for Academic Year 2026-2027 is ongoing.

General Information

The Department of Political Science and Economics provides the best possible university education in two connected fields of the social sciences: Political Science and Economics. It also supports mandatory and optional courses for Military and Strategic Studies. These programmes prepare future officers for public service and for prestigious graduate programmes.

Social sciences include empirical analysis (what is) and normative analysis (what should be). Value judgements related to philosophical, cultural, and religious beliefs are studied along with strategy, policy, and administration. Social sciences have limited power to predict, but significant power to understand and explain causes and improve polices, strategies, and options. Language and writing skills are a basic requirement for studying social sciences. Hence students are encouraged to take maximum advantage of all the opportunities, including the services of the Writing Centre, made available to them during their first two years of study to develop these skills.

Reading widely, writing clearly, using statistical and quantitative techniques effectively, and speaking persuasively are skills students will develop for life and their military careers. They can take advantage of experiential learning, international exchanges, and government internships. Students are encouraged to explore the services of the Writing Centre and the RMC Success Centre.

Political Science

The Political Science programme prepares students for the intellectual rigors of military service and is designed as a robust preparation for the graduate education required for service at senior ranks in the Canadian Armed Forces, government, and international organizations.

The programme includes three streams of courses addressing:

- The State: government, politics and society, public administration, military law, foreign and defence policy
- International Relations: security, conflict, international law, international organizations, and governance
- Theory and Policy: Theories and approaches to the study of politics, states, institutions, civil-military relations, and regions across the globe.

The Political Science programme combines with the core curriculum to provide a comprehensive social science foundation while maximizing choice. All students complete eight mandatory courses introducing social science theories, methods, and philosophies that inform the discipline. Students pursuing the BA (Honours) must complete the senior capstone seminar course (POE492: Seminar in Political Science).

Economics

Economics is the social science that studies how individuals, firms, and governments make choices on allocating scarce resources to satisfy unlimited wants. Economics is everywhere: from students choosing how much time to allocate to studying versus going to the gym or going out, to governments choosing how to allocate resources to education, health care, or security, all these decisions involve a choice of one or more alternatives given limited resources, such as time and/or money.

There are two main branches of economics; Microeconomics and Macroeconomics. Microeconomics studies the behaviour of individual decision makers such as firms and households. It deals with determination of prices and quantities in individual markets and with the relationship among markets. In contrast, macroeconomics is concerned with the behaviour of the economy as a whole, in particular, with factors such as unemployment, national income, economic growth, inflation and price levels.

Physical Conditioning and Second Language Courses

> ⚠ **Important:** The physical conditioning courses and the second language courses are part of the four-pillar degree and apply to all RMC degree programmes except the 30-credit general degree programmes.

> ℹ **LCF:** Based on the result of a placement test, students will be registered in LCF courses at the 100, 200, 300, or 400-level. Students will automatically be exempt from applicable lower level LCF courses once placed in the appropriate course. Students who attain a Second Official Language (SOL) proficiency level of at least BBB or higher on the Public Service Commission (PSC) Second Language Evaluation (SLE) will be exempt from LCF courses at RMC.

- ATE101: Foundations of Fitness, Health and Sports *(UPTNCM & non-ROTP take ATE102)*

- ATE301: Unarmed Combatives, Military Skills and Individual Sports *(UPTNCM & non-ROTP take ATE302)*
- LCF100 : Compétence de base – partie I
- LCF200 : Compétence de base – partie II
- LCF301 : Compétence intermédiaire – partie I
- LCF302 : Compétence intermédiaire – partie II
- LCF400 : Compétence intermédiaire - partie III

> **Note:** The PSC SLE is the only SOL certification-testing instrument currently accredited and used by the CAF to assess the SOL proficiency level. *(DAOD 5039-8, Canadian Armed Forces Second Official Language Certification Testing)*

Political Science Programme Requirements

To be eligible for admission into the programme leading to a B.A. (Honours) Political Science or a B.A. Political Science, students must have successfully completed their first-year courses in social sciences and humanities. The first-year courses in political science are part of the compulsory college core and will count toward the degree requirements, noted below. In consultation with the Political Science Chair, students will select courses each year to fulfil the degree requirements, which includes the College's core courses, as well as a minimum number of junior and senior courses. We offer five programmes:

1. B.A. (Honours) Political Science
2. B.A. Political Science
3. B.A Political Science with a Minor in Economics
4. B.A Political Science with a Minor (through another department or faculty)
5. Minor in Political Science

B.A. (Honours) Political Science

> **Note:** To earn an Bachelor of Arts (Honours) a student must meet the requirements of Academic Regulation 3.1.

A 40 credit programme, including the core courses for arts programmes, with a minimum of 20 credits in Political Science.

Mandatory courses

- POE102: Introduction to Political Science
- POE116: Introduction to International Relations
- POE202: Introduction to Political Geography
- POE205: Canadian Politics and Society
- POE212: Political Theory
- POE214: Comparative Politics
- POE218: International Relations Theory
- POE220: Research and Methods
- POE492: Seminar in Political Science

B.A. Political Science

A 40 credit programme, including the core courses for arts programmes, with a minimum of 16 credits in Political Science.

Mandatory courses

- POE102: Introduction to Political Science
- POE116: Introduction to International Relations
- POE202: Introduction to Political Geography
- POE205: Canadian Politics and Society
- POE212: Political Theory
- POE214: Comparative Politics
- POE218: International Relations Theory
- POE220: Research and Methods

Optional courses

Optional courses are organized into three streams; The State, Theory & Policy, and International Relations, based on the traditional subfields of Political Science.

Students in may choose optional courses from any of the three streams (*assuming they meet any prerequisites*) as well as no more than four cross-listed courses offered by other departments, of which three should be at the 400-level.

> ⚠ It should be noted that the 2-credit course "POE490: Directed Readings in Politics" and the 1-credit course "POE491: Directed Readings in Politics" can be offered as an optional course in each of the fields, but can be taken only once.

Political Science Streams

- Students enrolled in either the B.A (Honours) Political Science or the B.A. in Political Science will complete all eight mandatory courses (*some of which are also part of the RMC Core Curriculum*).
- Additional courses may be taken in any of the three streams: The State, International Relations or Theory & Policy.

The State

- POE301: Indigenous Issues in Canadian Politics
- POE328 : Canadian Political Institutions
- POE332: Public Administration in Canada
- POE334: Canadian Public Policy Making
- POE337: Theories of the State
- POE411: American Political Institutions
- POE412: Contemporary American Foreign and Security Policy
- POE416: Canadian Foreign and Security Policy
- POE425: Regional Comparative Politics
- POE438: Canadian Political Parties, Elections and Public Opinion
- POE452: Topics in Canadian Politics
- POE454: Topics in Comparative Politics
- POE484: The Canadian Judicial System

International relations

- POE317: Introduction to Strategic Studies (***required for MSS***)
- POE319: Terrorism: History and Strategy
- POE324: International Organizations
- POE410: International Conflict Management
- POE413: Nuclear Weapons & International Relations
- POE414: Contemporary International Issues and Events (***required for MSS***)
- POE415: Contemporary International Conflict (***required for MSS***)
- POE435: Terrorism and Political Violence
- POE436: International Law of the Sea
- POE441: Foreign Policy of the Russian Federation
- POE442: Secessionist Movements in the World
- POE453: Topics in International Relations
- POE486: Air and Space Law
- POE488: The Law of Armed Conflict

Theory and Policy

- POE312: Classical Political Philosophy
- POE314: Modern Political Philosophy
- POE372: Science, Technology, Politics, Society and the Environment
- POE374: Science, Technology and Public Policy
- POE421: Political Ideologies
- POE425: Regional Comparative Politics
- POE428: Contemporary Political Theory
- POE432: Civil-Military Relations
- POE455: Topics in Political Theory
- POE456: Topics in public Administration and Policy

Notes:

1. In addition, B.A. (Honours) students will also take POE492: Seminar in Political Science
2. "POE490: Directed Readings in Politics (2-credits)" and "POE491: Directed Readings in Politics (1-credit)" are not allocated to any particular stream. It may be taken under the supervision of a faculty member, but may only be taken once.

Political studies cross-listed courses

ℹ Students may enroll in no more than four cross-listed courses offered by other departments, of which three should be at the 400-level.

- ECE242: Introduction to Statistics
- ECE244: Introduction to Defence Economics
- ECE246: Introduction to Health Economics
- ECE411: Public Finance
- ECE424: Economics of Defence
- ECE428: Economics of National Security
- ECE444: Economics of the Environment
- ECE448: Cost-Benefit Analysis
- HIE289: The Impact of Science and Technology on Society and the Environment
- HIE360: The Rise of Peacekeeping
- HIE362: History of Peace Operations since 1980
- HIE405: History of the Relations between Canada and the United States
- HIE406: Canadian External Relations
- HIE452: War, Peace and Civil Society in Modern History
- PSE452: Advanced Research Methods in Behavioural Sciences

Political Science Programme Outlines

The following tables are examples of a typical outline, by year, of a B.A. (Honours) Political Science programme of study or a B.A. Political Science programme of study that would cover the required courses.

⚠ **Important:** Students who started their 40-credit programme prior to Academic Year 2024-2025 will follow the old mathematics requirement MAE103, MAE106 and, MAE113. Students starting their 40-credit programme in Academic Year 2024-2025 and thereafter will follow the new mathematics requirement MAE107, MAE108 and, MAE109.

B.A. (Honours) Political Science

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ECE104 ENE111 HIE101 POE116 PSE103 ATE LCF	CSE260 ENE112 HIE103 MAE107 POE202 ATE LCF	ENE211 MAE108 POE102 POE212 POE220 ATE LCF	ENE212 HIE203 MAE109 POE205 POE218
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	POE214 PSE301 **Science** 1 credit [1] **Political Science** 2 credits [2] ATE LCF	HIE271 **Science** 1 credit [1] **Political Science** 3 credits [2] ATE LCF	POE492 [3] **Political Science** 3 credits [2] **Elective** 1 credit ATE LCF	POE492 (cont'd) PSE401 **Political Science** 2 credits [2] **Elective** 1 credit ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

B.A. Political Science

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ECE104 ENE111 HIE101 POE116 PSE103 ATE LCF	CSE260 ENE112 HIE103 MAE107 POE202 ATE LCF	ENE211 MAE108 POE102 POE212 POE220 ATE LCF	ENE212 HIE203 MAE109 POE205 POE218 ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	PSE301 POE214 **Science** 1 credit [1] **Political Science** 2 credits [2] ATE LCF	HIE271 **Science** 1 credit [1] **Political Science** 1 credits [2] **Elective** 2 credits ATE LCF	**Political Science** 3 credits [2] **Elective** 2 credits ATE LCF	PSE401 **Political Science** 2 credits [2] **Elective** 2 credits ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

1 One credit in Physics is required. One credit in Chemistry or Biology is required.

2 Students may enroll in courses from any of the three streams as well as no more than four cross-listed courses offered by other departments, of which three should be at the 400-level in order complete the required programme credits.

3 A requirement for the B.A. (Honours) Political Science programme only.

Minor in Political Science

Note: This Minor is open to all students.

- The requirements for the Minor are 8 credits in Political Science.
- Only Political Science courses count towards a Minor in Political Science.
- Students choosing to Minor in Political Science must obtain a minimum average of B- in their 3 best courses of the Minor and courses within the RMC core (POE116 and POE205) count towards a minor in Political Science.

Economics Programme Requirements

Students successfully completing their first year in Arts are eligible for entry into the programme leading to a B.A. (Honours) Economics or a B.A. Economics. The first year Economics courses are part of the core compulsory courses and will count toward the degree requirements noted below. In consultation with the Chair of Economics, students will select courses each year which fulfil the degree requirements that are best suited to students' interests.

B.A. (Honours) Economics

> ⚠ **Important:** To earn an Bachelor of Arts (Honours) a student must meet the requirements of Academic Regulation 3.1.

A 40 credit programme, including the core courses for arts programmes, with a minimum of 20 credits in Economics.

> ℹ **Note:** When a course is annotated as an "either / or" course for the mandatory courses requirement, the unused course can be used toward the optional courses requirement.

Mandatory courses

- ECE103: Introduction to Microeconomics
- ECE104: Introduction to Macroeconomics
- ECE206: Macroeconomic Theory and Policy I
- ECE224: Microeconomics I
- ECE242: Introduction to Statistics
- ECE256: Modelling in Economics
- ECE308: Macroeconomic Theory and Policy II
- ECE326: Microeconomics II
- ECE342: Introduction to Econometrics
- ECE424: The Economics of Defence **or** ECE428: Economics of National Security
- ECE454: Topics in Microeconomic Analysis
- ECE456: Topics in Macroeconomic Analysis
- ECE492: Economics Seminar

Optional courses

Minimum of 7 credits from the following

- ECE246: Introduction to Health Economics
- ECE300: Money; Financial Institutions and Markets
- ECE310: Introduction to Political Economy
- ECE312: The Development of Economic Ideas
- ECE314: Economic History of Canada
- ECE320: Industrial Organization
- ECE330: Labour Economics
- ECE332: Sports Economics
- ECE336: International Financial Management
- ECE411: Public Finance
- ECE417: International Economics
- ECE424: The Economics of Defence **or** ECE428: Economics of National Security
- ECE442: Applied Econometrics
- ECE444: Economics of the Environment
- ECE448: Cost Benefit Analysis
- ECE490: Directed Readings in Economics

Or any credits from the following, with the approval of the programme chair:

- BAE300: Finance
- BAE400: Advanced Finance
- BAE436: Public Financial Management
- POE332: Public Administration in Canada
- POE456: Topics in Public Administration and Policy

Note: *Any other course approved by the programme chair.*

B.A. Economics

A 40 credit programme, including the core courses for arts programmes, with a minimum of 16 credits in Economics.

> **Note:** When a course is annotated as an "either / or" course for the mandatory courses requirement, the unused course can be used toward the optional courses requirement.

Mandatory courses

- ECE103: Introduction to Microeconomics
- ECE104: Introduction to Macroeconomics
- ECE206: Macroeconomic Theory and Policy I
- ECE224: Microeconomics I
- ECE242: Introduction to Statistics
- ECE256: Modelling in Economics
- ECE308: Macroeconomic Theory and Policy II **or** ECE326: Microeconomics II
- ECE342: Introduction to Econometrics
- ECE424: The Economics of Defence **or** ECE428: Economics of National Security
- ECE454: Topics in Microeconomic Analysis **or** ECE456: Topics in Macroeconomic Analysis
- ECE492: Economics Seminar

Optional courses

Minimum of 5 credits from the following:

- ECE246: Introduction to Health Economics
- ECE300: Money; Financial Institutions and Markets
- ECE308: Macroeconomic Theory and Policy II **or** ECE326: Microeconomics II
- ECE310: Introduction to Political Economy
- ECE312: The Development of Economic Ideas
- ECE314: Economic History of Canada
- ECE320: Industrial Organization
- ECE424: The Economics of Defence **or** ECE428: Economics of National Security
- ECE332: Sports Economics
- ECE336: International Financial Management
- ECE411: Public Finance
- ECE417: International Economics
- ECE442: Applied Econometrics
- ECE444: Economics of the Environment
- ECE448: Cost Benefit Analysis
- ECE454: Topics in Microeconomic Analysis **or** ECE456: Topics in Macroeconomic Analysis
- ECE490: Directed Readings in Economics

Or any credits from the following (*with the approval of the Programme Chair*):

- BAE300: Finance
- BAE400: Advanced Finance
- BAE436: Public Financial Management
- POE332: Public Administration in Canada
- POE456: Topics in Public Administration and Policy

Note: *Any other course approved by the Programme Chair.*

Economics Programme Outlines

The following tables are examples of a typical outline, by year, of a B.A. (Honours) Economics programme of study or a B.A. Economics programme of study that would cover the required courses.

> ⚠ **Important:** Students who started their 40-credit programme prior to Academic Year 2024-2025 will follow the old mathematics requirement MAE103, MAE106 and, MAE113. Students starting their 40-credit programme in Academic Year 2024-2025 and thereafter will follow the new mathematics requirement MAE107, MAE108 and, MAE109.

B.A. (Honours) Economics

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ECE104 ENE111 HIE101 POE116 PSE103 ATE LCF	BAE220 ECE103 ENE112 HIE103 MAE107 ATE LCF	ECE206 ECE256 ENE211 MAE108 **Elective** 1 credit ATE LCF	ECE224 ECE242 ENE212 HIE203 MAE109 ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	ECE308 ECE342 PSE301 1 science credit [7] **Optional** [9] 1 credit ATE LCF	ECE326 HIE271 1 science credit [7] **Optional** [9] 2 credit ATE LCF	ECE424 **or** ECE428 [8] ECE454 POE205 **Optional** [9] 3 credits ATE LCF	ECE456 ECE492 PSE401 **Optional** [9] 1 credit **Elective** 1 credit ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

B.A. Economics

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ECE104 ENE111 HIE101 POE116 PSE103 ATE LCF	BAE220 ECE103 ENE112 HIE103 MAE107 ATE LCF	ECE206 ECE256 ENE211 MAE108 **Elective** 1 credit ATE LCF	ECE224 ECE242 ENE212 HIE203 MAE109 ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	ECE308 **or** ECE326 [8] ECE342 PSE301 1 science credit [7] **Optional** [9] 1 credit ATE LCF	HIE271 1 science credit [7] **Optional** [9] 1 credit **Elective** 2 credits ATE LCF	ECE424 **or** ECE428 [8] ECE454 or ECE456 [8] POE205 **Optional** [9] 1 or 2 credit(s) **Elective** 1 credit ATE LCF	ECE454 or ECE456 [8] ECE492 PSE401 **Optional** [9] 1 or 2 credit(s) **Elective** 1 credit ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

7 The core science requirement is: 1 credit in Chemistry or Biology **and** 1 credit in Physics.

8 Students enrolled in the B.A. Economics can take either ECE454 in Fall of Year 4 or ECE456 in Winter of Year 4.

- If you take ECE454 in the Fall you will take only one optional credit in the Fall and two optional credits in the Winter.
- If you take ECE456 in the Winter you will take 2 optional credits in the Fall and only one optional credit in the Winter.

Students enrolled in a B.A. Economics may take both; (ECE308 and ECE326) (ECE424 and ECE428) (ECE454 and ECE456). Students taking both courses will have one applied to the programme as a mandatory course and the other as an optional course.

9
- The B.A. (Honours) Economics requires a minimum of seven optional credits, and;
- the B.A. Economics requires a minimum of five optional credits chosen from the lists provided.

Minor in Economics

> **Note:** All Arts students may take a Minor in Economics.

The requirements for the Minor are 8 credits in the discipline:

- The First Year courses in Economics can count toward the Minor.
- Students choosing to Minor in Economics must maintain a minimum of a B- average in their three best courses of the Minor.

Mandatory courses:

- ECE103: Introduction to Microeconomics
- ECE104: Introduction to Macroeconomics
- ECE206: Macroeconomic Theory and Policy I
- ECE224: Microeconomics I
- ECE242: Introduction to Statistics
- ECE308: Macroeconomic Theory and Policy II **or** ECE326: Microeconomics II
- 2 credits in Economics at the 300-400 level.

Certificate in Applied Economics

This 8-credit certificate is intended to expand knowledge of the key fields of economics within the defence community. The courses provide an introduction to economics and credits may be applied to B.M.A.Sc. or B.A. (Gen).

> **Note:** this certificate is closed to students in the Economics or Business Economics programmes (honours, major, or minor).

Mandatory courses (4 credits)

- ECE103: Introduction to Microeconomics
- ECE104: Introduction to Macroeconomics
- ECE206: Macroeconomic Theory and Policy I
- ECE224: Microeconomics I

Optional courses (4 credits chosen from the following)

- BAE206: Fundamentals of Management
- BAE242: Quantitative Methods I
- ECE226: International Macroeconomics
- ECE242: Introduction to Statistics
- ECE244: Introduction to Defence Economics
- ECE246: Introduction to Health Economics
- ECE310: Introduction to Political Economy
- MAE384 - Analytics and the Operational Planning Process
- POE205: Canadian Politics and Society
- *Any other credits with the approval of the programme chair*

Business Economics Programme

Students successfully completing their first year in Arts are eligible for entry into the programme leading to a B.A. (Honours) Business Economics or a B.A. Business Economics Degree.

There are two streams:

- Economics stream for those who wish to have more economics contents and;
- Business Administration stream for those who elect to have more business courses.

Graduates of the Business Economics may normally pursue graduate studies in Economics or Business Administration without taking additional courses.

Students must declare their stream by the end of Year 2. The first year Economics courses are part of the core compulsory courses and will count toward the degree requirements noted below. In consultation with the Chair of Economics, students will select courses each year which fulfil the degree requirements that are best suited to students' interests.

The Business Economics programme is designed for students who wish to combine the study of economics and business administration. Students have the choice between an Economics stream and a Business Administration stream. In addition, students have the choice between a B.A. (Honours) and a B.A. (40 credits) including the core courses for arts programmes.

Economics Stream

Mandatory Courses (17 credits)

- BAE202: Financial Accounting
- BAE206: Fundamentals of Management
- BAE220: Introduction to Information Technology
- BAE300: Finance
- BAE314: Marketing Fundamentals
- BAE326: Human Resources Management
- BAE330: Organizational Theory
- BAE344: Operations Management
- ECE206: Macroeconomic Theory and Policy I
- ECE224: Microeconomics I
- ECE242: Introduction to Statistics
- ECE256: Modelling in Economics
- ECE308: Macroeconomics Theory and Policy II
- ECE326: Microeconomics II
- ECE342: Introduction to Econometrics
- ECE454: Topics in Microeconomic Analysis **or** ECE456: Topics in Macroeconomic Analysis
- ECE492: Economics Seminar

B.A. (Honours) Business Economics (Economics stream)

- 2 optional Economics credits at the 300/400 level
- 1 optional Business Administration credit at the 300/400 level

B.A. Business Economics (Economics stream)

- 2 optional Economics credits at the 300/400 level
- 1 elective

Business Administration Stream

Mandatory Courses (16 credits)

- BAE202: Financial Accounting
- BAE206: Fundamentals of Management
- BAE208: Managerial Accounting
- BAE220: Introduction to Information Technology
- BAE300: Finance
- BAE314: Marketing Fundamentals
- BAE326: Human Resources Management
- BAE330: Organizational Theory
- BAE344: Operations Management
- ECE206: Macroeconomic Theory and Policy I
- ECE224: Microeconomics I
- ECE242: Introduction to Statistics
- ECE256: Modelling in Economics
- ECE308: Macroeconomics Theory and Policy II
- ECE326: Microeconomics II
- ECE454: Topics in Microeconomic Analysis **or** ECE456: Topics in Macroeconomic Analysis

B.A. (Honours) Business Economics (Business Administration stream)

- 3 optional Business Administration credits at the 300/400 level
- 1 optional Economics credits at the 300/400 level

B.A. Business Economics (Business Administration stream)

- 2 optional Business Administration credits at the 300/400 level
- 1 optional Economics credits at the 300/400 level
- 1 elective

Optional courses in economics

- ECE300: Money; Financial Institutions and Markets
- ECE310: Introduction to Political Economy
- ECE312: The Development of Economic Ideas
- ECE320: Industrial Organization
- ECE330: Labour Economics
- ECE332: Sports Economics
- ECE336: International Financial Management
- ECE411: Public Finance
- ECE417: International Economics
- ECE424: The Economics of Defence
- ECE428: Economics of National Security
- ECE442: Applied Econometrics
- ECE444: Economics of the Environment
- ECE448: Cost Benefit Analysis
- ECE490: Directed Readings in Economics

Optional courses in business administration

- BAE302: Intermediate Accounting I
- BAE310: Audit

- BAE336: International Financial Management
- BAE364: Decision Analysis
- BAE400: Advanced Finance
- BAE404: Intermediate Management Accounting
- BAE406: Management of Technology
- BAE408: Management Control Systems
- BAE410: Information Systems
- BAE412: e-Business
- BAE416: Quantitative Analysis
- BAE418: Intermediate Marketing
- BAE420: Business Law
- BAE422: Business Ethics
- BAE426: Labour Relations
- BAE434: Managerial Challenges in Organizational Behaviour
- BAE436: Public Financial Management
- BAE438: Strategic Management
- BAE440: International Management
- BAE442: Project Management
- BAE444: Supply Chain Management
- BAE446: Operations Planning
- BAE448: Selected Readings in Management
- BAE450: Advanced Topics in Management
- BAE452: Business Policy
- BAE454: Seminar in Entrepreneurship
- BAE460: Consumer Behaviour
- BAE462: Brand Strategy
- BAE464: Organizational Change and Culture
- BAE466: Management of Health and Safety at Work
- BAE468: Training and Development
- BAE472: Strategic Management II

Note: *Any other course approved by the Chair of Economics.*

Business Economics Programme Outline

The following table is an example of a typical outline, by year, of a B.A. (Honours) Business Economics programme of study or a B.A. Business Economics programme of study that would cover the required courses.

B.A. (Honours) and B.A. Business Economics (all streams)

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ECE104 ENE111 HIE101 POE116 PSE103 ATE LCF	BAE220 ECE103 ENE112 HIE103 MAE107 ATE LCF	BAE202 BAE206 ECE206 ECE256 ENE211 MAE108 ATE LCF	BAE326 ECE224 ECE242 ENE212 HIE203 MAE109 ATE LCF
Semester total	**5 credits**	**5 credits**	**6 credits**	**6 credits**

B.A. (Honours) Business Economics (economics stream)

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	BAE300 BAE330 ECE342 ECE308 PSE301 **Optional course** 1 credit [12] ATE LCF	BAE314 ECE326 HIE271 **Science** 1 credit [11] ATE LCF	BAE344 ECE454 **or** ECE456 POE205 **Science** 1 credit [11] ATE LCF	ECE492 PSE401 **Optional courses** 2 credits [12] ATE LCF
Semester total	**6 credits**	**4 credits**	**4 credits**	**4 credits**

B.A. Business Economics (economics stream)

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	BAE300 BAE330 ECE342 ECE308 PSE301 ATE LCF	ECE326 HIE271 **Science** 1 credit [11] **Optional course** 1 credit [12] ATE LCF	BAE344 ECE454 **or** ECE456 POE205 **Science** 1 credit [11] **Optional course** 1 credit [12] ATE LCF	BAE314 ECE492 PSE401 **Elective** 1 credit ATE LCF
Semester total	**5 credits**	**4 credits**	**5 credits**	**4 credits**

B.A. (Honours) Business Economics (business administration stream)

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	BAE300 BAE330 ECE308 PSE301 **Optional course** 1 credit [13] ATE LCF	BAE208 BAE314 ECE326 HIE271 **Science** 1 credit [11] ATE LCF	BAE344 ECE454 **or** ECE456 POE205 **Optional course** 1 credit [13] ATE LCF	PSE401 **Science** 1 credit [11] **Optional courses** 2 credits [13] ATE LCF
Semester total	**5 credits**	**5 credits**	**4 credits**	**4 credits**

B.A. Business Economics (business administration stream)

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	BAE300 BAE330 ECE308 PSE301 **Optional course** 1 credit [13] ATE LCF	BAE208 BAE314 ECE326 ◦ HIE271 **Science** 1 credit [11] ATE LCF	BAE344 ECE454 **or** ECE456 POE205 **Optional course** 1 credit [13] ATE LCF	PSE401 **Science** 1 credit [11] **Optional course** 1 credit [13] **Elective** 1 credit ATE LCF
Semester total	**5 credits**	**5 credits**	**4 credits**	**4 credits**

11 The core science requirement is: 1 credit in Chemistry or Biology and 1 credit in Physics.

12 The optional course requirements for the economics stream are:

- **B.A. (Hons) -** 2 economics credits and 1 business administration credit.
- **B.A.** - 1 economics credit.

13 The optional course requirements for the business administration stream are:

- **B.A. (Hons) -** 3 business administration credits and 1 economics credit.
- **B.A.** - 2 business administration credits and 1 economics credit.

Date modified:

2025-04-29

Undergraduate Political Science and Economics Courses

Political Science courses

POE102 Introduction to Political Science

POE116 Introduction to international Relations

POE202 Introduction to Political Geography

POE205 Canadian Politics and Society

POE212 Political Theory

POE214 Comparative Politics

POE218 International Relations Theory

POE220 Research and Methods

POE230 Introduction to Military Law

POE301 Indigenous Issues in Canadian Politics

POE312 Classical Political Philosophy

POE314 Modern Political Philosophy

POE317 Introduction to Contemporary Strategic Studies

POE319 Terrorism: History and Strategy

POE324 International Organizations

POE328 Canadian Political Institutions

POE332 Public Administration in Canada

POE334 Canadian Public Policy Making

POE337 Theories of the State

POE372 Science, Technology, Politics, Society and the Environment

POE374 Science, Technology and Public Policy

POE410 International Conflict Management

POE411 American Political Institutions

POE412 Contemporary American Foreign and Security Policy

POE413 Nuclear Weapons & International Relations

POE414 Contemporary International Issues and Events

POE415 Contemporary International Conflict

POE416 Canadian Foreign and Defence Policy

POE421 Political Ideologies

POE423 The Politics of Africa

POE424 The Politics of the Millde East

POE425 Regional Comparative Politics

POE428 Contemporary Political Theory

POE432 Civil-Military Relations

POE433 Public Choice

POE434 Comparative Studies in Development

POE435 Terrorism and Political Violence

POE436 International Law of the Sea

POE437 Contemporary Regimes: States and Nations

POE438 Canadian Political Parties, Elections and Public Opinion

POE440 Foresight Tools and Methods for Public Policy

POE441 Foreign Policy of the Russian Federation

POE442 Secessionist movements in the World

POE452 Topics in Canadian Politics

POE453 Topics in International Relations

POE454 Topics in Comparative Politics

POE455 Topics in Political Theory

POE456 Topics in Public Administration and Policy

POE470 Gender Dimensions in Society, Politics and International Security

POE484 The Canadian Judicial System

POE486 Air and Space Law

POE488 The Law of Armed Conflict

POE490 Directed Readings in Politics

POE491 Directed Readings in Politics

POE492 Seminar in Political Science

Economics courses

ECE101 Introduction to Economics

ECE103 Introduction to Microeconomics

ECE104 Introduction to Macroeconomics

ECE206 Macroeconomic Theory and Policy I

ECE224 Microeconomics I

ECE226 International Macroeconomics

ECE242 Introduction to Statistics

ECE244 Introduction to Defence Economics

ECE246 Introduction to Health Economics

ECE256 Modelling in Economics

ECE300 Money, Financial Institutions and Markets

ECE308 Macroeconomic Analysis: Theory and Policy II

ECE310 Introduction to Political Economy

ECE312 The Development of Economic Ideas

ECE314 Economic History of Canada

ECE320 Industrial Organization

ECE326 Microeconomics II

ECE330 Labour Economics

ECE332 Sports Economics

ECE336 International Financial Management

ECE342 Introduction to Econometrics

ECE411 Public Finance

ECE417 International Economics

ECE424 Economics of Defence

ECE428 Economics of National Security

ECE442 Applied Econometrics

ECE444 Economics of the Environment

ECE448 Cost-Benefit Analysis

ECE454 Topics in Microeconomic Analysis

ECE456 Topics in Macroeconomic Analysis

ECE490 Directed Readings in Economics

ECE492 Economics Seminar

Geography courses

GOE302 Canadian Geography

GOE305 World Regional Geography: Europe and/or the Americas

GOE307 World Regional Geography: Asia and/or Africa

GOE404 Issues in Contemporary Geopolitics

GOE418 Approaches to Cultural and Historical Geography

GOF420 *Fondements géopolitiques du droit international*

GOF422 *Géographie politique du Canada*

GOE450 Topics in Political Geography

GOE470 Problems in Political Geography: Focus on Europe and Former Soviet Union

GOE472 Understanding Post-Soviet Europe and Asia

GOE494 Directed Readings/Area Study in Geography

Courses 100-199

POE102 Introduction to Political Science

This course introduces students to the discipline of political science with a focus on ideas, institutions, processes and actors. Students will identify how political science relates to the other social sciences and how to conduct political research. Learning Outcomes are to distinguish Political Science within the broader Social Sciences; recognize the role of ideas, institutions, processes and actors in political life; outline the process of political science research and express political concepts through written and oral arguments.

Contact Hours:	3 - 0 - 6
Credit(s):	1

POE116 Introduction to international Relations

This course introduces students to the field of international relations. Students will be able to describe the relationships among actors, levels of analysis and events. It introduces theoretical approaches to international relations and the utility of these approaches for describing and analyzing historical and contemporary international events. Learning Outcomes are to recognize the study of international relations within political science; recognize the relationship between events and concepts; describe the key concepts in International Relations and outline the connection between events and IR theory,

Note(s):	A college core curriculum course Also offered through Distance Education.
Exclusion(s):	POE216, POE316
Contact Hours:	In class 3 - 0 - 6 Distance learning 0 - 0 - 9
Credit(s):	1

ECE101 Introduction to Economics

This course is designed as an introduction to the fundamental building blocks of microeconomic analysis. Choices made by consumers and producers are shown to give rise to demand and supply. The role of the price system providing information and incentives is discussed. Various topics, particularly price controls and taxation, are used to motivate the analysis of demand and supply as well as the need to measure changes in demand and supply. This course will enable students to develop their own thinking on contemporary microeconomic problems in addition to offering them the necessary tools to understand the economic phenomena that characterize everyday life.

Note(s):	Only offered through Distance Education, Only for the Certificate in Accounting.
Exclusion(s):	ECE103, ECE104
Contact Hours:	Distance Learning [6-week condensed version] 0 - 0 -18

Related links

Political science programme requirements

Economics programme requirements

Course details guide

Credit(s):	1

ECE103 Introduction to Microeconomics

This course is designed as an introduction to the fundamental building blocks of microeconomic analysis. Choices made by consumers and producers are shown to give rise to demand and supply. The role of the price system providing information and incentives is discussed. Various topics, particularly price controls and taxation, are used to motivate the analysis of demand and supply as well as the need to measure changes in demand and supply. This course will enable students to develop their own thinking on contemporary microeconomic problems in addition to offering them the necessary tools to understand the economic phenomena that characterize everyday life.

Note(s):	Core Course for students of the First Year taking Arts. Also offered through Distance Education. A 6-week distance-learning option will be offered for the Certificate in Accounting.
Exclusion(s):	ECE101, ECE102
Contact Hours:	In class 3 - 0 - 6 Distance learning 0 - 0 - 9 Distance learning [6-week condensed version] 0 - 0 -18
Credit(s):	1

ECE104 Introduction to Macroeconomics

This course provides an introduction to the fundamentals of macroeconomic analysis. Key macroeconomic variables such as GDP, unemployment, inflation, interest rates and trade flows are discussed in detail, and models of aggregate expenditure and aggregate demand and supply are used to analyze fluctuations and growth trends in economic activity. The course also provides an in-depth exploration of the effects of fiscal policy and monetary policy on economic aggregates.

Note(s):	Also offered through Distance Education. Core Course for students of the First Year taking Arts. A 6-week distance-learning option will be offered for the Certificate in Accounting.
Exclusion(s):	ECE101, ECE102
Contact Hours:	In class 3 - 0 - 6 Distance learning: 0 - 0 - 9 Distance Learning [6-week condensed version] 0 - 0 -18
Credit(s):	1

Courses 200-299

POE202 Introduction to Political Geography

Appreciating the geographical arena within which political life unfolds, and the resources and possibilities that environment presents for political action, are key elements in understanding the political behaviour of actors, ranging in scale from the individual to the group on to the nation state and international organizations. This course presents an overview of the field of political geography and explores the dimensions of personal space, territoriality, regionalism, population growth and resource distribution, environmental degradation, boundary disputes, the rise and fall of nation states and civilizational conflicts.

Contact Hours:	3 - 0 - 6
Credit(s):	1

POE205 Canadian Politics and Society

This introduction addresses political culture and socialization, federalism and the regions, parties and the electoral system, federal institutions, organization and accountability of the public service and armed forces, equity and diversity, role of the media, and Canada's place in the world.

Note(s):	A college core curriculum course Also offered through Distance Education.
Exclusion(s):	POE105, POE106, POE206
Contact Hours:	3 - 0 - 6
Credit(s):	1

POE212 Political Theory

This course will introduce students to the theories and questions that are central to the practice of politics. Based primarily on the reading and discussion of Plato, Hobbes, Rousseau, John Stuart Mill, John Locke, Kant and Hegel, the course will explore the core themes of politics, such as authority, liberty, justice, nationalism and the place of science and technology in public life. Through the writings of Rene Descartes, students will explore the concept of epistemology to determine why we know what we know and what distinguishes opinion from justified belief. Students will gain an understanding of the relevance of political theory to understanding both historical and current events.

Contact Hours:	3 - 0 - 6
Credit(s):	1

POE214 Comparative Politics

The course will commence with an overview of the many different and competing theories of comparative politics, and will evaluate the strengths and weaknesses of each framework. In so doing, discussion will take place on the key issues in comparative politics. The course will also explore the increasing variety of measures employed in comparisons of the major regions and countries of the world. During the latter portion of the course, each student will select one country as a brief case study.

Note(s):	Also offered through Distance Education.
Exclusion(s):	POE320
Prerequisite(s):	POE102 or equivalent
Contact Hours:	In class 3 - 0 - 6 Distance learning 0 - 0 - 9
Credit(s):	1

POE218 International Relations Theory

Building on the knowledge acquired in POE116 this course involves an examination of the main theoretical traditions of international relations, including realism, liberalism, and constructivism, as well as some of the key current issues in international politics. Students are expected to develop an in-depth understanding of these theories and to demonstrate a capability for analyzing and applying the theories to central issues in international relations.

Prerequisite(s):	POE116
Contact Hours:	3 - 0 - 6
Credit(s):	1

POE220 Research and Methods

This course introduces students to the fundamentals of social science research and methods. It will introduce an empirical approach to studying politics, covering topics including: research ethics, theory-testing, causality, concepts and measures, as well as a variety of research design options (quantitative and qualitative). It will also cover basic statistical methods used in social science methods, including simple univariate and multivariate analysis.

Exclusion(s): HIE206

Contact Hours: 3 - 0 - 6

Credit(s): 1

POE230 Introduction to Military Law

This course introduces students to military law. In the Canadian context, military law encompasses the overlapping areas of administrative law, military justice, and operations law. Upon completion of this course, students will be able to identify and apply select statutory, common law, and policy frameworks to broad issues of military law. They will be empowered to recognize and apply the source of the lawful authorities that military leaders in the Canadian Armed Forces use to make decisions daily.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ECE206 Macroeconomic Theory and Policy I

This is an intermediate course in macroeconomics with a focus on constructing and understanding macroeconomic models. The topics covered include long-run economic growth and short-run business cycle fluctuations, as well as fiscal and monetary policy. The questions of concern will include why some countries rich and others hopelessly poor. What are the sources of economic booms and recessions? Why is there unemployment? What are the sources of inflation? How do government policies affect output, inflation and unemployment?

Prerequisite(s): ECE104

Semester: Usually Offered in the Fall Term

Contact Hours: 3 - 0 - 6

Credit(s): 1

ECE224 Microeconomics I

This is an intermediate course in microeconomic theory. The first half of the course focuses on consumer choice theory, with an examination of utility maximization's problems, derivation of consumer demand functions and analysis of the effects of price and income changes.

Prerequisite(s): ECE103

Semester: Usually Offered in the Fall Term

Contact Hours: 3 - 0 - 6

Credit(s): 1

ECE226 International Macroeconomics

This course studies the fundamental theories of open economy macroeconomics, as well as their application for monetary and exchange rate policies. Topics include balance of payments; current account dynamics and international capital flows; foreign exchange markets; interaction of the money, interest rates and exchange rates, purchasing power parity and the international monetary system. In addition, the course covers fixed and flexible exchange rate regimes and their implications for macroeconomic policy.

Notes(s):	Only offered through Distance Education. Available for B.A. (Gen) and B.M.A.Sc. students.
Prerequisite(s):	ECE104
Exclusion(s):	ECE336
Semester:	Usually Offered in the Winter Term
Contact Hours:	0 - 0 - 9
Credit(s):	1

ECE242 Introduction to Statistics

This is an introductory course in statistics designed for students in Economics and Business Administration. Topics include statistical inference, probability, statistical testing and confidence intervals as well as sampling and sampling distribution. Problem solving is emphasized using hypothesis testing and confidence intervals on means, proportions and differences. Estimation of sample statistics is also analyzed.

Exclusions(s):	BAE242, PSE213
Semester:	Usually Offered in the Fall Term
Contact Hours:	3 - 0 - 6
Credit(s):	1

ECE244 Introduction to Defence Economics

As for any good or service, there exist demand and supply for defence services. The course is structured in three parts. First, the demand for defence depends on perceived threats, related to the geopolitics of territorial security and aid to civil authorities and, then, on the cost of defence and on international commitments towards peace and stability in coordination with alliances. However, unlike demands for most other goods and services, the demand for defence is intermediated by government simply because defence is not a private but nearly a public good. Thus, issues of collective choice, from voting to lobbying, are examined. Further, down in decision hierarchy, demand for component services must be understood for countries ranging from landlocked to island geographies. Second, the supply of defence services includes an understanding of major issues in personnel recruitment, retention, training and health as well as procurement of defence equipment. Such issues as care for veterans and contracting out may be covered. Finally, the third component will cover emerging security issues such as the cyber sphere, space security, the Canadian Arctic and global migration patterns affecting the country.

Note(s):	Also offered through Distance Education. This course is **not** open to students enrolled in Bachelor of Arts Economics, Bachelor of Arts (Honours) Economics, or Bachelor of Arts (Honours) Business Economics.
Prerequisite(s):	ECE103 or ECE104
Exclusions(s):	ECE424
Contact Hours:	In class 3 - 0 - 6 Distance learning 0 - 0 - 9

Credit(s):	1

ECE246 Introduction to Health Economics

Healthcare, a largely private good, is an input into the production of health. This health economics course covers the demand and supply of healthcare as well as examining health production. Healthcare demand is examined using the health stock framework including the relationship between health, wealth and education and where individuals choose their health inputs. Healthcare insurance inevitably arises in response to financing expensive and uncertain demand for healthcare services. Once an individual enters the healthcare system supplying care, a doctor's agency becomes relevant for the patient's navigation through secondary and tertiary care. Hospitals, pharmaceuticals and long-term care also form part of the framework for supply. Healthcare is provided under mixed and regulated systems. Institutional and organizational aspects of the health care systems are examined with an eye to policy-making. Unlike most other private goods and services, healthcare insurance and provision is regulated everywhere mostly on equity grounds while there exist efficiency grounds especially on the insurance side due to informational asymmetries. The penultimate part of the course examines a variety of generic healthcare systems such as those of Germany, Holland and France with social insurance and those of England, Sweden and Australia with public insurance. Canada healthcare system with public insurance is also mixed, with private but not-for-profit yet heavily regulated hospitals and private but contracted physicians. The last part of the course concentrates on military healthcare, including latest developments in field care, and veterans' healthcare systems.

Note(s):	Also offered through Distance Education. This course is **not** open to students enrolled Bachelor of Arts (Honours) Business Economics.
Prerequisite(s):	ECE103 or ECE104
Contact Hours:	In class 3 - 0 - 6 Distance learning 0 - 0 - 9
Credit(s):	1

ECE256 Modelling in Economics

This course introduces students to models used in economics and other quantitative courses. Analyses of consumer and producer optima, as well as market equilibrium under different market forms are introduced. Comparative statics and dynamics as well as empirical testing methodologies used in microeconomic and macroeconomic problems are studied. Further applications of these models can be found in such diverse applied fields such as public finance, environmental economics, monetary economics, finance, international economics, industrial organization, defence and security economics, and cost-benefit analysis. This introductory course helps students understand models used in teaching both economics and management courses.

Prerequisite(s):	MAE107
Contact Hours:	3 - 0 - 6
Credit(s):	1

Courses 300-399

POE301 Indigenous Issues in Canadian Politics

Students will examine the political actors, regimes and issues pertaining to indigenous peoples and their interests in Canada. Actors include the First Nations, federal, provincial and territorial institutions, and interest groups. The institutions in question are the treaties, the Constitution (including the Canadian Charter of Rights and Freedoms) and various iterations of the Indian Act. Students will examine the relationships between the actors and institutions by analyzing a series of contemporary issues pertaining to indigenous peoples.

Prerequisite(s):	POE205
Contact Hours:	3 - 0 - 6

Credit(s):	1

POE312 Classical Political Philosophy

At the end of the course students should be able to analyze, reconstruct and compare the main doctrines of Classical Political Philosophy, spanning the period between Ancient Greece and the beginning of the modern era and based primarily on a reading and discussion of Thucydides's Peloponnesian War, Xenophon's Memorabilia, Plato's Republic, Aristotle's Politics, and Machiavelli's The Prince.

Note(s):	Also offered through Distance Education.
Semester:	Usually Offered in the Fall Term
Contact Hours:	In class 3 - 0 - 6 Distance learning: 0 - 0 - 9
Credit(s):	1

POE314 Modern Political Philosophy

Based primarily on a reading and discussion of Hobbes's Leviathan, Locke's Second Treatise on Civil Government, Hume's Treatise of Human Nature, Rousseau's On the Origin and Foundations of Inequality among Men and On the Social Contract, Kant's Grounding of the Metaphysics of Morals and Towards Perpetual Peace, Hegel's Philosophy of Right, Marx and Engels's Communist Manifesto, Mill's On Liberty, and Nietzsche's Beyond Good and Evil and On the Genealogy of Morals, the students should, at the end of the course, be able to analyze, reconstruct and compare the political theories of the major modern philosophers.

Semester:	Usually Offered in the Winter Term
Contact Hours:	3 - 0 - 6
Credit(s):	1

POE317 Introduction to Contemporary Strategic Studies

This course examines the central problem of strategic studies, namely how actors conceive of, and employ force to achieve political objectives, specifically how competition can lead to violence. Students will gain a deeper understanding of the application of International Relations theory, with emphasis on the realist approach to the utility and employment of force. Using a variety of analytical techniques, students will interpret contemporary events and trends. Learning Outcomes are to compare explanations for violent conflict, employ qualitative and quantitative methods to understand contemporary events and trends, formulate explanations using key concepts and contrast competing realist theories.

Note(s):	Also offered through Distance Education.
Prerequisite(s):	POE116 or equivalent
Semester:	Usually Offered in the Winter Term
Contact Hours:	In class 3 - 0 - 6 Distance learning 0 - 0 - 9
Credit(s):	1

POE319 Terrorism: History and Strategy

This course will analyze terrorism from a theoretical and strategic point of view. The concepts and the evolution of terrorism over time will be among the topics discussed. It will focus on the relationship between terrorism and war in all its forms as well as anti-terrorist methods, policies and war. The aim of the course is to allow students to synthesize terrorism using their assimilation of political and strategic facts linked to this phenomenon.

Note(s):	Only offered through Distance Education.
Prerequisite(s):	POE116 or equivalent
Exclusion(s):	POE435
Contact Hours:	0 - 0 - 9
Credit(s):	1

POE324 International Organizations

This course will cover the development of international organizations during the 20th century. The thinking associated with international organizations as a phenomenon of state-to-state cooperation will be examined. Primary emphasis will be given to the United Nations, along with other international organizations such as the international financial institutions.
Students who complete the course will finish with an understanding of the theory and role of international organizations in international relations, a strong background in how the United Nations and associated international financial institutions have evolved and operated since World War II, as well as an awareness of the major issues facing international organizations generally in the current political environment.

Corequisite(s):	POE116
Contact Hours:	3 - 0 - 6
Credit(s):	1

POE328 Canadian Political Institutions

The course will commence with an overview of the demographic (particularly regional) makeup of Canada and will then proceed to offer a brief review of the historical roots of Confederation. The main component features of the contemporary Canadian constitution will be explored, along with the current dynamics of Canadian federalism. The course will close with an analysis of the current strains and stresses (e.g. from Quebec and the West) confronting the federation and the future of the Canadian federation.

Note(s):	Also offered through Distance Education.
Prerequisite(s):	POE205 or equivalent
Semester:	Usually Offered in the Fall Term
Contact Hours:	In class 3 - 0 - 6 Distance learning 0 - 0 - 9
Credit(s):	1

POE332 Public Administration in Canada

This course is designed to offer students an understanding of the bureaucratic structures underpinning decision-making processes in the Government of Canada. Lectures will focus on organizational theories, Central Organizations and the relationship between public servants and executive power. Particular attention will be paid to the issues of neutrality of public servants and their representativeness of the public they serve, alternative service delivery, bureaucratic reforms, good governance and best practices.

Prerequisite(s):	POE205 or equivalent
Semester:	Usually Offered in the Fall Term
Contact Hours:	3 - 0 - 6

Credit(s):	1

POE334 Canadian Public Policy Making

This course studies policy-making as a core function of the Government of Canada. Through different decision-making theories, the course offers various perspectives on how the Government of Canada makes choices and manages resources to achieve economic and social objectives for the general interest of Canadians. Particular attention will be paid to the role of the Prime Minister, cabinet committees, and Central Organizations in setting government priorities and see to their implementation and evaluation.

Prerequisite(s):	POE205 or equivalent
Semester:	Usually Offered in the Winter Term
Contact Hours:	3 - 0 - 6
Credit(s):	1

POE337 Theories of the State

First, a reasonable answer will be provided to the controversial question of whether it is justifiable to call “States” such entities as the Ancient city-state or the Roman or Chinese empires and the Modern State. Then, an overview of the theories on the genesis of the State proposed by political anthropology and by historians of the State will be offered that takes into account Western philosophizing about the State from Plato to Rousseau. The course will then focus on the Modern State whose discontinuity with the Ancient State was first elaborated on a theoretical level by G. W. F. Hegel and B. Constant, well after the fact. Students should then be able to distinguish between the different kinds of Modern State (liberal, democratic, authoritarian, socialist, totalitarian, the social or a.k.a. Welfare State, ordoliberal, neo-liberal) from the point of view of sociology and of comparative politics, and to evaluate them from a normative point of view.

Contact Hours:	3 - 0 - 6
Credit(s):	1

POE372 Science, Technology, Politics, Society and the Environment

This course introduces Science and Technology Studies (STS) and the ways in which STS researchers study how social, political, cultural, and material conditions shape scientific work and how science, in turn, shapes society. On the one hand, this course explores how methodological and substantive innovations from science and technology invigorate diverse social sciences and humanities disciplines. On the other hand, the course investigates the multiple effects of science and technology on global environmental change, particularly in terms of water and energy resources and sustainable development.

Note(s):	Only available to students in Engineering
Exclusion(s):	HIE289 and POE374
Contact Hours:	2 - 0 - 4
Credit(s):	0.5

POE374 Science, Technology and Public Policy

It is widely understood that science and technological innovation are deeply linked to economic growth in a society and its corresponding ability to generate societal well-being. Thus, one could say that the public role of science is increasingly growing. This course will examine the public policy behind and the government's role in the science and technology innovation system and address questions that will explore the relationship between scientific research and political decision-making. The course will provide students with: a background on the science and technology policy environment; a multidisciplinary toolkit for thinking about science and technology policy and an understanding of the “social science” aspect of science and technology policy.

Note(s):	Available to students in Arts and in Science
Exclusion(s):	HIE289 and POE372
Contact Hours:	3 - 0 - 6
Credit(s):	1

ECE300 Money, Financial Institutions and Markets

This is an undergraduate focusing on the study of financial markets and institutions, including in particular the study of money and banking. This course examines money supply determinants, Canadian financial markets (the money market, the stock market, bond markets and the foreign exchange market) and the operations of financial institutions that participate in these markets. The primary objective of the course is to help students obtain a better understanding of the role of the central bank, the instruments of monetary policy and the mechanism of transmission and how monetary policy can stabilize short-term economic fluctuations.

Prerequisite(s):	(ECE103 and ECE104) or (ECE104 and ECE206) or with the permission of the Department.
Contact Hours:	3 - 0 - 6
Credit(s):	1

ECE308 Macroeconomic Analysis: Theory and Policy II

This course presents an in-depth analysis of various elements of macroeconomic theory. Topics covered include aggregate consumption and investment behaviour, labour markets, inflation and price and wage rigidities. The New Keynesian and New Classical Real Business Cycle models are examined and policy implications are studied. The course will also focus on open economy issues surrounding capital flows, exchange rate movements and trade.

Prerequisite(s):	ECE206
Semester:	Usually Offered in the Winter Term
Contact Hours:	3 - 0 - 6
Credit(s):	1

ECE310 Introduction to Political Economy

This course introduces students to core concepts, theories, and methods in political economy. Key concepts introduced include collective actions, externalities, coordination problems, commitment problems, strategic interaction, agenda setting and voting. The course also provides a brief introduction to game theory as a method for analyzing strategic interaction in a political economy setting.

Prerequisite(s):	ECE103
Contact Hours:	3 - 0 - 6
Credit(s):	1

ECE312 The Development of Economic Ideas

This course is intended to broaden the view of students who have studied intermediate theory. The ideas of Smith and Ricardo and the Marginalist School will start the course. Potential topics include Marxian economics, institutional economics and social planning.

Prerequisite(s):	(ECE206 and ECE224) or with the permission of the Department.

Contact Hours:	3 - 0 - 6
Credit(s):	1

ECE314 Canadian Economic History

The course introduces students to the subject matter of economic development of pre- and post-Confederation Canada. The objective of this course is to study Canadian economic history using concepts and tools from both macroeconomics and microeconomics. The main drivers of economic development will be studied in a Canadian context; these include but are not limited to natural resources, human capital, migration, technology, trade policy, transportation, and regional inequalities.

Prerequisite(s):	ECE103 and ECE104
Contact Hours:	3 - 0 - 6
Credit(s):	1

ECE320 Industrial Organization

Industrial Organization examines imperfectly competitive markets, their structure and the behaviour of firms in these markets. Topics covered include monopoly, oligopoly and monopolistic competition, price and quantity discrimination, product differentiation, strategic entry, industry concentration and the firm's boundary, horizontal and vertical integration problems, research and development, advertising, regulation and antitrust economics.

Prerequisite(s):	ECE224
Contact Hours:	3 - 0 - 6
Credit(s):	1

ECE326 Microeconomics II

This course extends the microeconomic analysis introduced in ECE224. The first part of the course covers the imperfectly competitive markets, i.e. monopoly, oligopoly and monopolistic competition, and the related topics in price discrimination and strategic entry. The second part includes the analysis of factor markets. The third part covers externalities, public goods and club goods. The fourth and final part covers the economics of information, starting with decision-making under uncertainty and then analyzing adverse selection and moral hazard problems.

Prerequisite(s):	ECE224
Semester:	Usually Offered in the Winter Term
Contact Hours:	3 - 0 - 6
Credit(s):	1

ECE330 Labour Economics

This course provides an analysis of various aspects connected to the operation of labour markets, including labour demand and supply determinants, the economics of human capital, wage determination, unemployment and the economics of unions.

Prerequisite(s):	ECE206 and ECE224
Semester:	Usually Offered in the Fall Term
Contact Hours:	3 - 0 - 6

Credit(s): 1

ECE332 Sports Economics

This course applies economic theories and statistics to sports. The object of the course is to explore issues in professional sports using concepts from industrial organization, public finance, and labour economics. Topics covered include market structure, contracts and wages, discrimination, and public financing of stadiums. Students will also be introduced to the concepts behind common analytics and metrics used in various North American sports today.

Prerequisite(s): ECE103

Contact Hours: 3 - 0 - 6

Credit(s): 1

ECE336 International Financial Management

This course focuses on international financial management and international economics. The objective of the course is to develop the student's ability to understand and analyze the major problems of economic and financial decisions in an international context. Specifically, the course covers the following aspects: Foreign exchange markets, exchange rate determination, international money and capital markets, currency futures, options, and swaps, corporate exposure management, Managing Foreign Exchange Risk in the Department of National Defence, international capital budgeting and investing.

Prerequisite(s): ECE206 and (ECE242 or BAE242)

Exclusion(s): ECE226

Semester: Usually Offered in the Fall Term & Winter Term

Contact Hours: 3 - 0 - 6

Credit(s): 1

ECE342 Introduction to Econometrics

This course follows ECE242. The course is an introduction to econometrics and statistical methods testing the validity of the economic theories. Statistical analysis focuses on simple regression methods as well as autocorrelation, Hetroscedasticity, Multicollenearity and other problems. Econometric software will be introduced for the collection of data as well as data analysis. Students will be given the opportunity to conduct a small project which will include model specification, data collection, examination, display, and model analysis.

Prerequisite(s): ECE242 or BAE242

Semester: Usually Offered in the Fall

Contact Hours: 3 - 1 - 6

Credit(s): 1

GOE302 Canadian Geography

An introduction to the historical, cultural and political geography of Canada with a special emphasis on heartland-hinterland relations, regionalism, ethnic and immigration history, and the emerging multicultural nature of Canadian society.

Contact Hours: 3 - 0 - 6

Credit(s): 1

GOE305 World Regional Geography: Europe and/or the Americas

An introduction to the geography of Europe and/or Americas, the study of the "geographic personalities" of Europe and America's major countries, and of emerging geopolitical interactions both within these regions and with other major world regions.

Contact Hours: 3 - 0 - 6

Credit(s): 1

GOE307 World Regional Geography: Europe and/or the Africa

An introduction to the geography of Asia and/or Africa involving an examination of the "geographic personalities" of Asia and Africa's nation states and of emerging geopolitical interactions both within these regions and with other major world regions.

Contact Hours: 3 - 0 - 6

Credit(s): 1

Courses 400-499

POE410 International Conflict Management

This course introduces students to the theory and practice of international conflict management, with a focus on third-party intervention. Students are introduced to conflict analysis, and the use of diplomatic, economic, military and non-governmental intervention by international organizations involved in prevention and management of violence and post-conflict reconstruction.

Note(s): Also offered through Distance Education.

Prerequisite(s): POE116 or equivalent

Exclusion(s): HIE362, HIE380, POE210

Contact Hours: In class 3 - 0 - 6
Distance learning 0 - 0 - 9

Credit(s): 1

POE411 American Political Institutions

The course will focus on the components of the United States Government (Executive, Legislative, Administrative and Judiciary) as outlined in the Constitution and their philosophical foundations. It will also examine how political office is contested in the United States, the role of interest groups in American politics, and the influence of social issues. Finally, the course will examine how governmental structure influences American foreign and defence policy.

Prerequisite(s): POE205 or equivalent

Contact Hours: 3 - 0 - 6

Credit(s): 1

POE412 American Foreign and Security Policy

A study of major policy trends in United States foreign and defence policy from the Nixon administration to the present. Beginning with a brief review of the Cold War years, the course will consider such topics as: the impact of the Vietnam War, *détente*, trends in nuclear and conventional weapons and strategy in the 1970s and 80s, arms control and United States Foreign Policy in the post-Cold-war era. Also covered will be the role of various branches of the U.S. government in the conduct of foreign and defence policy.

Prerequisite(s): POE116 or equivalent

Contact Hours: 3 - 0 - 6

Credit(s): 1

POE413 Nuclear Weapons & International Relations

Since 1945, nuclear weapons have had a profound impact upon international relations. This course deals with the technology, strategy and politics of nuclear weapons. It examines how the superpowers and other nuclear weapons states approached their role in national security during the Cold War and how this has changed in the post-Cold War era. It looks at the major nuclear powers as well as current issues regarding the potential spread of nuclear weapons capabilities to more countries. To what extent has previous concepts of deterrence given way to notions of preventative defence and what will this mean for contemporary global security environment? The course also provides students with techniques for the evaluation of expected nuclear weapon effects and the ways in which these techniques may be used to determine the relative strength of nuclear states in the international system.

Prerequisite(s): POE317 or equivalent

Semester: Usually Offered in the Fall Term

Contact Hours: 3 - 0 - 6

Credit(s): 1

POE414 Contemporary International Issues and Events

This course provides students with tools to generate explanations of actor behaviours in major international events and issues. It will explore the relationships amongst levels of analysis, actors, actions, objectives and interests. Students will be required to justify and defend the application of a variety of international relations theories and to interpret data to explain actor behaviour. The Learning outcomes are to assess the relevance of specific international relations theories to the actions and objectives of various actors; critique the existing reference literature applicable to the issue and supporting international relations theory; evaluate the qualitative and quantitative data applicable to the issue and relate actor interests to objectives and actions taken to achieve those objectives.

Prerequisite(s): POE116 and POE317

Contact Hours: 3 - 0 - 6

Credit(s): 1

POE415 Contemporary International Conflict

Students will apply the methodological approach introduced in POE414 to explain cases of contemporary international conflict. Qualitative and quantitative data will be used to interpret actor behaviours and interests. Learning outcomes are to develop an actor profile which culminates in interpreting the interests applicable to the conflict; relate actions to objectives to the accomplishment of interests; critique the existing reference literature applicable to the conflict; evaluate the qualitative and quantitative data applicable to the conflict; interpret the primary and secondary dynamics of conflict and compare specific conflict to similar or emerging cases.

Prerequisite(s): POE116 and POE317 and POE414

Contact Hours: 3 - 0 - 6

Credit(s):	1

POE416 Canadian Foreign and Defence Policy

A study of the manner in which Canadian foreign and defence policy is developed and implemented. Specific attention will focus on the actors and their respective interests, at the individual, domestic, international, and global levels of analysis, engaged in influencing Canadian foreign and defence policy formulation.

Note(s):	Also offered through Distance Education.
Prerequisite(s):	POE116 or equivalent.
Contact Hours:	In class 3 - 0 - 6 Distance learning 0 - 0 - 9
Credit(s):	1

POE421 Political Ideologies

At the end of this course, the student will be able to compare ideological development since the Enlightenment commencing with liberalism and will then examine conservatism, socialism, communism, fascism, anarchism, fundamentalism, nationalism, feminism and environmentalism. The student will also be able to contrast and critique the ideological perspectives on the concepts of liberty, power, justice, and the relationship of individuals to the state as well as to nature.

Prerequisite(s):	POE102
Semester:	Usually Offered in the Fall Term
Contact Hours:	3 - 0 - 6
Credit(s):	1

POE423 The Politics of Africa

This course provides an introduction to politics in Africa. The impact and importance of different schools of thought to understanding politics in Africa will provide a foundation through which the historical evolution of Africa along with current issues relating to decolonization, economic development, natural resources and conflict will be addressed.

Prerequisite(s):	POE116
Contact Hours:	3 - 0 - 6
Credit(s):	1

POE424 The Politics of the Middle East

The course will study major trends in the political history of the Middle East, its people and Empires. Included are ethnic groups; religions and ideologies; religious and secular nationalism, colonialism, imperialism and national liberation movements; unfinished creation of modern States; political and economic development; water, oil and natural resources; civil society, social forces and agents of change; revolution, coup, conflicts and transfer of arms.

Prerequisite(s):	POE116
Contact Hours:	3 - 0 - 6
Credit(s):	1

POE425 Regional Comparative Politics

A comparative examination of the political process, functioning and interaction of the principal formal and informal political institutions, the relationship between those institutions and their environments, public policy, political socialization, democratization and 'good governance', violent conflict and state failure, economic development and foreign aid, class structures, populism, the role of the military, centrifugal forces of nationalism and communal violence, the role of religion, the nature of the state, political participation, social movements and political communication in a variety of countries across different continents.

Prerequisite(s):	POE214
Semester:	Usually Offered in the Fall Term
Contact Hours:	3 - 0 - 6
Credit(s):	1

POE428 Contemporary Political Theory

Designed as the sequel to POE312: Classical Political Philosophy and POE314: Modern Political Philosophy, this course proposes a survey of political theory from 1900 to the present by way of an introduction to a discussion of the main schools of thought, currants and authors that have appeared roughly since 1900 and have had the greatest impact on this sub-field of political science. Upon completion of this course, the students should be able to understand, analyze, evaluate and discuss, on the basis of the mandatory readings and the course notes, the various currents in or of particular relevance to political theory in the 20th and 21st century and to explain the relations between them and with classical and modern political philosophy, and also to relate all of them to the evolving social and historical context of our world during that period of time.

Prerequisite(s):	POE312 and POE314
Semester:	Usually offered in the Winter Term
Contact Hours:	3 - 0 - 6
Credit(s):	1

POE432 Civil-Military Relations

Within the fields of public administration and comparative politics and drawing on theories of institutional development and organizational behaviour, this course provides models for understanding civil control of military, security and intelligence services, security force intervention in politics, and evolution of security forces to meet emerging challenges.

Note(s):	Also offered through Distance Education.
Prerequisite(s):	POE214
Semester:	Usually Offered in the Winter Term
Contact Hours:	In class 3 - 0 - 6 Distance learning 0 -0 - 9
Credit(s):	1

POE433 Public Choice

The course covers a formal analysis of collective choice, public institutions, political competition in democracies, and market vs. government failure. Topics considered include social choice, constitutional and institutional equilibria, electoral competition, agenda setting, interest group politics, and bureaucratic behaviour. Examples considered may include logrolling, budgetary processes, role of procedural rules, accountability, different forms of democratic governance such as unitary vs. federal states, roles of fiscal and monetary policies, and direct interventions such as in healthcare and education.

Prerequisite(s):	POE332
Semester:	Usually Offered in the Winter Term
Contact Hours:	3 - 0 - 6
Credit(s):	1

POE434 Comparative Studies in Development

The course will provide an introduction to theories of social change, modernization and political development. Most of the world's population is affected by the dramatic social, economic, political and cultural changes occurring in developing countries. Amongst the political concepts studied are the nature of traditional society, the processes of urbanization and democratization, elements of political instability ranging from coup d'état to revolution. Measures of change and development will be discussed in economic, social, political, and security fields.

Prerequisite(s):	POE214
Semester:	Usually Offered in the Winter Term
Contact Hours:	3 - 0 - 6
Credit(s):	1

POE435 Terrorism and Political Violence

This third year university-level course offers an analytical overview of the current academic literature on both theories and selected case studies on terrorism and political violence at domestic and global levels with both Canadian and non-Canadian focus. The teaching will privilege comparative method and will primarily use empirical findings on the causes, actors, discourses, strategies of terror and political violence and government’s responses to them. A critical understanding of emerging forms and means of terror would be crucial to both security operations and public policy makers.

Prerequisite(s):	POE214
Exclusion(s):	POE319
Semester:	Usually Offered in the Winter Term
Contact Hours:	3 - 0 - 6
Credit(s):	1

POE436 International Law of the Sea

This course is an introduction to International Law of the Sea, and particularly the United Convention on the Law of the Sea (UNCLOS). Themes to be addressed include marine resources and environment; maritime zones under national jurisdiction (internal waters, territorial sea, contiguous zones, exclusive economic zone, continental shelf); maritime zones beyond the limits of national jurisdiction (high seas, the international deep seabed); international straits and canals; maritime boundaries; pacific settlement of maritime disputes, recent case law; maritime legal issues in Canada and in the Arctic Ocean.

Note(s):	Also offered through Distance Education.
Prerequisite(s):	POE116
Semester:	Usually Offered in the Fall Term

Contact Hours:	In class 3 - 0 - 6 Diatance learning 0 - 0 - 9
Credit(s):	1

POE437 Contemporary Regimes: States and Nations

A comparative examination of the nature of political regimes across advanced industrialized democracies and the developing world, including the ways in which states around the world respond to national, ethnic, linguistic, religious and racial diversity.

Note(s):	Also offered through Distance Education.
Prerequisite(s):	POE214
Semester:	Usually Offered in the Winter Term
Contact Hours:	In class 3 - 0 - 6 Distance learning 0 - 0 - 9
Credit(s):	1

POE438 Canadian Political Parties, Elections and Public Opinion

This course will explore the historical, ideological and organizational developments of Canadian political parties. Amongst the themes to be explored are the complexities of the evolving party system and the relative impact of key demographic and attitudinal factors affecting the operation of parties. The course will offer case studies of the most important elections in the contemporary era and will conclude with an analysis of the most recent federal election campaign. Throughout the course, note will be made of the shifting landscape in Canadian and Quebec public opinion and how it impacts on elections and parties.

Prerequisite(s):	POE102 and POE205 or equivalent
Semester:	Usually Offered in the Winter Term
Contact Hours:	3 - 0 - 6
Credit(s):	1

POE440 Foresight Tools and Methods for Public Policy

This course focuses on methods for public policy analysts, to gather intelligence on possible futures and apply the emerging insights useful to build shared visions, guide and enable present-day decisions. Students will learn about time-tested strategic foresight methods to gather and develop critical knowledge, guide proactive policy, and shape strategic plans and partnerships. The course teaches students how to frame future projects, conduct horizon scanning, analyze the impact of trends and identify drivers, confront critical uncertainties, methodically develop foresight scenarios. The course provides tools to assess the policy implications of emerging issues. Key foresight methods covered in this course include trend impact analysis, horizon scanning, and the Delphi method. Students also learn to distinguish between normative and exploratory as well as qualitative and quantitative foresight.

Prerequisite(s):	POE334 or equivalent
Contact Hours:	3 - 0 - 6
Credit(s):	1

POE441 Foreign Policy of the Russian Federation

At the end of this course, the student will have a basic understanding of the sources of Russian foreign policy, and will be able to describe the evolution of foreign policy from the end of the Cold War until today. Starting from a regional perspective, the student will learn what motivates foreign policy behaviour, and will be able to compare the diplomatic approaches employed by the Russian state

from one region to the other, leading the student to uncover commonalities or patterns between cases. From the comparison of approaches, the student will be able to analyze whether foreign policy formulation is carried out for normative or material motives.

Prerequisite(s): POE116 or equivalent

Contact Hours: 3 - 0 - 6

Credit(s): 1

POE442 Secessionist Movements in the World

This course will explain the particular theme of secessionist movements around the world in a comparative perspective. The tension between the principle of the inviolability of borders and the right of peoples to self-determination is a fundamental challenge of the twenty-first century and one of the major contemporary international issues. The course presents a review of contemporary secessionist movements, paying particular attention to theories of self-determination, legal perspectives and international dimensions. The causes of these tensions, as well as the various solutions implemented by parents States or the international community will also be covered in this course.

Prerequisite(s): POE214 or equivalent

Contact Hours: 3 - 0 - 6

Credit(s): 1

POE452 Topics in Canadian Politics

Advanced seminars offered by regular and visiting faculty on topics related to their own research or interests. Consult the departmental home page for further details.

Prerequisite(s): POE328 or POE330

Contact Hours: 3 - 0 - 6

Credit(s): 1

POE453 Topics in International Relations

Contemporary Conflict Studies.

Seminars offered by regular and visiting faculty on topics related to their own research or interests. Consult the departmental home page for further details.

Prerequisite(s): POE116 or equivalent

Contact Hours: 3 - 0 - 6

Credit(s): 1

POE454 Topics in Comparative Politics

Seminars offered by regular and visiting faculty on topics related to their own research or interests. Consult the departmental home page for further details.

Prerequisite(s): POE214

Contact Hours: 3 - 0 - 6

Credit(s): 1

POE455 Topics in Political Theory

Seminars offered by regular and visiting faculty on topics related to their own research or interests. Consult the departmental home page for further details.

Prerequisite(s): POE312 or POE314

Contact Hours: 3 - 0 - 6

Credit(s): 1

POE456 Topics in Public Administration and Policy

Seminars offered by regular and visiting faculty on topics related to their own research or interests. Consult the departmental home page for further details.

Prerequisite(s): POE332 or POE334

Contact Hours: 3 - 0 - 6

Credit(s): 1

POE470 Gender Dimensions in Society, Politics and International Security

This course explores theoretical and empirical perspectives to understand and critically analyze the role of gender in society, politics, and international security. Main course topics include but are not limited to theoretical and analytical frameworks related to gender and intersectionality; social construction of gender roles and gender norms in society; gender representation and participation in political institutions and world politics; gender in international security within conflict and peacekeeping environments.

Note(s): Military content suitable for Military and Strategic Studies (MSS).
This course be eligible for credit towards a Minor in Culture and Diversity.

Prerequisite(s): POE205

Contact Hours: 3 - 0 - 6

Credit(s): 1

POE484 The Canadian Judicial System

This course explores the Canadian judicial system: its structure, its role and key issues associated with its functioning. The first section provides the key context and history associated with Canada's court system. The second section discusses the role the courts have played in the evolution of the Canadian constitution and politics - with a special focus on the Supreme Court of Canada. The final section analyzes some of the key debates and issues related to the courts in Canada, such as their democratic nature, their function in establishing public policy, and the protection of civil liberties.

Prerequisite(s): POE102 and POE205

Contact Hours: 3 - 0 - 6

Credit(s): 1

POE486 Air and Space Law

This course is an introduction to air and space law. The primary focus is the international and national law applicable to air operations and outer space activities, particularly of a military nature. It also considers historical and political factors in the development of these legal regimes. The international law concepts will be instilled by reference to the various applicable international conventions and legal principles, such as the Charter of the United Nations and the sources and nature of public international law. The study of public air law will focus on the Chicago Convention of 1944 and the 1963 Tokyo Convention stream. The Warsaw (1929) and Montreal (1999) Conventions relating to civil aviation liability provide the basis for the private international air law study. For space rights, the five major treaties governing that domain will be studied, along with the work of the UN General Assembly and the UN Committee on the Peaceful Use of Outer Space (UNCOPUOS). Outer space activities such as military uses and remote sensing will be considered, as will the rights and obligations of rescue and liability. Given the legal importance of and similarities between the outer space and air regimes and that of the oceans, the law of the sea will also be the object of analysis and discussion.

Semester:	Usually Offered in the Winter Term
Contact Hours:	3 - 0 - 6
Credit(s):	1

POE488 The Law of Armed Conflict

This course gives students a solid knowledge of the law regarding the use of force in international and non-international armed conflicts. Following an examination of the situation of the Law of Armed Conflict within the broader context of Public International Law, there will be a general discussion of the general concepts of the LOAC and its two branches, *the jus ad bellum* (the right to the use of force) and the *jus in Bello* (the law applicable in conflict). A study of the rules includes their applicability in operational situations, with reference to issues including the notion of combatants, prisoners of war, the treatment of civilians, the obligation to limit unnecessary suffering and damage, the legality of certain weapons, and special cases such as child soldiers and mercenaries. The course concludes with an examination of means of enforcing the law, including national courts, ad hoc tribunals and the International Criminal Court.

Note(s) :	Also offered through Distance Education. This course may count as a Military Arts credit within the BMASc programme.
Contact Hours:	In class 3 - 0 - 6 Distance learning 0 - 0 - 9
Credit(s):	1

POE490 Directed Readings in Politics

This course is available for students who wish to pursue in-depth research and study under one-on-one supervision with a faculty member on a topic within the range of expertise of the supervisor, mutually agreed between the supervisor and the student. Both the topic and the evaluation method must be approved by the Department Head. The topic must fall clearly within one of the five standard sub-fields of political science. Some projects undertaken as part of this course may be carried out in coordination with an external agency.

Prerequisite(s):	Permission of the department head
Contact Hours:	0 - 0 - 9
Credit(s):	2

POE491 Directed Readings in Politics

This course is available for students who wish to pursue in-depth research and study under one-on-one supervision with a faculty member on a topic within the range of expertise of the supervisor, mutually agreed between the supervisor and the student. Both the topic and the evaluation method must be approved by the Department Head. The topic must fall clearly within one of the three

streams of political science taught at the department. Some projects undertaken as part of this course may be carried out in coordination with an external agency.

Prerequisite(s):	Permission of the department head
Contact Hours:	0 - 0 - 9
Credit(s):	1

POE492 Seminar in Political Science

Students in this seminar course will develop breadth and depth in their knowledge and skills in the sub-fields of political science. Students will work with key texts, and demonstrate their knowledge of the standard methodological quantitative and qualitative approaches in each of the sub-fields. The seminar will meet regularly. As part of the course, students will undertake a detailed research project comprising a 40-60 page (15,000 – 20,000 words) paper under the direct supervision of a faculty member, which demonstrates their ability to analyze and evaluate an issue in one of the sub-fields of Political Science. As part of the seminar students will prepare and present a project proposal, draft and final versions of their papers, discuss their ongoing research, examine issues and approaches related to the structure, organization and presentation of the thesis, and comment and critique work presented by their peers.

Note(s):	For Honours students in Political Science or with the permission of the Programme Chair.
Prerequisite(s):	Permission of the department head
Contact Hours:	1 - 0 - 8
Credit(s):	2

ECE411 Public Finance

This course examines the role of the state in the allocation of resources in a mixed economy. First, market failures such as public goods, externalities and optimal income distribution are analyzed as motivating state intervention. Second, taxation issues are examined, from efficiency and equity of taxation to particular forms such as income, consumption, corporate, wealth and property, and lump-sum taxes. Third, cost-benefit analysis is introduced and state expenditures are analyzed, from transfers to programme such as education, healthcare, security and infrastructure. Finally, fiscal federalism is analyzed.

Prerequisite(s):	ECE224
Contact Hours:	3 - 0 - 6
Credit(s):	1

ECE417 International Economics

The first part of this course emphasizes International Trade. Topics studied include the classical theory of international trade, the theory and practice of tariffs and non-tariff barriers to trade, the theory and practice of economic integration, and the effect of trade on economic growth and vice versa. The second part of this course deals with International Finance. Topics studied include the balance of payments, foreign exchange markets, macroeconomic policy in an open economy, and the international monetary system.

Prerequisite(s):	ECE206 or ECE224
Contact Hours:	3 - 0 - 6
Credit(s):	1

ECE424 Economics of Defence

This course in security covers the economics of the defence force. First, as part of the defensive demand process, public choice analysis and alliance issues are introduced in order to understand budget-making. Then, for a detailed understanding of demand, defence force components such as traditional services and expeditionary or tasks forces and the optimal composition of force units in terms of personnel versus equipment are examined. Finally, the supply side analysis includes procurement with all five phases (research and development, acquisition, production and service contracts, and disposal), defence industrial base, personnel (recruitment and retention) and leadership.

Prerequisite(s):	ECE206 and ECE224 or with the permission of the Department.
Exclusions(s):	ECE244
Contact Hours:	3 - 0 - 6
Credit(s):	1

ECE428 Economics of National Security

This course covers the economics of non-defence force security issues. The economic analysis of national security clarifies the resources allocated towards state policies and agencies for national security. First, general demand for security is developed from first principles of security as complement to all goods and services, and additionally motivated by risk aversion. Then, specific demands considered include domestic security needs such as policing, immigration, drug enforcement, public health protection, anti-terrorist readiness and an understanding of terrorism whereas regional and global security issues include peace support operations, resource security and epidemics. Finally, the supply side analysis includes intelligence and enforcement provision such as public health agencies, police forces, border and immigration services, cyberspace and infrastructure protection and legislative action.

Prerequisite(s):	ECE206 or ECE224
Contact Hours:	3 - 0 - 6
Credit(s):	1

ECE442 Applied Econometrics

This course provides a review of basic econometric methods with an emphasis on application to real world problems. Additional econometric techniques will also be introduced, such as instrumental variable regression, estimation with binary data and panel data estimation.

Prerequisite(s):	ECE342
Semester:	Usually Offered in the Fall Term
Contact Hours:	3 - 0 - 6
Credit(s):	1

ECE444 Economics of the Environment

Operational decisions, whether by the private sector or the public sector, are increasingly becoming dependent upon the satisfaction of a number of environmental concerns. This course is an introduction to the major elements of environmental analysis and policy instruments used by the public sector. Topics include the notions of dynamic efficiency and sustainability, property rights and externalities, environmental legislation, measures of costs and benefits, and pollution controls.

Prerequisite(s):	ECE103 and ECE104
Semester:	Usually Offered in the Fall Term

Contact Hours:	3 - 0 - 6
Credit(s):	1

ECE448 Cost-Benefit Analysis

Two central issues in any cost-benefit problem are the appropriate measures of costs and benefits to use, and the identification of all costs and benefits. This course discusses a number of theoretical issues in cost benefit analysis including risk and the appropriate discount rate. The specificity of each cost benefit study as well as the general principles of analysis is reinforced by studying numerous examples of cost benefit analysis. Cost effectiveness analysis is also considered and its use in the examination of command and control policies is studied.

Prerequisite(s):	ECE224
Semester:	Usually Offered in the Winter Term
Contact Hours:	3 - 0 - 6
Credit(s):	1

ECE454 Topics in Microeconomic Analysis

This course covers selected topics in microeconomics and the selection varies depending on the instructor. Topics may include consumer choice (utility-expenditure duality, uncertainty, intertemporal choice), the theory of the firm (profit-cost duality, market structures, boundaries of the firm), game theory (cooperative, non-cooperative, evolutionary, behavioural), economics of information, welfare economics, public choice and political economy.

Prerequisite(s):	ECE326
Contact Hours:	3 - 0 - 6
Credit(s):	1

ECE456 Topics in Macroeconomic Analysis

This course examines both short-term economic fluctuations and long-term economic growth using a variety of advanced macroeconomic tools such as a generalized algebraic ISLM model, infinite horizon and overlapping generations models and endogenous growth models. In working with these tools, students will be introduced to dynamic analysis and other more advanced mathematical techniques that underlie more sophisticated macroeconomic analysis. This course will also give students the opportunity to learn about frontier research being done on key questions of economic growth, development and technological change.

Prerequisite(s):	ECE308
Contact Hours:	3 - 0 - 6
Credit(s):	1

ECE490 Directed Readings in Economics

Prerequisite(s):	Permission of the Head of the Department.
Contact Hours:	1 - 0 - 9
Credit(s):	2

ECE492 Economics Seminar

This seminar course requires each student to undertake research paper on an approved subject. Students will prepare and present a project proposal, will present their final papers, and will comment and critique work presented by their peers.

Prerequisite(s): ECE308 or ECE326

Semester: Usually Offered in the Winter Term

Contact Hours: 3 - 0 - 6

Credit(s): 1

GOE404 Issues in Contemporary Geopolitics

A lecture course intended to allow students of the Third and Fourth Year taking Politics, and with permission of the instructor, for other students of the Third or Fourth Year taking Arts, the opportunity to study selected world problems from a geographical perspective. This course is also open to selected candidates with permission from the Dean of Arts.

Semester: Usually Offered in the Winter Term

Contact Hours: 3 - 0 - 6

Credit(s): 1

GOE418 Approaches to Cultural and Historical Geography

An examination of the cultural and historical dimensions of geographical inquiry with special emphasis on the changing relationships between human societies and their environments, as well as their relationships with each other. Themes to be addressed include the methods and theories of historical and cultural geography, the study of cultural landscapes and ecological relationships within modern and traditional societies, the impact of colonialism and modernization upon populations and resources, and geographies of cultural globalization. Special attention will be given to analysis of the historical and cultural geography of Canadian society in the global context.

Contact Hours: 3 - 0 - 6

Credit(s): 1

GOF420 *Fondements géopolitiques du droit international*

Genesis of International Public Law. International Organizations. Conditions for the recognition of the existence of individual States. Legal means of territorial expansion. Cases of reduced sovereignty. Geographical definition of the territories under national jurisdictions: horizontal and vertical extensions. Borders and jointly occupied territories. Rules governing territories under international jurisdiction: canals, seaways, rivers, high seas, seabed resources, polar regions, outer space. Peaceful methods of resolving international conflicts.

Note(s): Available in French only

Contact Hours: 3 - 0 - 6

Credit(s): 1

GOF422 *Géographie politique du Canada*

Study of the natural, historical, cultural and economic factors which determine Canada's present political geography. Special attention will be directed to border zones and to the question of territorial integrity.

Available in French only

Note(s):

Contact Hours: 3 - 0 - 6

Credit(s): 1

GOE450 Topics in Political Geography

Seminars offered by regular and visiting faculty on topics related to their own research or interests. Consult the departmental home page for further details.

Contact Hours: 3 - 0 - 6

Credit(s): 1

GOE470 Problems in Political Geography: Focus on Europe and Former Soviet Union

This course deals primarily with the contemporary geopolitics of Eurasia. Students will be exposed to such topics as the rise and fall of the Soviet Union, understanding the Post-Soviet DisUnion, poverty and progress in the Indian subcontinent, the environmental setting for Europe's achievements, etc.

Note(s): Also offered through Distance Education

Contact Hours: In class 3 - 0 - 9
Distance learning 0 - 0 - 9

Credit(s): 1

GOE472 Understanding Post-Soviet Europe and Asia

An appreciation of the political, historical, demographic and cultural geography of the former USSR, with an emphasis on the disintegrative potential of the "nationalities question" within the Soviet Empire, along with a consideration of the environmental and economic consequences of Soviet models of development throughout Eurasia. This course will conclude by introducing the "geographical personalities" of the States that re-emerged in post-Soviet Europe and Asia after 1991, exploring the resulting debate in Europe and particularly within NATO about the future of this alliance, its expansion eastwards, Russia's geopolitical concept of a "near abroad", and, ultimately, the continuing debates. East and West, over the very nature of what constitutes Europe.

Contact Hours: 3 - 0 - 6

Credit(s): 1

GOE494 Directed Readings/Area Study in Geography

In consultation with the instructor, and with the prior approval of the Head of the Department, this course offers students an opportunity to develop a more in-depth understanding of a country or region through directed reading, seminar participation, and/or a field trip, culminating in the preparation of a major research report addressing contemporary geopolitical issues in the selected state or area.

Note(s): For students in Arts, with the permission of the Head of the Department.

Contact Hours: 0 - 0 - 9

Credit(s): 2

Date modified:
2025-11-13

Undergraduate English, Culture, and Communication Programme

Related links

English, Culture, and Communication undergraduate courses

Arts programmes

Department of English, Culture, and Communication

Admissions

⚠ Important Notice:

New enrollments into English, Culture, and Communication (Honours) and English, Culture, and Communication, for September 2025, have been paused, noting that current students in English, Culture, and Communication (Honours) and English, Culture, and Communication will continue, as will the remainder of English, Culture, and Communication programmes. Determination on the future status of these paused programmes for Academic Year 2026-2027 is ongoing.

General Information

Objectives

The primary purpose of the English, Culture, and Communication programme at RMC is to provide a university-level education to students as one of the essential elements of their professional development. In meeting that responsibility, the programme is designed to foster both the general intellectual development achieved through university education and the particular skills and insights derived from the study of literary culture and language. At all levels of instruction, the courses offered by the department have three basic objectives:

1. to develop clarity, precision, and maturity in spoken and written communication.
2. to focus attention on the importance of cultural and social values in developing an understanding of the forces that have shaped civilization and that are shaping the contemporary world.
3. to develop a flexible intellectual capacity centred around thinking skills and problem-solving abilities which can be applied to a wide range of professional responsibilities where individuals must take action in the face of concrete human problems.

Communication Skills

In English, Culture, and Communication, particular emphasis is placed on refining writing and verbal skills in the first and second-year courses, but that emphasis continues in senior courses, especially for those students enrolled in the B.A. (Honours) English, Culture, and Communication or B.A. English, Culture, and Communication programme. At the same time, analytical study of complex literary works develops the other half of communication: the ability to listen carefully and to understand in detail what another person is attempting to communicate. Together, the development of writing and reading skills heighten awareness both of the potential and of the limitations of verbal communication.

Perceptive Insight

The study of literature offers valuable insights into the cultural and social values of a people or a particular group, and acknowledges that these values represent (and have always represented) powerful driving forces shaping the development of any given society, whether it be our own or that of others. At all levels of instruction, English, Culture, and Communication attempts to demonstrate that the influence of social and cultural forces is as important as the role of political, economic, historical and strategic realities in understanding the historical development of societies and the complex nature of the contemporary world.

Intellectual Development

English, Culture, and Communication shares with other disciplines a concern for developing traditional patterns of logical analysis and evaluation. However, because of the nature of creative literature, the English, Culture, and Communication programme is also conscious of the value of developing non-linear forms of thought, intuition, imagination, and emotive perception. Such skills are particularly valuable in understanding and dealing with human problems. Creative literature is almost always about understanding a concrete human situation in depth, and the effort to find a creative solution to the problems raised. Studying and analyzing such problems develop a flexible and responsive intelligence, one well suited to the demands of leadership responsibilities.

Programme Structure

- Students normally apply for entry into the English, Culture, and Communication degree programme in their second year.
- In addition to ENE211 and ENE212, students are encouraged to take at least six other English, Culture, and Communication credits in their second year in order to create greater flexibility in course selection in third and fourth years.
- The programme of study for English, Culture, and Communication consists of a set of courses required by the department, in addition to the core curriculum for a Bachelor of Arts. The department offers a number of courses that are required as part of the core curriculum. In many instances, these courses can also be counted toward requirements for a B.A. (Honours) English, Culture, and Communication, B.A. English, Culture, and Communication, Concentration, or Minor in English, Culture, and Communication.

First Year

These courses are taken by all first-year students and are designed to refine basic writing and reading skills as well as to introduce students to the range of English, Culture, and Communication, which forms an important part of their general cultural heritage.

Second Year

ENE211: Reading the Contemporary World 1, and ENE212: Reading the Contemporary World 2, provides more specific literary and intellectual foundations for advanced studies and is mandatory for all students in Arts. The course explores significant aspects of modern thought and cultural issues in order to provide a broad foundation for students entering any humanities, Social Sciences, or Business Administration programme. An important element of ENE211 and ENE212 is instruction in writing skills.

Third and Fourth Years

In their third and fourth years, students enrolled in a B.A. (Honours) English, Culture, and Communication, B.A. English, Culture, and Communication, Concentration, or Minor in English, Culture, and Communication can take courses at both the 300 and the 400 level. Students are urged to plan ahead and to discuss their whole programme with the department head when they apply to enter the English, Culture, and Communication degree programme.

Physical Conditioning and Second Language Courses

⚠ **Important:** The physical conditioning courses and the second language courses are part of the four-pillar degree and apply to all RMC degree programmes except the 30-credit general degree programmes.

ℹ **LCF:** Based on the result of a placement test, students will be registered in LCF courses at the 100, 200, 300, or 400-level. Students will automatically be exempt from applicable lower level LCF courses once placed in the appropriate course. Students who attain a Second

> Official Language (SOL) proficiency level of at least BBB or higher on the Public Service Commission (PSC) Second Language Evaluation (SLE) will be exempt from LCF courses at RMC.

- ATE101: Foundations of Fitness, Health and Sports *(UTPNCM & non-ROTP take ATE102)*
- ATE301: Unarmed Combatives, Military Skills and Individual Sports *(UTPNCM & non-ROTP take ATE302)*
- LCF100 : Compétence de base – partie I
- LCF200 : Compétence de base – partie II
- LCF301 : Compétence intermédiaire – partie I
- LCF302 : Compétence intermédiaire – partie II
- LCF400 : Compétence intermédiaire - partie III

> **Note:** The PSC SLE is the only SOL certification-testing instrument currently accredited and used by the CAF to assess the SOL proficiency level. *(DAOD 5039-8, Canadian Armed Forces Second Official Language Certification Testing)*

Programme Requirements

B.A. (Honours) English, Culture, and Communication

> **Note:** To earn an Bachelor of Arts (Honours) a student must meet the requirements of Academic Regulation 3.1.

- Students apply for entry into the B.A. (Honours) English, Culture, and Communication programme during their third year.
- This is a 40-credit programme, including the core courses for arts programmes, and the English, Culture, and Communication requirements listed below.
- Students must successfully complete the following courses: (a minimum of 20 English, Culture, and Communication credits).

Mandatory Courses

- ENE111: Introduction to Literary Studies and University Writing Skills 1 (1 credit)
- ENE112: Introduction to Literary Studies and University Writing Skills 2 (1 credit)
- ENE211: Reading the Contemporary World 1 (1 credit)
- ENE212: Reading the Contemporary World 2 (1 credit)
- ENE492: Seminar in Advanced Professional Skills (1 credit)

Optional Courses

- 2 credits from Group A: Medieval and Early Modern Literature (2 credits)
- 2 credits from Group B: 18th and 19th century (2 credits) [1]
- 2 credits from Group C: National and Global Cultures (2 credits) [2]
- 1 credit from Group D: Critical Approaches and Methodologies (1 credit)
- 8 Optional Credits in English, Culture, and Communication at the 300 or 400 level (8 credits)

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1 Each of these courses must be from different periods (i.e. one cannot take two Victorian courses as fulfillment of the requirement).

2 One of these credits must be in World Literature (either ENE331 or ENE333).

B.A. English, Culture, and Communication

- This is a 40-credit programme, including the core courses for arts programmes, and the English, Culture, and Communication requirements listed below.
- Students must successfully complete the following courses: (a minimum of 16 English, Culture, and Communication credits)

Mandatory Courses

- ENE111: Introduction to Literary Studies and University Writing Skills 1 (1 credit)
- ENE112: Introduction to Literary Studies and University Writing Skills 2 (1 credit)

- ENE211: Reading the Contemporary World 1 (1 credit)
- ENE212: Reading the Contemporary World 2 (1 credit)

Optional Courses

- 1 credit from Group A: Medieval and Early Modern Literature (1 credit)
- 1 credit from Group B: 18th and 19th century (1 credit)
- 1 credit from Group C: National and Global Cultures (1 credit)
- 1 credit from Group D: Critical Approaches and Methodologies (1 credit)
- 8 Optional Credits in English, Culture, and Communication at the 300 or 400 level (8 credits)

English, Culture, and Communication programme course groupings

Group A: Medieval and Early Modern Literature

- ENE314: Shakespeare's Peers
- ENE316: From Beowulf to Lancelot: Warriors, Visionaries, and the Medieval World
- ENE318: Medieval Road Tripping: The Canterbury Tales
- ENE428: Screening Shakespeare

Group B: 18th and 19th century

- ENE307: British Literature during the Romantic Period
- ENE309: Hearts of Oak: British Literature and Culture in the Age of Empire
- ENE312: Cross-currents in French and English Literature (1850–1900)
- ENE320: Words as Weapons: The Roots of Satire in the Eighteenth Century
- ENE322: The Rise of the English Novel
- ENE371: On the Origins of Scientific Culture: The Rise of Science in the Nineteenth Century
- ENE381: First Feminists: Early Women Writers
- ENE385: Introduction to Children’s Literature
- ENE389: The Influence of English Literature in Enlightenment France

Group C: National and Global Cultures

- ENE226: Foundations of Western Literature: Greek and Roman Classics and the Bible
- ENE230: Indigenous Literatures and Media
- ENE311: Modern British Culture
- ENE313: Postmodern British Literature
- ENE331: World Literature: Crisis and Conflict
- ENE333: World Literature: Coherence and Incoherence
- ENE352: Where is Here? Canada’s Literary and Cultural Evolution
- ENE353: Blurred Lines: Contemporary Canadian Culture and Identity
- ENE356: Bridging the Two Solitudes: French and English Canadian Literature
- ENE358: French-Canadian Literature in Translation
- ENE361: American Literature: Visions and Voices
- ENE363: American Literature: The American Dream

Group D: Critical Approaches and Methodologies

> **Note:** Students considering a B.A. (Honours) or graduate school are highly encouraged to take ENE228.

- ENE228: Critical Approaches to Literature and Culture
- ENE403: Gender and Literature I
- ENE405: Gender and Literature II
- ENE413: Literature, Culture, and Ecology
- ENE415: Literature, Culture, and Evolution
- ENE421: Literary Theory I: Postcolonialism, Race, and Ethnicity
- ENE423: Literary Theory II: Gender, Sex, and Sexuality
- ENE484: Post-Colonial Literature

Programme Outline Tables

The following tables are examples of a typical outline, by year, of a B.A. (Honours) English, Culture, and Communication programme of study or a B.A. English, Culture, and Communication programme of study that would cover the required courses.

Note: Course offerings may vary from year to year. For planning purposes, students enrolled in this programme should access the official list of courses offered each semester through their My Services portal account.

Important: Students who started their 40-credit programme prior to Academic Year 2024-2025 will follow the old mathematics requirement MAE103, MAE106 and, MAE113. Students starting their 40-credit programme in Academic Year 2024-2025 and thereafter will follow the new mathematics requirement MAE107, MAE108 and, MAE109.

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ECE104 ENE111 HIE101 POE116 PSE103 ATE LCF	CSE260 ENE112 HIE103 MAE107 **Optional** [3] 1 credit ATE LCF	ENE211 MAE108 **English, Culture, and Communication** [5] 2 credits **Elective** 1 credit ATE LCF	ENE212 HIE203 MAE109 **English, Culture, and Communication** [5] 2 credits ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	PSE301 **Science** [4] 1 credit **English, Culture, and Communication** [5] Hon (Honours) x 3 credits Major x 2 credits **Elective** Major x 1 credit ATE LCF	HIE271 **English, Culture, and Communication** [5] Hon (Honours) x 3 credits Major x 2 credits **Elective** Hon (Honours) x 1 credit Major x 2 credit ATE LCF	POE205 **English, Culture, and Communication** [5] Hon (Honours) x 3 credits Major x 2 credits **Elective** Hon (Honours) x 1 credit Major x 2 credits ATE LCF	ENE492 [6] PSE401 **Science** [4] 1 credit **English, Culture, and Communication** [5] Hon (Honours) x 2 credits Major x 2 credits **Elective** Major x 1 credit ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

3 One of the following: ECE103, POE202 or PSE105.

4 The Science core requirement is (one credit in Chemistry or one credit Biology) and one credit in Physics.

5 The English, Culture, and Communication programme credits must be chosen from Group A, Group B, Group C or Group D in accordance with the requirements of the programme. The remaining programme credits must be at the 300 or 400 level.

6 This course is only a requirement for the English, Culture, and Communication (Honours) programme.

Concentration in English, Culture, and Communication

> **Note:** The Concentration in English, Culture, and Communication is not open to ROTP students.

The following list identifies English, Culture, and Communication courses required for the completion of a 12-credit Concentration in English, Culture, and Communication.

Students pursuing a Concentration in English, Culture, and Communication must complete the following within their 30-credit degree:

- at least 12 credits in English, Culture, and Communication
  - at least six of these credits at the senior level
  - at least six of these credits through RMC

Certain courses are required:

- ENE105 and ENE106 or equivalent 2-credit first-year Language and Literature course
- ENE202 or ENE203 or equivalent 1-credit second-year Language and Literature course

RMC English, Culture, and Communication offers the following courses by distance toward the Concentration:

- ENE105: Introduction to Literary Studies: Short Fiction and Poetry (1 credit)
- ENE106: Introduction to Literary Studies: Drama, Long Fiction, and Film (1 credit)
- ENE202: Cross-Currents of 20th-Century Literature: Modernism (1 credit)
- ENE203: Cross-Currents of 20th-Century Literature: Post-Modernism (1 credit)
- ENE309: Hearts of Oak: British Literature and Culture in the Age of Empire (1 credit)
- ENE358: French-Canadian Literature in Translation (1 credit)
- ENE403: Gender and Literature (1 credit)
- ENE426: Directed Research Project (2 credits)

Minor in English, Culture, and Communication

The Minor requires eight credits.

Students must successfully complete the following courses:

- 8 credits in English, Culture, and Communication at any level

Minor in Culture and Diversity

> **Note:** This is the link for the French version of the requirements for the minor in culture and diversity.

The minor requires eight credits:

- Two credits from the Core Curriculum: HIE101 and POE116.
- Four credits from identified courses (see list below) in English, Culture, and Communication and/or French, Literature, and Culture.
- Two credits from identified courses (see list below) from two of the following disciplines: Economics, History, Management, Politics, and Psychology.

The minor, therefore, exposes students to diversity from a wide range of disciplinary perspectives and within different historical, cultural, and professional contexts. This multidisciplinary study of diversity equips students to think critically, systematically, and creatively about complex and non-linear cultural phenomena.

Mandatory courses (2 credits)

- HIE101 The Historical Origins of the Contemporary World
- POE116 Introduction to international Relations

Optional courses (6 credits)

Choose four credits from the following:

- ENE228 Critical Approaches to Literature and Culture
- ENE230 Indigenous Literatures and Media
- ENE313 Postmodern British Literature
- ENE331 World Literature: Crisis and Conflict
- ENE333 World Literature: Coherence and Incoherence
- ENE353 Blurred Lines: Contemporary Canadian Culture and Identity
- ENE363 American Literature: The American Dream
- ENE375 Literature and Spirituality
- ENE381 First Feminists: Early Women Writers
- ENE382 Indigenous Literature: Centring Two-Spirit and Indigiqueer Voices
- ENE383 Major Women Writers: 1900 to the Present
- ENE384 Indigenous Literature: Centring Women's Voices
- ENE389 The Influence of English Literature in France in the Enlightenment
- ENE391 Literary Masculinities
- ENE230 Indigenous Literatures and Media
- ENE403 Gender and Literature I
- ENE405 Gender and Literature II
- ENE421 Critical Theory I: Postcolonialism, Race, and Ethnicity
- ENE423 Critical Theory II: Gender, Sex, and Sexuality
- ENE484 Post-Colonial Literature

Choose two credits from the following:

- BAE314 Marketing Fundamentals
- BAE460 Consumer Behaviour
- ECE330 Labour Economics
- GOE305 World Regional Geography: Europe and/or the Americas
- GOE307 World Regional Geography: Europe and/or the Africa
- GOE472 Understanding Post-Soviet Europe and Asia
- HIE301 Indigenous Peoples in Canada: A History
- HIE305 Africa in World History
- HIE343 Occupied Europe, 1938-1945
- HIE350 Genocides and Mass Crimes in the 20th Century
- HIE392 European Imperialism - Nineteenth and Twentieth Centuries
- HIE394 A History of China: Origins and Identities
- HIF401 Histoire Québec de 1945 à nos jours
- HIE403 Social History of Canada (1870-1980)
- HIE444 War and Memory in the Twentieth Century
- HIE452 War, Peace, and Civil Society in Modern History
- HIE456 Issues in Women, War and Society
- HIE485 Conflict in Modern Africa
- POE301 Indigenous Issues in Canadian Politics
- POE421 Political Ideologies
- POE425 Regional Comparative Politics
- POE434 Comparative Studies in Development
- POE435 Terrorism and Political Violence
- PSE324 Cross-Cultural Psychology
- PSE334 Introduction to Human Sexuality
- PSE416 Laboratory on Prejudice: From Attitudes to Action
- PSE484 The Psychology of Gender in the Military

Date modified:

2025-04-01

Undergraduate English, Culture, and Communication Courses

ENE105 Introduction to Literary Studies: Short Fiction and Poetry

ENE106 Introduction to Literary Studies: Drama, Long Fiction, and Film

ENE111 Introduction to Literary Studies and University Writing Skills 1

ENE112 Introduction to Literary Studies and University Writing Skills 2

ENE121 Introduction to Literary Studies and University Writing Skills 1

ENE122 Introduction to Literary Studies and University Writing Skills 2

ENE150 University Writing Skills

ENE202 Cross-Currents of Thought in 20th-Century Literature: Modernism

ENE203 Cross-Currents of Thought in 20th-Century Literature: Postmodernism

ENE211 Reading the Contemporary World 1

ENE212 Reading the Contemporary World 2

ENE226 Foundations of Western Literature: Greek and Roman Classics and the Bible

ENE228 Critical Approaches to Literature and Culture

ENE230 Indigenous Literatures and Media

ENE240 The Art and Science of Writing

ENE290 Creative Writing

ENE307 British Literature during the Romantic Period

ENE309 Hearts of Oak: British Literature and Culture in the Age of Empire

ENE311 Modern British Culture

ENE312 Crosscurrents in French and English Literature (1850-1900)

ENE313 Postmodern British Literature

ENE314 Shakespeare's Peers

ENE316 From Beowulf to Lancelot: Warriors, Visionaries, and the Medieval World

ENE318 Medieval Road Tripping: The Canterbury Tales

ENE320 Words as Weapons: The Roots of Satire in the Eighteenth Century

ENE322 The Rise of the English Novel

ENE331 World Literature: Crisis and Conflict

ENE333 World Literature: Coherence and Incoherence

ENE352 Where is Here? Canada's Literary and Cultural Evolution

ENE353 Blurred Lines: Contemporary Canadian Culture and Identity

ENE356 Bridging the Two Solitudes: French and English Canadian Literature

ENE358 French-Canadian Literature in Translation

ENE361 American Literature: Visions and Voices

ENE363 American Literature: The American Dream

ENE371 On the Origins of Scientific Culture: The Rise of Science in the Nineteenth Century

ENE375 Literature and Spirituality

ENE381 First Feminists: Early Women Writers

ENE382 Indigenous Literature: Centring Two-Spirit and Indigiqueer Voices

ENE383 Major Women Writers: 1900 to the Present

ENE384 Indigenous Literature: Centring Women's Voices

ENE385 Introduction to Children's Literature

ENE386 The World Otherwise: The Theory and Practice of Fantasy

ENE387 Contemporary Children's Literature

ENE389 The Influence of English Literature in France in the Enlightenment

ENE391 Literary Masculinities

ENE392 Science Fiction

ENE393 From Fact to Fiction

ENE394 Short Fiction Workshop

ENE395 Poetry Workshop

ENE403 Gender and Literature I

ENE405 Gender and Literature II

ENE413 Literature, Culture, and Ecology

ENE415 Literature, Culture, and Evolution

ENE421 Literary Theory I: Postcolonialism, Race, and Ethnicity

ENE423 Literary Theory II: Gender, Sex, and Sexuality

ENE426 Advanced Directed Study

ENE428 Screening Shakespeare

ENE449 Literary Journalism

ENE450 The News Media and the Military

ENE451 War Literature I

ENE453 War Literature II

ENE470 Topics in English Literature I

ENE471 Topics in English Literature II

ENE472 Topics in English Literature III

ENE473 Topics in English Literature IV

ENE474 Chosen Topics in Literary Studies

ENE484 Post-Colonial Literature

ENE487 Military Science Fiction

ENE490 Ex Libris: Secrets of the Archives

ENE492 Seminar in Advanced Professional Skills

Courses 100-199

Related links

English, Culture, and Communication programme requirements

Course details guide

Department of English

ENE105 Introduction to Literary Studies: Short Fiction and Poetry

This online course provides an introduction to literary studies through a range of critical approaches, narrative perspectives, historical contexts, literary genres, and critical terms. Students will learn key skills in close reading, critical analysis, evidence-based argumentation, and the basic components of essay writing. Primary texts include a combination of short prose and poetry, such as concrete poetry, blackout poetry, flash fiction, short stories, short memoir, creative non-fiction, advertising (copywriting and graphic art), and journalism (examined through a narrative lens).

Note(s):	Only offered through Distance Education.
Exclusion(s):	ENE100, ENE101, ENE110, ENE111, ENE121
Contact Hours:	0 - 0 - 9
Credit(s):	1

ENE106 Introduction to Literary Studies: Drama, Long Fiction, and Film

This online course provides an introduction to literary studies through a range of critical approaches, narrative perspectives, historical contexts, literary genres, and critical terms. Students will learn how to write compelling thesis statements, evaluate and integrate supporting evidence, and organize arguments logically and persuasively. The primary texts will be drama and longer prose, including a play, a screenplay, a novel, a graphic novel, a wartime memoir, and a film.

Note(s):	Only offered through Distance Education.
Exclusion(s):	ENE100, ENE101, ENE110, ENE112, ENE122
Contact Hours:	0 - 0 - 9
Credit(s):	1

ENE111 Introduction to Literary Studies and University Writing Skills 1

This course provides an introduction to literary studies through a range of national perspectives, historical contexts, literary genres, and critical terms. Through intensive work with short texts — poems, stories, and essays — students will develop the foundational skills necessary for composing persuasive arguments. These include skills in close reading, textual analysis, logical reasoning, argument structure, and effective writing at the university level.

Note(s):	Mandatory for all first year Anglophone students in the Arts programme.
Exclusion(s):	ENE100, ENE101, ENE110, ENE121
Contact Hours:	3 - 0 - 6

Credit(s):	1

ENE112 Introduction to Literary Studies and University Writing Skills 2

This course builds on the foundational skills introduced in ENE111 to develop students' skills in constructing complex and persuasive arguments. With a focus on long texts — novels, plays, films, and long poems — students will learn to write compelling thesis statements, evaluate and integrate supporting evidence, and organize arguments logically and persuasively.

Texts as assigned by instructors.

Note(s):	Mandatory for all first year Anglophone students in the Arts programme.
Prerequisite(s):	ENE111 or equivalent
Exclusion(s):	ENE100, ENE102, ENE110, ENE122
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE121 Introduction to Literary Studies and University Writing Skills 1

This course provides an introduction to literary studies through a range of national perspectives, historical contexts, literary genres, and critical terms. Through intensive work with short texts — poems, stories, and essays — students will develop the foundational skills necessary for composing persuasive arguments. These include skills in close reading, textual analysis, logical reasoning, argument structure, and effective writing at the university level.

Texts as assigned by instructors.

Note(s):	Mandatory for all first-year Anglophone students in the Science or Engineering entry programme.ENE121 and ENE122 are restricted to Science and Engineering students.
Exclusion(s):	ENE100, ENE101, ENE110, ENE112
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE122 Introduction to Literary Studies and University Writing Skills 2

This course builds on the foundational skills introduced in ENE121 to develop students' skills in constructing complex and persuasive arguments. With a focus on long texts — novels, plays, films, and long poems — students will learn to write compelling thesis statements, evaluate and integrate supporting evidence, and organize arguments logically and persuasively.

Texts as assigned by instructors.

Note(s):	Mandatory for all first-year Anglophone students in the Science or Engineering entry programme.ENE121 and ENE122 are restricted to Science and Engineering students
Prerequisite(s):	ENE121 or equivalent
Exclusion(s):	ENE100, ENE102, ENE110, ENE112
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE150 University Writing Skills

This course is aimed at the student who is competent with Basic English grammar and written expression, but desires to develop and hone critical thinking and writing skills. Instructional materials address a broad number of forms and methods used in academic and non-academic writing. Topics range from matters of prewriting practice and the writing process, to aspects of sentence structure and argument, and the elements of style. Through analysis of sample essays and excerpts, students will learn how to move from topic to technique - to apply effective writing and organizational strategies that distinguish good writing wherever it is found.

ENE150 is a traditional writing course for students who want to hone their writing skills and develop their own personal voice. Please note that the use of artificial intelligence tools will not be permitted.

Note(s):	Only offered through Distance Education. This course may count as a Military Arts credit within the BMASc programme. This course cannot be used as a credit toward a BA Honours, BA Major, BA General, a Concentration or a Minor.
Contact Hours:	0 - 0 - 9
Credit(s):	1

Courses 200-299

ENE202 Cross-Currents of Thought in 20th-Century Literature: Modernism

This course introduces students to the major literary and cultural trends of the first half of the twentieth century. Through a selection of British, Canadian, American, and German literature, students will study the styles and themes of literary modernism in poetry, novels, short stories, and one play. The course studies the literature of the Great War, including the English war-poet Wilfred Owen and Siegfried Sassoon and the German novel All Quiet on the Western Front. Students will also encounter such important modern poets as Thomas Hardy, W. B. Yeats, Ezra Pound, H. D., and T. S. Eliot. Students will learn why the short story is a particularly twentieth-century genre and how its innovations apply to the techniques of the modernist novel through discussions of Virginia Woolf's Mrs. Dalloway. More generally, the course provides both a regional and a planetary perspective on humanity, allowing us to consider variations in national and personal definitions of such themes as heroism, utopia/dystopia, issues of gender and sexuality, social and individual responsibility, and freedom. Students will be required to write several short response papers and one major essay. Although this is a distance course, it is also a discussion-intensive course, and all students are required to contribute frequently to the online discussion forum.

Note(s):	Only offered through Distance Education.
Prerequisite(s):	(ENE111 and ENE112) or (ENE121 and ENE122) or (ENE101 and ENE102) or equivalent
Exclusion(s):	ENE210
Contact Hours:	0 - 0 - 9
Credit(s):	1

ENE203 Cross-Currents of Thought in 20th-Century Literature: Postmodernism

This online course examines literature in English from the years following the Second World War to the present. It considers such authors as Michael Ondaatje, Nadine Gordimer, Chinua Achebe, Angela Carter, Kath Walker, Margaret Atwood, and Hanif Kureishi. The course examines how international writers have met the challenges of our increasingly diverse, technological, postcolonial, and globalized world, a world in which identities have become unstable and borders of all kinds have become fluid. Students will contribute to online discussion, write five short formal response papers, complete one formal essay, and write a final exam.

Note(s):	Only offered through Distance Education. Although it is preferred that students have taken ENE202 before enrolling in ENE203, it is not required.
Prerequisite(s):	(ENE111 and ENE112) or (ENE121 and ENE122) or (ENE101 and ENE102) or equivalent

Exclusion(s):	ENE210
Contact Hours:	0 - 0 - 9
Credit(s):	1

ENE211 Reading the Contemporary World 1

This course develops students' cultural literacy in a global context through critical examinations of modern and contemporary texts, with emphasis on the topics of nation, identity, culture, and conflict. Students will learn a range of critical theories, such as postcolonialism, queer theory, critical race studies, ecocriticism, feminism, and gender studies, and will integrate this knowledge into an argumentative essay. Students will discuss such questions as how one's sex, gender, sexuality, class, or race influences one's position in life or how imperialism and colonialism have shaped and continue to shape the world that we live in. Through such questions, students will develop an understanding of the dynamic relationships between theory and culture, literature and politics.

Note(s):	This course is required for all second-year students in an Arts programme.
Prerequisite(s):	(ENE111 and ENE112) or (ENE121 and ENE122) or equivalent
Exclusion(s):	ENE210
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE212 Reading the Contemporary World 2

How do different genres and media influence the ways in which cultural creators convey their messages? What is involved in the study of popular culture, and what does popular culture tell us about our social, cultural, and political worlds? This course expands the cultural literacy students developed in ENE211 through critical examinations of popular culture, media, and literature in modern and contemporary contexts. In addition to deepening students' understanding of critical theories and praxes from the first term, this course will develop students' research skills, including evaluating secondary sources and integrating them into original arguments. Course assignments include a research essay and a formal presentation.

Note(s):	This course is required for all second-year students in an Arts programme.
Prerequisite(s):	(ENE111 and ENE112) or (ENE121 and ENE122) and ENE211 or equivalent
Exclusion(s):	ENE210
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE226 Foundations of Western Literature: Greek and Roman Classics and the Bible

This course is an introduction to the cultural, ethnic, and literary histories that have informed the production of English Literature, and of much Western culture, for the past four millennia. Students will examine how Greek, Roman, and Judeo-Christian texts reflect the values of the periods in which they were written, and why they are important today.

Corequisite(s):	(ENE211 or ENE212) or equivalent
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE228 Critical Approaches to Literature and Culture

This course introduces key theoretical and practical questions which arise in the study of literature and contemporary culture such as "Why study literature?" "What constitutes 'great' literature?" "What aspects of culture--such as movies, TV shows, advertising, news media, or music--can be read as 'texts'?" Students will learn how to apply these theories in commenting on literature. Emphasis will also be placed on effective essay writing.

Note(s):	Students considering honours or graduate school are highly encouraged to take this course.
Corequisite(s):	(ENE211 or ENE212) or equivalent
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE230 Indigenous Literatures and Media

Storytelling has been (and continues to be) an integral aspect of Indigenous cultures. Oral storytelling, written stories (fiction and non-fiction), poetry, visual and performative arts (i.e., music, drama, dance), and media (i.e., film, social media) share the diverse thoughts and worldviews of the First Nations, Inuit, and Métis peoples of Turtle Island. This Indigenous-led course provides an introduction to Indigenous literatures and media. This course will encourage students to reflect deeply on what Indigenous storytelling teaches us about history, truth and reconciliation, the present, and our own positionality as Indigenous and non-Indigenous peoples alike. Course work will consist of short reflective assignments, in-class discussion, and one term-length research project based on one primary text (or a collection of texts/media).

Corequisite(s):	(ENE211 or ENE212) or equivalent
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE240 The Art and Science of Writing

Through a series of reflective group discussions, write-to-learn assignments, and practical written projects, as well as extensive revision work and feedback, this course will introduce students to the theories and practices of analytical reading, professional and academic writing, and critical thinking across different university disciplines. Students will also develop written communication skills by engaging with texts and other types of authentic material, such as case studies, policy briefs, engineering design reports, and grant applications. These materials come from a variety of authors, genres, and disciplines, including the arts, business, psychology, history, science, engineering, and philosophy. Fundamental grammar and writing skills, models, and organizational strategies will be taught in collaborative workshop settings and real-world applications. Students from all language backgrounds are welcome.

Prerequisite(s):	(ENE111 and ENE112) or (ENE121 and ENE122)
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE290 Creative Writing

This course introduces students—who will one day have stories to tell, and will want to make sense of their world through stories—to writing creatively in a number of genres, including short fiction, creative non-fiction, and poetry. Research into the process of writing will enable critical thinking and creativity to work together in order for students to produce their best work in communicating their ideas. Weekly assignments will be expected, as well as submission of a portfolio of original, edited, and polished work.

Corequisite(s):	(ENE211 or ENE212) or equivalent
Contact Hours:	3 - 0 - 6

Credit(s): 1

Courses 300-399

ENE307 British Literature during the Romantic Period

The backbone of this course is the study of the work of the six great British Romantic poets: Blake, Wordsworth, Coleridge, Shelley, Keats, and Byron. Careful attention will be paid to the short lyric poems, and we will read parts of the longer narrative poems. Students will be encouraged to explore the common ideas which emerge in these poets' work and the differing ideas of "Romanticism" which are present. The prose of some of these authors will also be examined. Finally, the course will include the study of two novels, by Jane Austen and Mary Shelley.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE309 Hearts of Oak: British Literature and Culture in the Age of Empire

This course focusses on British literature and culture during Queen Victoria’s reign, 1837 to 1901. Examining various types of writing in addition to other art forms, this course will treat texts and art as both products and producers of culture, looking at them within their historical and social contexts and considering how they might support or undermine the empire in which they were created. The course may include in its focus a consideration of the rise of science, the fall of religion, the machinations of empire, and the reconstructions of gender roles as it discusses the cultural upheaval during the tenure of Great Britain’s second-longest-reigning monarch.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6 (Distance Learning: 0 - 0 - 9)

Credit(s): 1

ENE311 Modern British Culture

This course considers such representative modern artists as Virginia Woolf, Wilfred Owen, H.D., T. S. Eliot, W. B. Yeats, George Orwell, and W. H. Auden, alongside such popular media as films, romance novels, and detective fiction. Through discussion and analysis of these texts, students will engage the cultural imagination of Britain in an “age of anxiety” defined by technological change, scientific revolution, mass culture, modern communication, and new understandings of human consciousness. In addition, students will examine British culture as it emerged through war, empire and colonialism, Irish independence, women’s suffrage, labour movements, and immigration, all of which are essential to understanding contemporary British social and political life.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE312 Crosscurrents in French and English Literature (1850-1900)

This course offered jointly as a “dialogue course” between the English, Culture, and Communication Department and the French, Literature, and Culture Department, will be team-taught by a professor from each department. The course will therefore include classes in English, alternating with classes in French; will familiarize students, through analyses of representative texts in French and English, with important aesthetic concepts of the second half of the 19th century, enabling them to trace connections and

divergences between the two cultures. At the end of the course, students will not only be able to describe the interactions between the writers of the two worlds, but also be able to apprehend the differences in the understanding of aesthetic movements on either side of the Channel.

Note(s):	This course is designed for students in the third or fourth years in Arts (or at the discretion of the Departments of English, Culture, and Communications and French, Literature, and Culture). One of the three bilingual courses offered.
Prerequisite(s):	Students are permitted entry into this course only if they have attained a 'C' in the second language Reading Comprehension examination or equivalent.
Corequisite(s):	(ENE211 or ENE212) or equivalent.
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE313 Postmodern British Literature

Addressing our contemporary cultural life, postmodernity refers to the destabilization of such notions as linguistic objectivity, progress, identity, national coherence, knowledge and truth, origin, and even our experience of reality. This course examines representative figures of postmodern British culture, such as Tom Stoppard, Angela Carter, Grace Nichols, Seamus Heaney, Eavan Boland, Hanif Kureishi, Carol Churchill, Kazuo Ishiguro, and China Miéville, as well as such "popular" material as film, television, music, and pulp fiction. Students will learn how postmodern British culture engages such socio-political forces as imperial decline; globalization; multiculturalism; Welsh, Scottish, and Irish independence; the Welfare State; the diaspora; radical nationalisms; extremism; sexual and gender diversities and the Brexit phenomenon.

Corequisite(s):	(ENE211 or ENE212) or equivalent.
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE314 Shakespeare's Peers

This course explores drama by Shakespeare's contemporaries alongside related selections of poetry and prose from the period. Some of these writers enjoyed popularity equalling or surpassing Shakespeare's fame in his own era, some collaborated with the famous bard, and some were excluded from the playhouse stage. Students engage with a variety of dramatic genres, such as revenge tragedy, tragicomedy, city comedy, domestic tragedy, closet drama, and court masque. The cultural impact of these generically different plays will receive attention, including what social and political work they performed.

Corequisite(s):	(ENE211 or ENE212) or equivalent.
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE316 From Beowulf to Lancelot: Warriors, Visionaries, and the Medieval World

This course explores the origins and early development of English literature. Students engage with the intermingling Celtic, Roman, Anglo-Saxon, and Norman influences that shaped and reshaped the language, culture, and borders of medieval England. Course readings spanning from ca. 700-1000 to 1485 sample the rich variety of early literature and the shifts in values, social realities, and warrior culture it reflects. Genres include heroic poetry and epic, Breton lays, chivalric romance, biblical drama, visionary writing, and Arthurian legend.

Corequisite(s):	(ENE211 or ENE212) or equivalent.
Contact Hours:	3 - 0 - 6

Credit(s): 1

ENE318 Medieval Road Tripping: The Canterbury Tales

This course explores medieval culture and society through the close study of one of the most influential texts to emerge from the era: Geoffrey Chaucer's pilgrimage narrative, *The Canterbury Tales*. Among the earliest texts written in the English language after the Norman Conquest, *The Canterbury Tales* bring together diverse medieval genres, including romance, fabliau, beast fable, folktale, apology, and miracle story. Students engage with the differing ways these genres – and the multiple narrative perspectives they encompass – reflect and respond to social and cultural issues of the late fourteenth century.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE320 Words as Weapons: The Roots of Satire in the Eighteenth Century

Satire can be an effective rhetorical weapon. This course examines poetry and prose satire at a time when these genres dominated an exploding print culture. In the Enlightenment, "wit" was a serious kind of play with the power to build up and the power to tear down—individuals, regimes, and political systems. Students will analyze satiric essays, poetry, and plays in order to identify such central concerns of the period as the idea of a rational universe, the threat of disorder, competing voices, and social mobility.

Corequisite(s): (ENE211 or ENE212) or equivalent.

3 - 0 - 6

Credit(s): 1

ENE322 The Rise of the English Novel

This course is a critical discussion of novels in an age that witnessed prose narratives take hold of the press and of the popular imagination. Students will read and compare a variety of texts that may include travel, epistolary, satiric, and sentimental in order to evaluate the evolution of what has become the most popular genre in our own time. Problems of voice, point of view, and the novel's love-hate relationship with itself will contribute to the students' ability to interrogate such issues as class, gender and nationalism in the early novel.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE331 World Literature: Crisis and Conflict

What constitutes a world? How might we respond to crises and conflicts within worlds? In this course, students engage with literature, film, and popular culture to think about responding to violence, alleviating suffering, and meeting unexpected challenges. Reading across genres and geographical regions, we may consider representations of prolonged national crises like Argentina's Dirty War, political crises like those in Egypt and Libya, and public health crises like Ebola outbreaks. We will think not only about the world we live in but the world of world literature and the world offered by an individual text.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE333 World Literature: Coherence and Incoherence

What makes a world cohere and what makes it coherent? In this course, students engage with literature, film, and popular culture to study what we use to make sense of the world. What cultural conventions facilitate or reflect the coherence or incoherence of landscapes, identities and worldviews? Can we use the same literary forms to represent cities as diverse as Kabul, Karachi, Sydney, and Seoul? Reading across genres and geographical regions, we will consider the aftermath of significant moments of fragmentation–like the breakup of the Ottoman Caliphate and the partition of British India–and attempts at unification–as in China under Mao.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE352 Where is Here? Canada's Literary and Cultural Evolution

Sampling an assortment of writers, artists, and other cultural influencers spanning some 500 years, this course will explore the evolution of Canada from mere notion to full-blown nation with a distinct, albeit a contested, identity. What do explorers, missionaries, indigenous peoples, journalists, WWII internment survivors, restaurant owners, and others have in common? They are among those whose stories – literary and otherwise – shed light on the historical forces behind Canada's contemporary cultural tapestry. Themes involving confrontation, cooperation, discovery, growth, opportunity, home, land, and survival (in all of its many forms) will focus our attention on what Canada means…and to whom, when, where, and why.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE353 Blurred Lines: Contemporary Canadian Culture and Identity

Multicultural. Multiethnic. Multilingual. Postmodern. Postnational. Postmortem? If you were tasked to define "Canadian" today, you would arrive at a series of complex questions and claims about what constitutes Canada and Canadianness. These complexities are not new, but they have intensified in recent decades as immigration, globalization, and even social media have further defined Canada. By engaging with an array of voices from the ethnocultural spectrum – including some viewing Canada from afar – we will see how diverse attitudes toward belonging, family, community, war, and (First) nationhood continue to influence the conversation about becoming and being Canadian in the 21st century.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE356 Bridging the Two Solitudes: French and English Canadian Literature

This course is to be offered conjointly by the Department of French, Literature, and Culture and the Department of English, Culture, and Communication; it is to be team-taught by two professors, one from each of the departments. It will focus on comparisons of important aesthetic and cultural movements. Through analyses of representative texts in French Canadian and English Canadian literature, this course will familiarize students with important aesthetic concepts in each of what Hugh MacLennan famously labelled "the two solitudes," enabling students to trace connections and divergences between the two cultures. Specific texts and topics will change year to year but may include canonical writers (such as Roy, Yves Thériault, Margaret Atwood, Leonard Cohen), and topics such as nationalism, war, economics, religion, gender, and narrative form.

Note(s): This course is designed for students in the third or fourth years in Arts (or at the discretion of the Departments of English, Culture, and Communications and French, Literature, and Culture). One of the three bilingual courses offered.

Prerequisite(s):	Students are permitted entry into this course only if they have attained a ‘C’ in the second language Reading Comprehension examination or equivalent.
Corequisite(s):	(ENE211 or ENE212) or equivalent.
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE358 French-Canadian Literature in Translation

Through a detailed study of French-Canadian texts translated into English, this course focuses on French-Canadian culture and its literature. Students will read, for example, a nineteenth-century novel, a contemporary play, and French-Canadian literature from outside Quebec in order to gain an understanding of the unique nature of the literature of French Canada.

Corequisite(s):	(ENE202 or ENE203 or ENE211 or ENE212) or equivalent.
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE361 American Literature: Visions and Voices

This course will pair American texts from the Colonial Period to the 19th century with 20th and 21st-century works. It introduces students to continuities of form and vision in works by authors from the Puritans to the Postmoderns. Students will engage with a diverse sampling of early, modern, and contemporary texts from a range of genres.

Corequisite(s):	(ENE211 or ENE212) or equivalent.
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE363 American Literature: The American Dream

This course focuses on 20th-century American literature, dealing with such genres as the short story, poetry, and drama, as well as popular culture: music (from blues & folk to rock & hip-hop) and film. Through lectures, seminars, and readings, students will examine the diverse definitions and staying power of the American Dream, including themes of gender and racial identity.

Corequisite(s):	(ENE211 or ENE212) or equivalent.
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE371 On the Origins of Scientific Culture: The Rise of Science in the Nineteenth Century

Since it gained its first popular and professional footholds in the early nineteenth century, science and its methods have come to dominate the Western collective consciousness, determining how we interpret and manage our current reality. This course focusses on the period of science’s rise in popular culture—the nineteenth century—and looks at texts ranging from poetry, fiction, and drama, to essays and influential scientific narratives to consider how creative writers adapted the language and preoccupations of science to challenge and enrich cultural discourse, as well as how scientific writers adapted literary forms to express their discoveries to the larger world. The course may include discussions of exploration and travel writing, representations of science and scientists, cultural influences of and on scientific discoveries, and the complex intersections between nineteenth-century scientific advancement and cultural production.

Note(s):	Also offered through Distance Education.
Corequisite(s):	(ENE211 or ENE212) or equivalent or permission of the instructor.
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE375 Literature and Spirituality

At the heart of both literature and spirituality, we find the same mysteries and questions: Who am I? Why am I here? What's it all about? This course invites you on an exploration of how the world's literatures and the diverse wisdom teachings and religious traditions through the ages speak to the spiritual within our human condition. Along with exploring a variety of foundational beliefs and expressions of spirituality's East and/or West, this course will examine the spiritual dimension in sacred and secular literature, and the challenges occasioned by the representation and interpretation of literary encounters of a spiritual kind.

Note(s):	Also offered through Distance Education.
Corequisite(s):	(ENE211 or ENE212) or equivalent.
Contact Hours:	3 - 0 - 6 (Distance Learning: 0 - 0 - 9)
Credit(s):	1

ENE381 First Feminists: Early Women Writers

This course offers students the opportunity to understand what underpins the gendered society in which we now find ourselves. We examine what cultural norms were first resisted by women in England and America, as well as how the early modern literary marketplace affected such norms even as it enabled this resistance. Students will read a variety of genres in order to explore issues related to writing itself, the family, class, and how the voices of other peoples a time of colonial expansion and slavery relate to the culture(s) of women.

Corequisite(s):	(ENE211 or ENE212) or equivalent.
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE382 Indigenous Literature: Centring Two-Spirit and Indigiqueer Voices

In this course, Learners will explore questions of lived experience of 2SLGBTQ+ Indigenous folks through engagement with works of Two-Spirit and Indigiqueer novelists, poets, and academics. Learning will centre on questions of gender, sexuality, colonialism, and reclamation of space by Indigenous voices from multiply-excluded communities.

Corequisite(s):	(ENE211 or ENE212 or ENE230) or equivalent or permission of the instructor.
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE383 Major Women Writers: 1900 to the Present

The focus of this course is twentieth- and twenty-first-century literature by women. Students will have the opportunity to read and learn about women in the era that created feminism, and trace that evolution to their own lifetime. Common ground among the authors will be identified, but so too will divergence and dispute among women who do not, after all, make up one unified community.

Further, by considering the recent past and the contemporary world through the writings of women of many nationalities (including Canadian, Indian, West Indian, Japanese, Welsh, and others) in poetry, essays, short and long fiction, this course is a gathering place for diversity of voice, and of choice.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE384 Indigenous Literature: Centring Women's Voices

Indigenous women have long been erased from both textual and visual historic records. The work of contemporary Indigenous women writers functions to re/claim these exclusionary spaces and prompts us to reconsider our understanding of the role(s) of Indigenous women in national and international narratives. In this course, intensive study of the contemporary textual records will inform classroom discussions of lived experience of Indigenous women in North America. Learners will engage with works in a range of media and genres, such as poetry, memoir, graphic novels, community think-pieces, and academic publications.

Corequisite(s): (ENE211 or ENE212 or ENE230) or equivalent or permission of the instructor.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE385 Introduction to Children's Literature

This course conducts a critical/historical survey of literary works in English composed for, or appropriated by, children. Selections may vary annually but each year will include both classic and less familiar texts. The chronological organization will highlight the historical context of the text and enable students to trace shifting ideas about the child and childhood. Formal literary analysis will be complemented by a variety of critical approaches that will enable the class to explore relevant theoretical issues and to comprehend the cultural and ideological work being done by specific texts.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE386 the World Otherwise: The Theory and Practice of Fantasy

This course engages students in the cultural and political roles of fantasy from a variety of historical and cultural contexts. Students will develop a critical vocabulary for understanding the forms and functions of fantasy through the work of such theorists as J.R.R. Tolkien, Sigmund Freud, Tvzedan Todorov, Rosemary Jackson, and China Mieville. Students will apply this theoretical context to works of fantasy in a range of genres and media to understand the ways in which fantasy not only transforms our perception of reality but also interrogates the nature of the real.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE387 Contemporary Children's Literature

This course examines contemporary literary works in English composed for, or appropriated by, children. Selections may vary annually but each year will include both classic and less familiar texts. The focus of contemporary children's literature in a particular year might be thematic, such as coming-of-age narratives, childhood and war, or the journey, or generic, such as fantasy or young

adult fiction. Formal literary analysis will be complemented by a variety of critical approaches that will enable the class to explore relevant theoretical issues and to comprehend the cultural and ideological work being done by specific texts.

Corequisite(s):	(ENE211 or ENE212) or equivalent.
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE389 The Influence of English Literature in France in the Enlightenment

This course offered jointly as a “dialogue course” between the English, Culture, and Communication Department and the French, Literature, and Culture Department, will be team-taught by a professor from each department. The course will therefore include classes in English, alternating with classes in French concerning the influence of the English novels (by such authors as Daniel Defoe, Samuel Richardson, Henry Fielding, Laurence Sterne, Jane Austen) on literature of the French Enlightenment, including their reception, their translation, and their adaptation, in a study of how the novels under consideration are invested with new meanings through translation. The student will come to recognize that translation functioned as a compromise between the two cultures rather than conforming to today’s convention of linguistic and semantic equivalence.

Note(s):	This course is designed for students in the third or fourth years in Arts (or at the discretion of the Departments of English, Culture, and Communications and French, Literature, and Culture). One of the three bilingual courses offered.
Prerequisite(s):	Students are permitted entry into this course only if they have attained a "BBB" in second language or equivalent.
Corequisite(s):	(ENE211 or ENE212) or equivalent.
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE391 Literary Masculinities

Students in this course will examine a variety of literary genres across time and in different cultures in order to understand diverse models and stereotypes of masculinities. They will consider the meaning of manhood in relation to such figures as boys, brothers, fathers, husbands, workers, soldiers, and lovers. Through literary analysis, they will develop an understanding of the social and cultural evolution of masculinities.

Corequisite(s):	(ENE211 or ENE212) or equivalent
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE392 Science Fiction

How much science is there in science fiction and what distinguishes it from other genres like fantasy and horror? Are movies like Iron Man, video games like Halo, and books like Dune all parts of the same genre? Definitions of the genre vary, but broadly speaking, science fiction creates an “imaginative laboratory” in which we can investigate how technological, social, and political change intersect and impact our lives today and in possible futures. This course explores science fiction’s alternate realities, technological extrapolations, and alien encounters. It considers fiction, movies, video games, and theories of science fiction within a range of historical, national, and political contexts. Students will engage such boundary-crossing themes as war, empire, gender, sexuality, the environment, space exploration, embodiment, and the “human.”

Corequisite(s):	(ENE211 or ENE212) or equivalent
Contact Hours:	3 - 0 - 6

Credit(s): 1

ENE393 From Fact to Fiction

Fiction's art is its ability to appear artless. In this course, students will learn that art by combining research methodology with creative writing to ground their fiction in fact. Students will conduct research, examine the history and methods of writing fiction, and develop their own creative writing styles through a series of structured writing and editing exercises and assignments. Ultimately, they will produce their own creative portfolios.

Prerequisite(s): (ENE111 and ENE112) or (ENE121 and ENE122)

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE394 Short Fiction Workshop

We are a story-telling species. Short stories are a way we learn about human complexity, both in ourselves and others. In this course, students will learn narrative strategies and develop their own voices, bringing these to bear on their own fiction. Working in a genre that seems deceptively simple, they will explore the technicalities of short story writing whether it's the creation of compelling characters or the many challenges of setting, point of view, and plot. They will also practice the essential act of revision in order to produce dynamic, engaging, and polished work.

Prerequisite(s): (ENE111 and ENE112) or (ENE121 and ENE122)

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE395 Poetry Workshop

Students in this course will examine key texts, genres, theories, and practices of writing poetry. They will be required to submit writing of their own every week, including both poetry and commentary / analysis upon it. They will submit this work for discussion within a community of writers - the rest of the class and the instructor. Revised verse will then be submitted in a final, chapbook-length portfolio.

Prerequisite(s): (ENE111 and ENE112) or (ENE121 and ENE122)

Contact Hours: 3 - 0 - 6

Credit(s): 1

Courses 400-499

ENE403 Gender and Literature I

This course aims to introduce students to the various ways literature reflects, constructs, reinforces, and challenges gender roles. The course will explore masculinity and femininity, suggesting that they are always socially constructed and historically specific by examining literature from the Middle Ages to the present. In order to do so, students will explore several different feminist approaches to literature and culture. Ultimately, the course will show that understanding gender as socially constructed rather than biologically given is empowering for society as a whole.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6 (Distance Learning: 0-0-9)

Credit(s): 1

ENE405 Gender and Literature II

This course examines the various ways in which literature reflects, constructs, reinforces, and challenges gender roles. The course will explore "masculinity" and "femininity", suggesting that they be always socially constructed and historically specific. Students will examine the degree to which gender is an organizing principle in the daily life of Western civilization, looking first at how the gendered body is politicized in specific literary works (prose, poetry, drama) and films. They will then investigate how class and race have the potential to disrupt gender as a primary category of analysis. And, finally, they will discuss the challenges to gender analysis raised by the figure of the transgendered person.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE413 Literature, Culture, and Ecology

This course introduces students to the emerging field of "ecocriticism," a body of ecologically oriented literary and cultural scholarship that explores nature both as a cultural construct and as a real, tangible entity on which humanity--and the more than 30 million other species on the planet with whom we are interconnected--depends for survival. Like feminism, post-colonialism, or queer studies, ecocriticism is at its core sociopolitical and global; as such, the course will consider international and often conflicting perspectives on nature and human responsibility by engaging with a diverse range of literary and cultural genres (drama, poetry, narrative, film, news, internet, social media, and electronic gaming) from around the world. Finally, students may assess Western military perceptions of space and place to determine how they influence our understanding of foreign peoples and cultures during overseas deployments.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE415 Literature, Culture, and Evolution

This course investigates how literature specifically, and art and culture more broadly, emerge from evolutionary strategies designed to maximize our adaptive fitness as a species. Students will explore the relationship between biological and environmental influences on the production and consumption of literature, other arts, and the cultural milieu in which they are produced. They will also assess how and why what literary Darwinist Ellen Dissanyake calls "homo aestheticus" relies strongly on art for such diverse evolutionary purposes as transmitting information, strategizing for future events, maintaining kinship and other social networks, selecting mates, sexual reproduction, and developing cognitive capabilities that serve us in other domains. Art and literature, the course will reveal, are much more than accidental byproducts of evolution: they are, like the imagination on which they depend, central to our survival.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE421 Literary Theory I: Postcolonialism, Race, and Ethnicity

This course offers an advanced introduction to the key concepts and questions of postcolonial theory and related theories of race and ethnicity. This course will survey some of the major texts of these theories, as well as their historical, social, political, and philosophical backgrounds, in order to assess their value for understanding our own relation to and perception of those who are "other" to us. Central to this investigation will be an examination of how categories of racial, ethnic, and cultural difference are constructed, maintained, and contested in literature and culture.

Prerequisite(s):	ENE211 and ENE228 or equivalent.
Corequisite(s):	ENE212
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE423 Literary Theory II: Gender, Sex, and Sexuality

This course offers an advanced introduction to contemporary theories of gender, sex, and sexuality. This course will survey some of the major texts of these theories, as well as their historical, social, political, and philosophical backgrounds, in order to explore the different ways in which categories of gender, sex, and sexuality have been defined and disrupted, problematized and pluralized by competing thinkers and writers.

Prerequisite(s):	ENE211 and ENE228 or equivalent.
Corequisite(s):	ENE212
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE426 Advanced Directed Study

This course is offered under special circumstances and at the discretion of the Department Head where a student with high standing in earlier English courses wishes to pursue a specific topic in some depth. The course is normally conducted on a tutorial basis and usually includes a considerable amount of written work.

Note(s):	For students in Fourth Year Honours English at the discretion of the Department Head. With the approval of the Department Head, this course may count as a Military Arts credit within the BMASc programme.
Corequisite(s):	(ENE211 or ENE212) or equivalent.
Contact Hours:	0 - 0 - 6
Credit(s):	2

ENE428 Screening Shakespeare

This course examines screenings of Shakespeare's texts in two senses, pursuing questions not only about how Shakespeare's plays have been adapted for the screen, but about how the plays have been screened or filtered through different cultural, social, and political contexts, attending to the significance of what a given remake sifts out from and adds to the original. Through comparative analysis, students examine adaptations of Shakespeare for what they reveal about our own cultural preoccupations. Students also consider how the knowledge of Shakespeare's original version, including its first physical and social spaces of performance, informs our understanding of the adaptation. The course introduces critical concepts from adaptation theory, film theory, and performance theory. Students analyze the ongoing relationship between Shakespeare and popular culture, from memes to movies.

Corequisite(s):	(ENE211 or ENE212) or equivalent.
Contact Hours:	3 - 0 - 6
Credit(s):	1

ENE449 Literary Journalism

This course studies various works of literary journalism, which combine the craft of in-depth reporting with the art of writing, or “making facts dance”, as Kevin Kerrane describes the genre. In order to understand the characteristics of literary journalism, students will critically assess newspaper and magazine articles, reviews and books, as well as online material. Writing assignments in the course will put the principles of literary journalism into practice.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE450 The News Media and the Military

The course examines the relationship between the news media and the military within the broader context of the pervasive presence of mass media of communication in the political and cultural realms. A critical personal inventory of the students' habits as mass media consumers forms the basis for the course and for each class. The course studies the rhetoric of mass media communication from Plato to today before shifting focus to an investigation of the newsroom, the business and marketing pressures affecting its operation, and the constitutional and legal rights and responsibilities related to freedom of the press. Students will survey and examine in detail examples and case studies of the evolving relationship between the news media and the military in Canada and elsewhere. The aim of this course is to enable students to critically analyze various print and electronic news products, including their modes and styles of presentation, and to evaluate their relationship to the military.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE451 War Literature I

This course surveys and examines war literature from its origins in the Greek classical period to the First World War. *The Iliad, Beowulf* and Shakespeare's *Henry V* will be studied as foundational texts that establish the concepts of the hero and the *comitatus*, the roles of religion and fate, and the characteristics of the war story. The works of the First World War trench poets, the memoirs of Graves and Brittain, and Hemingway's fiction will focus analysis on how the unforgettable experience of war becomes realized in various literary forms.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE453 War Literature II

This course surveys and examines war literature from the Second World War to the present. The course begins by studying how the unforgettable experience of Second World War combatants is represented in fiction, memoir and poetry. The Canadian novel *Execution* is used as the focal point of this critical analysis. The stories of non-combatants and civilians, including a survivor of the Holocaust, extend the range of wartime experience beyond the combat veteran. Study of post-war texts focuses on the Cold War and Vietnam. The course concludes with an examination of the writings of Canadians about UN missions and the war in Afghanistan.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE470 Topics in English Literature I

Seminars offered by faculty on topics related to their own research or interests. Consult the departmental home page for further details.

Corequisite(s): (ENE211 or ENE212) or equivalent

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE471 Topics in English Literature II

Seminars offered by faculty on topics related to their own research or interests. Consult the departmental home page for further details.

Corequisite(s): (ENE211 or ENE212) or equivalent

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE472 Topics in English Literature III

Seminars offered by faculty on topics related to their own research or interests. Consult the departmental home page for further details.

Corequisite(s): (ENE211 or ENE212) or equivalent

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE473 Topics in English Literature IV

Seminars offered by faculty on topics related to their own research or interests. Consult the departmental home page for further details.

Corequisite(s): (ENE211 or ENE212) or equivalent

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE474 Chosen Topics in Literary Studies

This course is designed so that professors in the Department of English will be able to share with the students the results of their research in a particular area of literary studies that does not form part of the regular Honours or Major stream. Topics will vary with the interests and research of the faculty.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE484 Post-Colonial Literature

In this course, students will have an opportunity to examine selected modern literary works from Africa, South Asia and the West Indies, as well as to assess how writers in those societies have depicted the throes of revolution, the pain of exile, the struggle for freedom, the waning of colonialism, the anguish of alienation, and the quest for identity. Students will be encouraged to approach the writers and their works historically and critically.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE487 Military Science Fiction

This course examines the long and intimate relationship between science fiction and the military. Students will read canonical works of military science fiction, such as H. G. Wells' The War of The Worlds, Robert Heinlein's Starship Troopers, Joe Haldeman's Forever War, Frank Herbert's Dune, and Orson Scott Card's Ender's Game. Students will read these texts alongside less known, more international, and more contemporary examples of the genre. The course exposes students to such topics as the changing ideas of the soldier in relation to definitions of the human and the alien; the relationship between science fiction, exploration, colonization, and conquest; the definition of the just war; the nature of future wars; the trans-human and posthuman soldier; science fiction as a means of representing past wars; and science fiction and trauma. Through such considerations, this course explores how science fiction supports, challenges, and transforms our understanding of conflict.

Contact Hours: 3 - 0 - 6

Corequisite(s): (ENE211 or ENE212) or equivalent.

Credit(s): 1

ENE490 Ex Libris: Secrets of the Archives

This course introduces students to archival research in the Humanities. Using a variety of original material that may include RMC's own archival collections, online material from Library and Archives Canada, or private family collections, students will learn the cultural importance of archives, the many uses of archives, and how archival organization constructs paths of knowledge. Course work will consist of short critical assignments that culminate in an individually curated project. Students will select individual items, conduct primary as well as secondary research on their chosen topics, edit and annotate their chosen archival material, and produce a scholarly edition of their own. Primary research materials might include soldiers' diaries, literary works, manuscripts, letters, maps, medical journals, and photographs.

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours: 3 - 0 - 6

Credit(s): 1

ENE492 Seminar in Advanced Professional Skills

This course is available only to Honours students of English. It is a specialized study of advanced professional skills related to the discipline. At the end of the course, the student will be able to demonstrate a range of advanced skills selected from but not limited to the following: skills in research, writing, editing, public presentation, grant and proposal writing, and colloquium organization. The course may take a variety of forms, from a series of guest speakers to a focused exploration of a current research topic, or a combination of both.

Note(s): Compulsory for all students in Fourth Year Honours English

Corequisite(s): (ENE211 or ENE212) or equivalent.

Contact Hours:	3 - 0 - 3
Credit(s):	1

Date modified:

2025-09-25

Undergraduate French, Literature, and Culture Programme

Related links

French, Literature, and Culture undergraduate courses

Undergraduate arts programmes

Department of French, Literature, and Culture

Admissions

⚠ Important Notice:

New enrollments into French, Literature, and Culture (Honours) and French, Literature, and Culture, for September 2025, have been paused, noting that current students in French, Literature, and Culture (Honours) and French, Literature, and Culture will continue, as will the remainder of French, Literature, and Culture programmes. Determination on the future status of these paused programmes for Academic Year 2026-2027 is ongoing.

General Information

The Department of French, Literature, and Culture offers a programme that focuses on French literature in the francophone world and other aspects of French, literature, and culture such as civilization and language (linguistics and stylistics). The department offers a B.A. (Honours) French, Literature, and Culture and a B.A. French, Literature, and Culture. French is the only working language within the department. All students possessing the required knowledge and ability may take most courses. The course instructor, with the approval of the Department Head will make the final decision on eligibility.

Programme Objectives

The French, Literature, and Culture programme is intended to provide students with a university education, promote their intellectual development and give them the knowledge and abilities that can be gained through the study of literature and language.

The courses offered by the department have four main objectives:

1. to teach students how to express themselves clearly and accurately, orally and in writing, and how to discuss various subjects rigorously and at length;
2. to make students aware of interference from the second language;
3. to draw students' attention to the importance of cultural and social values in the evolution of civilization and the contemporary world, particularly the French-speaking world; and

4. to develop students' intellectual faculties, especially the ability to think and to analyze. These skills are often required in the exercise of their profession, particularly in the areas of human relationships and problems.

Ability to communicate:

While the mastering of oral and written communication is emphasized in the 100 and 200-level courses, these skills are also stressed in the 300 and 400 level courses, particularly for students doing the B.A.(Honours) French, Literature, and Culture or the B.A. French, Literature, and Culture.

The analytical study of literary works helps to assess situations with a critical mind. The analysis of literary texts is useful in developing a critical mind; knowledge of critical and analytical methods leads to a better appreciation of language's potential and limitations.

Perceptual development:

Literary studies enable students to fully understand and appreciate the cultural and social values of a people or community and help them to recognize the forces that shape the evolution of a society. The French, Literature, and Culture programme demonstrates, at all levels, that the influence of cultural and social forces is as important as the influence of political, economic, strategic and historical realities in understanding the past evolution of societies and the complex nature of the contemporary world.

Intellectual development:

French, Literature, and Culture, like studies in other disciplines, enable students to acquire the methods involved in logical analysis and evaluation. However, because of the very nature of literature, the programme also helps to promote less Cartesian forms of thinking, such as intuition, imagination and a sense of aesthetics. These kinds of thinking are particularly useful for resolving human problems.

A literary work generally deals with human problems, and the measures taken to resolve them. These problems require intellectual flexibility and an ability to analyze. Such abilities are extremely useful for people in management and other positions of responsibility.

Programme Structure

100-Level Courses

Courses designed to improve the student's composition, style, and understanding of French literature in general and French-Canadian literature in particular.

200-Level Courses

Courses designed to perfect the student's style and to teach an appreciation of the most important French literary works of the 19th and 20th centuries. These courses can also serve as a foundation for future studies in the humanities, social sciences or administration.

300 & 400-Level Courses

Courses designed mainly for students completing the B.A. (Honours) French, Literature, and Culture or the B.A. French, Literature, and Culture. Students enrolled in other programmes may also take these courses.

The courses cover two main areas:

- literature and
- linguistics

There are three categories of literature courses:

- French literature,
- French-Canadian literature and
- literature by French-speaking authors from other cultures.

> ℹ **Note:** Most of the courses offered are given every two years. It is highly recommended that students choose their courses in advance, seek advice from the professors and discuss their choices with the Head of the Department.

Physical Conditioning and Second Language Courses

> ⚠ **Important:** The physical conditioning courses and the second language courses are part of the four-pillar degree and apply to all RMC degree programmes except the 30-credit general degree programmes.

LCF: Based on the result of a placement test, students will be registered in LCF courses at the 100, 200, 300, or 400-level. Students will automatically be exempt from applicable lower level LCF courses once placed in the appropriate course. Students who attain a Second Official Language (SOL) proficiency level of at least BBB or higher on the Public Service Commission (PSC) Second Language Evaluation (SLE) will be exempt from LCF courses at RMC.

- ATE101: Foundations of Fitness, Health and Sports *(UTPNCM & non-ROTP take ATE102)*
- ATE301: Unarmed Combatives, Military Skills and Individual Sports *(UTPNCM & non-ROTP take ATE302)*
- LCF100 : *Compétence de base – partie I*
- LCF200 : *Compétence de base – partie II*
- LCF301 : *Compétence intermédiaire – partie I*
- LCF302 : *Compétence intermédiaire – partie II*
- LCF400 : *Compétence intermédiaire - partie III*

Note: The PSC SLE is the only SOL certification-testing instrument currently accredited and used by the CAF to assess the SOL proficiency level. *(DAOD 5039-8, Canadian Armed Forces Second Official Language Certification Testing)*

Programme Requirements

B.A. (Honours) French, Literature, and Culture

Note: To earn a Bachelor of Arts (Honours) a student must meet the requirements of Academic Regulation 3.1.

The B.A. (Honours) French, Literature, and Culture requires completion of 40 credits, including the core courses for arts programmes, with at least 20 credits selected from the offerings of the Department of French, Literature, and Culture in accordance with the following:

Mandatory courses

- FRF152: *Culture littéraire, grammaire et rédaction* I (2 credits)
- FRF262: *Littératures et cultures francophones* (2 credits)
- FRF344: *Analyse des discours et introduction à la stylistique* (1 credit)

Optional courses

At least two credits from each of following four sections:

Section A – *Jalons culturels*

- FRF332: *La guerre : expression, narration et représentation*
- FRF358: *Dix-neuvième siècle : émergence des grands mouvements de l'époque contemporaine*
- FRF367: *Poésie française du Moyen Âge à la Révolution*
- FRF369: *Poésie d'expression française depuis la Révolution*
- FRF383: *Leçons du Grand Siècle*
- FRF391: *Les Lumières, assises d'aujourd'hui?*
- FRF414: *Théâtre non francophone en traduction*
- FRF420: *Roman épistolaire*
- FRF438: *Rétrospective sur un auteur*
- FRF440: *Vie et mort des grands héros de l'Antiquité*
- FRF473: *Théâtre français du XVIIe au XIXe siècles*

Section B – *Lire et penser le monde aujourd'hui*

- FRF355: *Roman français du XXe siècle*
- FRF363: *La « vérité », entre fiction et désinformation*
- FRF375: *Le théâtre des XXe et XXIe siècles*
- FRF412: *Littératures non francophones en traduction*
- FRF428: *L'essai au XXIe siècle : crise, terreur, paranoïa et sécurité intérieure*
- FRF429: *Combat, trauma et dépendances*

- FRF432: *Le surréalisme*
- FRF436: *L'absurde*
- FRF466: *Poésie canadienne-française des origines au milieu du XXe siècle*
- FRF468: *Poésie francophone au Canada depuis 1948*
- FRF471: *Théâtre québécois et franco-canadien*
- FRF474: *Littérature française de 1945 à 1980*
- FRF476: *Littérature française de 1980 à aujourd'hui*

Section C – *Diversité et altérité*

- FRF324: *Littérature francophone subsaharienne des Indépendances aujourd'hui*
- FRF326: *Littérature francophone du Maghreb et du Moyen-Orient, de la colonisation à nos jours*
- FRF336: *Raconter l'Afrique: exploration, conquête et colonisation*
- FRF365: *Expériences de pensée: éthique et fiction*
- FRF389: *De l'influence de la littérature anglaise en France à l'époque des Lumières*
- FRF402: *Orient-Occident, écritures croisées*
- FRF404: *L'imaginaire de la Route de la Soie de Marco Polo à aujourd'hui*
- FRF414: *Théâtre non francophone en traduction*
- FRF422: *Littérature de voyage*
- FRF427: *Fanatisme, tolérance et religion*
- FRF461: *Écrire au féminin*
- FRF479: *Discours et pouvoir*
- FRF493: *Littérature canadienne-française hors Québec*
- FRF495: *La francophonie dans le monde*

Section D –*Rédaction, argumentation et communication*

- FRF342: *Grammaire et rédaction avancées*
- FRF364: *Création littéraire*
- FRF379: *L'art oratoire*
- FRF410: *Imaginer l'intelligence artificielle*
- FRF434: *Témoigner*
- FRF443: *La rhétorique antique*
- FRF444: *La rhétorique moderne*
- FRF479: *Discours et pouvoir*

The remaining credits can be selected from any section and/or include:

- FRF426: *Études dirigés avancées* (2 credits)

B.A. French, Literature, and Culture

The B.A. French, Literature, and Culture requires completion of 40 credits, including the core courses for arts programmes, with at least 16 credits selected from the offerings of the Department of French, Literature, and Culture in accordance with the following:

Mandatory courses

- FRF152: *Culture littéraire, grammaire et rédaction* I (2 credits)
- FRF262: *Littératures et cultures francophones* (2 credits)
- FRF344: *Analyse des discours et introduction à la stylistique* (1 credit)

Optional courses

- At least two credits from each of the following sections: Section A, Section B, Section C, and Section D
- The remaining credits can be selected from any section

Programme Outline Tables

The following tables are examples of a typical outline, by year, of a B.A. (Honours) French, Literature, and Culture programme of study or a B.A. French, Literature, and Culture programme of study that would cover the required courses.

Note: Course offerings may vary from year to year. For planning purposes, students enrolled in this programme should access the official list of courses offered each semester through their My Services portal account.

Important: Students who started their 40-credit programme prior to Academic Year 2024-2025 will follow the old mathematics requirement MAE103, MAE106 and, MAE113. Students starting their 40-credit programme in Academic Year 2024-2025 and thereafter will follow the new mathematics requirement MAE107, MAE108 and, MAE109.

B.A. (Honours) French, Literature, and Culture

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ECF104 FRF152 HIF101 POF116 PSF103 ATE LCF	FRF152 (cont'd) HIF103 INF260 MAF107 1 optional credit [1] ATE LCF	FRF262 MAF108 **French, Literature, and Culture** 3 credits ATE LCF	FRF262 (cont'd) HIF203 MAF109 **French, Literature, and Culture** 2 credits ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	FRF344 PSF301 1 science credit [2] **French, Literature, and Culture** 1 credit **Elective** 1 credit ATE LCF	HIF271 1 science credit [2] **French, Literature, and Culture** 3 credits ATE LCF	POF205 **French, Literature, and Culture** 3 credits **Elective** 1 credit ATE LCF	PSF401 **French, Literature, and Culture** 3 credits **Elective** 1 credit ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

B.A. French, Literature, and Culture

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ECF104 FRF152 HIF101 POF116 PSF103 ATE LCF	FRF152 (cont'd) HIF103 INF260 MAF107 1 optional credit [1] ATE LCF	FRF262 MAF108 **French, Literature, and Culture** 3 credits ATE LCF	FRF262 (cont'd) HIF203 MAF109 **French, Literature, and Culture** 2 credits ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	FRF344 PSF301 1 science credit [2] **French, Literature, and Culture** 1 credit **Elective** 1 credit ATE LCF	HIF271 1 science credit [2] **French, Literature, and Culture** 1 credit **Elective** 2 credits ATE LCF	POF205 **French, Literature, and Culture** 2 credits **Elective** 2 credits ATE LCF	PSF401 **French, Literature, and Culture** 2 credits **Elective** 2 credits ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

1 One of the following: ECF103, POF202 or PSF105.

2 Credits required for the Science core requirement are 1 credit in Chemistry or 1 credit in Biology and 1 credit in Physics.

Minor in French, Literature, and Culture

The minor requires 8 credits in the discipline.

Minor in Culture et Diversity

> **Note:** This is the link for the English version of the requirements for the minor in Culture and Diversity.

The minor requires eight credits:

- Two credits from the Core Curriculum: HIF101 and POF116.
- Four credits from identified courses (see list below) in English, Culture, and Communication and/or French, Literature, and Culture.
- Two credits from identified courses (see list below) from two of the following disciplines: Economics, History, Management, Politics, and Psychology.

The minor, therefore, exposes students to diversity from a wide range of disciplinary perspectives and within different historical, cultural, and professional contexts. This multidisciplinary study of diversity equips students to think critically, systematically, and creatively about complex and non-linear cultural phenomena.

Mandatory courses (2 credits)

- HIF101: *Les origines historiques du monde contemporain*
- POF116: *Introduction aux relations internationales*

Optional courses (6 credits)

Four credits from the list below:

- FRF324: *La littérature francophone subsaharienne des Indépendances à aujourd'hui*
- FRF326: *La littérature francophone du Maghreb et du Moyen-Orient de la colonisation à nos jours*
- FRF336: *Raconter l'Afrique : exploration, conquête et colonisation*
- FRF363: *La « vérité », entre fiction et désinformation*
- FRF364: *Création littéraire*
- FRF365: *Expériences de pensée : éthique et fiction*

- FRF389: *De l’influence de la littérature anglaise en France à l’époque des Lumières*
- FRF402: *Orient-Occident, écritures croisées*
- FRF404: *L’imaginaire de la Route de la Soie de Marco Polo à aujourd’hui*
- FRF410: *Imaginer l’intelligence artificielle*
- FRF412: *Littératures non francophones en traduction*
- FRF414: *Théâtre non francophone en traduction*
- FRF427: *Fanatisme, tolérance et religion*
- FRF428: *L’essai au XXIe siècle : crise, terreur, paranoïa et sécurité intérieure*
- FRF429: *Combat, trauma et dépendances*
- FRF440: *Vie et mort des grands héros de l’Antiquité*
- FRF461: *Écrire au féminin*
- FRF479: *Discours et pouvoir*
- FRF493: *Littératures de la francophonie canadienne hors Québec*
- FRF495: *La francophonie dans le monde*

Two credits form the list below:

- AAF314: *Principes fondamentaux de la commercialisation*
- AAF466: *Gestion de la santé et de la sécurité au travail*
- GOF472: *L'Europe et l'Asie postsoviétiques*
- HIF301: *Histoire des peuples autochtones au Canada*
- HIF305: *L’Afrique dans l’histoire mondiale*
- HIF343: *L’Europe occupée, 1938-1945*
- HIF350: *Génocides et crimes de masse au XXe siècle*
- HIF354: *Histoire du monde arabe et musulman*
- HIF392: *L'impérialisme européen - les XIXe et XXe siècles*
- HIF394: *A History of China: Origins and Identities*
- HIF403: *Histoire sociale du Canada (1870-1980)*
- HIF444: *Guerres et mémoire au XXe siècle*
- HIF452: *La guerre, la paix et la société civile dans l’histoire contemporaine*
- HIF456: *Femmes, guerres et société civile*
- HIF485: *Les conflits en Afrique moderne*
- POF301: *Affaires autochtones au sein des politiques canadiennes*
- POF421: *Idéologies politiques*
- POF425: *Politiques régionales comparées*
- POF434: *Études comparées sur le développement*
- POF435: *Terrorisme et violence politique*
- PSF324: *Psychologie interculturelle*
- PSF334: *Introduction à la sexualité humaine*
- PSF484: *La psychologie du genre dans le militaire*

Date modified:

2025-04-01

Undergraduate French, Literature, and Culture Courses

FRF150 Communication écrite

FRF151 Culture littéraire, grammaire et rédaction

FRF152 Culture littéraire, grammaire et rédaction

FRF160 Culture littéraire, grammaire et rédaction I : littératures francophones du Canada

FRF161 Culture littéraire, grammaire et rédaction II : littératures francophones hors Canada

FRF262 Littératures et cultures francophones

FRF264 Littératures et cultures francophones I : littératures francophones du Canada

FRF265 Littératures et cultures francophones II : littératures francophones hors Canada

FRF324 La littérature francophone subsaharienne des Indépendances à aujourd'hui

FRF326 La littérature francophone du Maghreb et du Moyen-Orient, de la colonisation à nos jours

FRF332 La guerre expression narration et représentation

FRF336 Raconter l'Afrique: exploration, conquête et colonisation

FRF342 Grammaire et rédaction avancées

FRF344 Analyse des discours et introduction à la stylistique

FRF355 Roman français du XX^{e} siècle

FRF358 Dix-neuvième siècle : émergence des grands mouvements de l'époque contemporaine

FRF363 La « vérité », entre fiction et désinformation

FRF364 Création littéraire

FRF365 Expériences de pensée : éthique et fiction

FRF367 Poésie française du Moyen Âge à la Révolution

FRF369 Poésie d'expression française depuis la Révolution

FRF375 Le théâtre français des XXe et XXIe siècles

FRF379 L'Art oratoire

FRF383 Leçons du Grand Siècle

FRF389 De l'influence de la littérature anglaise en France à l'époque des Lumières

FRF391 Les Lumières, assises d'aujourd'hui ?

FRF402 Orient-Occident, écritures croisées

FRF404 L'imaginaire de la Route de la Soie de Marco Polo à aujourd'hui

FRF410 Imaginer l'intelligence artificielle

FRF412 Littératures non francophones en traduction

FRF414 Théâtre non francophone en traduction

FRF420 Le roman épistolaire

FRF422 Littérature de voyage

FRF426 Études dirigées avancées

FRF427 Fanatisme, tolérance et religion

FRF428 L'essai au XXI^{e} siècle : crise, terreur, paranoïa et sécurité intérieure

FRF429 Combat, trauma et dépendances

FRF432 Le surréalisme

FRF434 Témoigner

FRF436 L'Absurde

FRF438 Rétrospective sur un auteur

FRF440 Vie et mort des grands héros de l'Antiquité

FRF443 La rhétorique antique

FRF444 La rhétorique moderne

FRF454 Roman québécois et franco-canadien

FRF461 Écrire au féminin

FRF466 Poésie canadienne-française des origines au milieu du XX^{e} siècle

FRF468 Poésie francophone au Canada depuis 1948

FRF471 Théâtre québécois et franco-canadien

FRF473 Théâtre français du XVII^{e} au XIX^{e} siècles

FRF474 Littérature française de 1945 à 1980

FRF476 Littérature française de 1980 à aujourd'hui

FRF479 Discours et pouvoir

FRF493 Littératures de la francophonie canadienne hors Québec

FRF495 La francophonie dans le monde

Related links

French, Literature, and Culture programme requirements

Course details guide

Courses 100-199

FRF150 *Communication écrite*

This course is an introduction to written communication in French. In addition to increasing students' ability to recognize and employ good writing techniques, it aims to familiarize students with various types of writing (resume, critical review, essay) and to explore strategies that facilitate writing across disciplines and genres.

Note(s):
Only offered through Distance Education.

Contact Hours:
0 - 0 - 9

Credit(s):
1

FRF151 *Culture littéraire, grammaire et rédaction*

This course is divided into two parts. The first part examines grammar and writing; its goal is to develop the science or engineering students' proficiency in written French and in technical writing as well as their ability to present ideas and concepts clearly and with methodology. These fundamental skills will serve them during their time at university and beyond, for all written work such as lab reports and briefing notes. The second part of the course focuses on literature. Through the study of many literary works, a variety of literary genres from different centuries will be examined, providing students with a rich overview of French-Canadian literature during the first semester and of Francophone literature from outside Canada during the second semester. At the end of the year, students will have developed their ability to analyze, will recognize the characteristics of each of the literary genres taught, and will establish meaningful links between the literary works, and between literature and society.

Note(s):
Mandatory for students in their first year in Science or Engineering

Exclusion(s):
FRF152

Contact Hours:
4 - 0 - 6

Credit(s):
2

FRF152 *Culture littéraire, grammaire et rédaction*

This course is divided into two parts. The first part examines grammar and writing; its goal is to develop the students' written French and their ability to present their ideas using a methodology skills that will serve them well for all of the written work they will have to produce during their time at university. The second part of the course focuses on literature. Through the study of various literary works, a variety of literary genres from different centuries will be examined, providing students with a rich overview of French-Canadian literature during the first semester and of Francophone literature from outside Canada during the second semester. At the end of the year, students will have developed their ability to analyze, will recognize the characteristics of each of the literary genres taught, and will establish meaningful links between the literary works, and between literature and society.

Note(s):
Mandatory course students in their first year in Arts.

Exclusion(s):
FRF151

Contact Hours:
4 - 0 - 6

Credit(s):
2

FRF160 *Culture littéraire, grammaire et rédaction I : littératures francophones du Canada*

This course introduces students to French-Canadian literature through certain texts that are typical of the following literary genres: drama, the novel, and the story/legend. French-Canadian texts are examined with special emphasis on their socio-historical background, character development, and themes. The course also aims at developing students' analytical minds, and at improving their writing skills and knowledge of grammar through production of written work.

Note(s):
Only offered through Distance Education.
This is course is offered in French only.

Contact Hours:
0 - 0 - 9

Credit(s):

1

FRF161 *Culture littéraire, grammaire et rédaction II : littératures francophones hors Canada*

This course introduces students to canonical texts in French literature. French literary works of various eras are studied; examined works will be mostly prose (novels, short stories, tales). Through a series of written assignments, the course will also increase students' skills in the organization and production of university-level written work.

Note(s):

Only offered through Distance Education.
This course is offered in French only.

Contact Hours:

0 - 0 - 9

Credit(s):

1

Courses 200-299

FRF262 *Littératures et cultures francophones*

This one-year course is divided into two semesters. The first semester is dedicated to Francophone literature from outside Canada since the 16th century, and the second semester focuses on French-Canadian literature from the 20th century. For both semesters, literary works of various genres (narrative, poetry, drama, etc.) belonging to different cultural movements will be analyzed. The course situates the literary work in the historic period they were written in and that influenced them, and in the history of ideas that accompanies the development of literature and society. At the end of the year, students will know the important phases that led to cultural modernity, and will be able to connect these phases to historical and social factors or to philosophical notions. In addition, they will have honed their ability to analyze, write essays and conduct bibliographical research-highly useful skills that will serve them well for the rest of their university career.

Note(s):

All students must successfully complete FRF262 or its equivalent before taking a 300 or 400-level course; however, if they obtain the approval of the Department Head, they may take FRF262 and a 300 or 400-level course concurrently.

Prerequisite(s):

FRF152 or equivalent. Students from RMC St-Jean must pass the Quebec government's French proficiency test, the 103 course and the GFA course; once they have successfully completed these prerequisites, they can take FRF262; otherwise, they must retake FRF151/FRF152.

Contact Hours:

3 - 0 - 6

Credit(s):

2

FRF264 *Littératures et cultures francophones I : littératures francophones du Canada*

This course is a study of advanced writing techniques (explanatory essay) and an introduction to French Canadian literary movements and writers of the twentieth century. The aim of the course is to enable students, through their readings, to improve their analytical skills and to explore important Quebec and French Canadian literary works and movements, especially from a socio-historical point of view.

Note(s):

Only offered through Distance Education.
This course is offered in French only.

Prerequisite(s):

(FRF160 and FRF161) or (FRF151 or FRF152)

Contact Hours:

0 - 0 - 9

Credit(s):

1

FRF265 *Littératures et cultures francophones II : littératures francophones hors Canada*

This course is a study of advanced writing techniques (explanatory essay) and an introduction to French literary movements and writers of the nineteenth and twentieth centuries. The aim of the course is to enable students, through their readings, to improve their analytical skills and to explore important French literary works and movements, especially from a socio-historical point of view.

Note(s):

Only offered through Distance Education.
FRF264 + FRF265 is the equivalent of FRF262.

Prerequisite(s):

FRF264

Contact Hours:

0 - 0 - 9

Credit(s):

1

Courses 300-399

FRF324 *La littérature francophone subsaharienne des Indépendances à aujourd'hui*

This course aims, through textual analysis and lectures, to provide the student with a deeper knowledge of the francophone literature of the sub-Saharan, especially that which deal with problems of post-colonial society. Through readings dealing with violence (Beti), dictators (Kourouma), child soldiers, the Rwandan genocide (Monénembo), immigration (Diome), etc., the student will acquire a better understanding of the stakes and mentality of certain areas of sub-Saharan francophone Africa. At the end of the course, the student will understand those forces, which motivated various independence movements and the difficulties that resulted. The student will also acquire the basic tools, which will allow him to reflect upon tribal wars, ethnic conflicts and genocide. He will also become familiar with literary representations of sub-Saharan francophone Africa. Finally, the student will be made aware of what literature can teach us about the limitations of the westernization of customs and mores and its unexpected consequences.

Note(s):

This course is intended for students in their second, third, or fourth year of study.

Semester:

Usually offered every other year in the Fall

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF326 *La littérature francophone du Maghreb et du Moyen-Orient, de la colonisation à nos jours*

The objective of this course is to introduce the student to francophone literature of the Maghreb and of the Middle East through the study of their most representative works. This course will also allow the student to discover la francophonie arabe in general. The course will be divided into three parts: the first part will be devoted to writers of the colonial period; the second to texts written after the wars of independence; and the third to contemporary works. At the end of this course, the student will have gained a certain understanding of the uneasiness of certain intellectuals who employ the language of the colonizer while at the same time calling for independence. The student will also come to understand how such literature forces the writer to become *un écrivain engagé*, and how it of necessity turns into a vehicle for the struggle, protest and demands for autonomy. The student will note the self-imposed role of the author as a righter of wrongs, specifically of the stereotyped Western vision of the history and society of the Middle East and of the Maghreb. He will also note the transformation of this literature from its roots in Arabic/Muslim communities to one, which today is called upon to deal with current hot topics, such as the rise of fanaticism, and the identity crises connected to immigration. Finally, the student will learn to recognize the literary and linguistic specificities of the works studied, all the while acknowledging them as products of the fusion of divergent cultures.

Note(s):

This course is intended for students in their second, third, or fourth year of study.

Semester:
Usually offered every other year in the Winter

Contact Hours:
3 - 0 - 6

Credit(s):
1

FRF332 *La guerre: expression, narration et représentation*

This course will examine works of various genres (novel, short story, essay, drama, poetry, memoirs) dealing with war and the military condition from the Middle Ages to the present day. Students will be led to reflect on the ethical, political, historical, aesthetic or other considerations that surround the narrative of war, in various contexts. At the end of the course, they will be able to assess the literary value of a work about war, its relationship to the historical events it evokes and its contribution in terms of knowledge about humans and the world.

Contact Hours:
3 - 0 - 6

Credit(s):
1

FRF336 *Raconter l'Afrique: exploration, conquête et colonisation*

This course aims, through text analysis and lectures, to give students an in-depth knowledge of travel stories, war stories and memoirs that give accounts of the exploration of Africa from the Napoleonic era to World War I. Through reading works (essays, newspapers, treatises, memoirs) written by both military personnel and explorers, students will understand the ways in which the exploration of Africa and the mores of its various peoples were talked about. The writings of Caillié, Douville, Faidherbe, Binger, Gallieni, Brazza, Blanc and Foureau will be studied and compared to those of other explorers such as Barth, Nachtigal, Livingstone and Stanley. At the end of the course, students will have acquired a solid knowledge of the poetics specific to the exploration narrative and will be more skilled at analyzing written works in which authors attempt to describe cultures that are different from their own.

Note(s):
Usually offered every other year.
This course is intended for students in their second third or fourth year of study.

Contact Hours:
3 - 0 - 6

Credit(s):
1

FRF342 *Grammaire et rédaction avancées*

This course is for students who wish to improve their knowledge of the French language, both written and oral, in order to speak with accuracy and rigour in academic writings and in military contexts. In this course, students acquire grammatical and linguistic knowledge that will enable them to better control of the French grammar and its many difficulties as well as the current consensual metalanguage. Traditional grammar describes uses and defines rules that we must appropriate to be able to communicate clearly in written and oral languages in a military environment or otherwise. The spoken verb and hinges occupy a prominent place in the grammatical learning courses. The student will receive advice on sentence acceptability notions and on relief and phrasal structure in academic or military writing strategies.

Note(s):
This course is intended for students in their second third or fourth year of study.

Corequisite(s):
FRF262 or equivalent.

Contact Hours:
3 - 0 - 6

Credit(s):
1

FRF344 *Analyse des discours et introduction à la stylistique*

This course aims to improve students' discursive competency in reading and writing through different categories of speech: literary, political, journalistic and academic. The course will consist of four modules, each of which will be devoted to a specific type of speech. The student must recognize and properly use the most important French stylistic devices, as found in documents as diverse as newspaper articles, political speeches, literary and academic texts, and criticism of all kinds. Numerous written assignments will follow the reading and the description of the various discourses, so as to give students the necessary knowledge to express clearly and accurately their ideas in works of different categories while using a precise and varied vocabulary. Written work will primarily aim to get students to adopt the style best suited to the purpose of the texts they will produce.

Note(s):
Mandatory for all students who take the French, Literature, and Culture programme.
This course is intended for students in their second third or fourth year of study.

Corequisite(s):
FRF262 or equivalent.

Semester:
Usually offered in the Fall

Contact Hours:
3 - 0 - 6

Credit(s):
1

FRF355 *Roman français du XX^{e} siècle*

This course is a study of the important phases that shaped the development of the novel in France in the 20th century through the study of a number of representative works. All of these works are striking in many respects, and they will be examined in relation to the art and thinking associated with each period; therefore, relevant cultural movements will be studied. Some of the topics that may be covered are the mise en abyme technique, which appeared in novels at the turn of the century; surrealism, which flourished during the inter-war period; the notion of engagement, which took shape with World War II; existentialism; the *Nouveau Roman*, which developed in the 1950s and 1960s; contemporary novels written by women; and migrant literature.

Note(s):
This course is intended for students in their second third or fourth year of study.

Semester:
Usually offered every other year in the Winter

Contact Hours:
3 - 0 - 6

Credit(s):
1

FRF358 *Dix-neuvième siècle : émergence des grands mouvements de l'époque contemporaine*

The course aims to highlight the origins of social, cultural and literary movements that are the source of contemporary issues and debates, through texts by representative authors of the French 19th century. This will involve exploring the beginnings of the affirmation of feminist and socialist movements, as well as observing the transformation of the representation of religion in French social discourse in the aftermath of the Revolution to the beginning of the 20th century. The course will cover the four major literary genres--narrative, poetry, drama, and the essay--but will also stress the importance of journalism in this century, when the press experienced significant growth. At the end of the course, students will have understood the importance of the various types of discourse that were constructed during the long nineteenth century and the scope of these discourses up to contemporary times.

Prerequisite(s):
((FRF151 or FRF152)) or equivalent.

Exclusion(s):
FRF353

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF363 *La « vérité », entre fiction et désinformation*

This course examines the media through which our perception of the truth is constructed. By analyzing literary works, students will learn the history of various forms of information manipulation and review the main critical theories of the media (industrialisation, spectacle, social domination and propaganda). Students will also be led to question the methodological and philosophical considerations related to the concept of truth as well as the technological and psychological mechanisms that shape the reading experience in the 21st century. At the end of this course, students will be able to discern their own cognitive biases, define the media properties of various types of texts, and mobilize their information literacy to better understand phenomena such as fake news, misinformation, and “cancel culture” in the digital and social media age.

Note(s):

This course is intended for students in their second, third or fourth year of study.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF364 *Création littéraire*

This course aims to introduce students to the practice of creative writing in several forms. The course will cover the fundamental concepts of literary writing: narration, intrigue, dialogue, point of view, characters, description, literary genre, originality, creative process, rewriting, and intermediality, as well as public reading. Through active participation in various exercises, lectures, and plenary discussions, students will explore the many characteristics of creative writing and refine their own use of language to go beyond the commonplace, clichés, and stereotypes to produce original, creative work in multiple genres. Exercises will include work in short stories, poetry, theatre, and non-fiction writing, among other writing forms.

Note(s):

Usually offered every other year.
This course is intended for students in their second, third or fourth year of study.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF365 *Expériences de pensée : éthique et fiction*

This course will examine the relations between fiction and ethics. In a world where ethics often lie at the heart of political, economic, legal, scientific and cultural debates, literature, an open-ended field of possibilities, stands out as a way to explore and revisit this bedrock of human life organization. Through the analysis of works that address questions of responsibility, of citizenship, of our relation to the Just and the Good, the student will acquire a thorough knowledge on the nature of ethics and will better understand its ability to permeate different types of discourses.

Note(s):

This course is intended for students in their second, third or fourth year of study.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF367 *Poésie française du Moyen Âge à la Révolution*

This course is a study of French poetry from the Middle Ages to the French Revolution. We will examine the various movements that occurred over this long period -particularly the Pléiade, baroque and classicism and classicism -by situating the poetic works in their cultural context. Several literary beacons (such as Villon and Ronsard) will be studied in depth, but a number of other poets will also be looked at, and a variety of

genres, registers and contents will be broached. A number of aspects will be emphasized stylistic, prosodic, lexical, thematic, etc., as well as their interrelation. Students will learn theory (linguistics, versification, etc.) and will learn to identify certain rhetorical techniques. While analyzing poetic works, sometimes comparatively, students will develop an aesthetic reflection on the nature of poetry by examining the understanding of not only the critics, but of the poets themselves.

Prerequisite(s):

((FRF151 or FRF152)) or equivalent.

Semester:

Usually offered in the Fall

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF369 *Poésie d'expression française depuis la Révolution*

This course is a study of French poetry and other Francophone poetry from the French Revolution to the present. We will examine the 19th century, particularly romanticism, Baudelaire and symbolism; the Belle Époque, as the late 19th century and the early 20th century is called; the *Esprit nouveau*, which took shape with World War I; Dadaism and surrealism, which flourished in the interwar period; socially engaged poetry, which took shape with World War II; the voices of the French-speaking world, which resonated with many in the second half of the 20th century; and poetic songs, which have abounded in recent decades. Throughout this rich journey, links will be made with the visual arts: painting, sculpture and artistic photography.

Note(s):

This course is intended for students in their second, third or fourth year of study.

Prerequisite(s):

(FRF151 or FRF152) or equivalent.

Semester:

Usually offered every other year in the Winter

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF375 *Théâtre des XXe et XXIe siècles*

This course attempts to identify what it is that determines modernity in theatre, by examining a few texts--mostly dramatic, but some theoretical--that have marked the 20th century and the 21st century until now. At the end of the course, the student will know the major movements in theatrical aesthetics and make connections between dramatic, structural and thematic issues. Cultural trips will be obligatory if circumstances and financial resources allow.

Note(s):

This course is designed for students in their second, third, or fourth year of study in Arts (or at the discretion of the Department of English and the Department of French, Literature, and Culture).

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF379 *L'Art oratoire*

Through the analysis of texts, lectures, presentations and oratory performances, the course aims to offer students a theoretical and practical knowledge of various approaches and methodologies in the preparation and drafting of oral discourse. By reading treatises on oratory art, the students will learn the usual techniques that allow the oral transmission of thought in a convincingly natural and spontaneous manner. We will

start from antiquity, where the foundation of oratory art is found, then move to the study of different manuals of classical and modern oratory in order to familiarize the students with the great theories of the art of public speaking. At the end of the course, students will have acquired precise knowledge of the history of oratory art and of the means to better express themselves in public.

Semester:

Usually offered in the Fall

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF383 *Leçons du Grand Siècle*

At a time when fictional texts address the question morality's foundations, the authors of fables, maxims, comedies and novels become moralists. At the end of the course, the student will have understood that by adopting different postures and adapting different literary genres to their subject, men and women of the Grand Siècle take a critical look at the Ancien Régime and nourish the debate of ideas on issues that are not unrelated to today's concerns: luxury, hierarchical social organization, faith, marriage, gender relations, etc.

Note(s):

This course is intended for students in their second, third or fourth year of study.

Semester:

Usually offered every other year in the Winter.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF389 *De l'influence de la littérature anglaise en France à l'époque des Lumières*

This course, offered jointly as a "dialogue course" between the English Department and the Department of French, Literature, and Culture, will be team-taught by a professor from each department. The course will therefore include classes in English, alternating with classes in French concerning the influence of the English novels (by such authors as Daniel Defoe, Samuel Richardson, Henry Fielding, Laurence Sterne, Jane Austen) on literature of the French Enlightenment, including their reception, their translation, and their adaptation, in a study of how the novels under consideration are invested with new meanings through translation. The student will come to recognize that translation functioned as a compromise between the two cultures rather than conforming to today's convention of linguistic and semantic equivalence.

Notes(s):

This course is designed for students in their third or fourth year of study in Arts (or at the discretion of the Departments of English and French, Literature, and Culture).
One of the three bilingual courses will generally be offered every other year.

Prerequisite(s):

Students are permitted entry into this course only if they have attained a 'BBB' in the second language or equivalent.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF391 *Les Lumières, assises d'aujourd'hui ?*

This course, which examines the claims of Enlightenment thinkers, as well as the reception and relevance of this period, will enable students to deepen their knowledge of the aesthetic, philosophical and epistemological questions of 18th-century France. Through a variety of readings, students will discover the diversity of literary production and develop their argumentative and analytical skills. As a window on a world in revolution, this course will help students better understand how a cultural, literary, intellectual and social transformation was woven.

Note(s):

This course is intended for students in their second, third or fourth year of study.

Contact Hours:

3 - 0 - 6

Credit(s):

1

Courses 400-499

FRF402 *Orient-Occident, écritures croisées*

The objective of this course is to identify, through reading and interpretation of “Western” and “Oriental” authors’ works, the often complex and conflicting relations between the East and the West, territories with uncertain boundaries. The student will come to understand that, from narratives of the Crusades, viewed from both sides, to the numerous texts ,which in the 21st century, authors show an interest and a mutual concern. The perspective of the West on the East and the one of the East on the West is measured in terms of confrontation, or at least strangeness. The course will aim to identify the outlines of this love-hate relationship based on a representation of self, viewed as coherent, as necessarily opposed representations of the ‘other’. Finally, the course also aims to deconstruct the usual designations, East and West, by showing that the geographical borders of these two spaces are debatable and debated.

Note(s):

This course is intended for students in their second, third or fourth year of study.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF404 *L’imaginaire de la Route de la Soie de Marco Polo à aujourd’hui*

Through textual analysis and lectures, the course aims to give students an in-depth knowledge of the way in which Western travellers, soldiers, missionaries, merchants, diplomats and writers have portrayed China after having stayed there, sometimes for a few weeks, sometimes for several years. Through the reading of published accounts and essays on various sojourns in China, from Marco Polo to Georges Le Fèvre, from William de Rubruck to Catherine de Bourboulon, from Matteo Ricci to Roland Barthes, students will become familiar with the many ways in which this civilisation has been thematised over the ages. Both the difficulties of the journey and the impressions provoked by the encounter with Chinese civilisation are at the heart of this course. The arrival of the Jesuits, the Opium Wars, the Taiping Rebellion, the Boxer Uprising and Maoist guerrilla warfare will all be covered in turn. The discursive construction of an often mysterious East, the topicality of civilisational shock and the question of radical otherness will be addressed through the reading of various texts. By the end of the course, students will have acquired an excellent knowledge of the way in which this imaginary world has been constructed and the many reasons that explain its mutations up to the present day.

Note(s):

This course will count as an optional course in the Military and Strategic Studies (MSS) programme.
This course will also count towards the Minor in Culture and Diversity.

Prerequisite(s):

FRF151, FRF152 or equivalent.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF410 *Imaginer l’intelligence artificielle*

Through the study of various literary works, students will explore the ethical, social, political, economic and existential issues surrounding artificial intelligence (AI). By examining the concepts (transhumanism, utilitarianism, the quest for transcendence, the laws of robotics) and genres (apocalypse, dystopia, science fiction, anticipation narrative) used by authors to (re)think the place and roles of humans and machines, students will assess the impact of literature on the perception of technology, and question the contribution of fiction to imagining the development and limits of AI. This course will include a practical dimension concerning the ethical and intelligent use of IAGen for communication and argumentation purposes.

Prerequisite(s):
FRF151 or FRF152 or equivalent.

Contact Hours:
3 - 0 - 6

Credit(s):
1

FRF412 *Littératures non francophone en traduction*

The purpose of this course is to present none francophone literature in translation, whether through canonical works, important cultural currents or key themes. It will bring out the great diversity of possible corpora – Europe (Latin, Germanic, Slavic, and Scandinavian), the United States, Latin America (Spanish, Portuguese-speaking), Africa, and Asia – but will approach works according to a division chosen, whether geographical, historical or generic. At the end of the course, the student will be able to evaluate the place of key texts in the evolution of world literature, draw comparisons between these texts or with the French-speaking literary tradition, and put into perspective at least one national corpus and the literary forms that correspond to it.

Contact Hours:
3 - 0 - 6

Credit(s):
1

FRF414 *Théâtre non francophone en traduction*

This course studies none francophone theatrical plays in translation, with particular— but not exclusive—attention to the canons that marked Western theatre. It may then look at the Greek tragedies of Antiquity, the Elizabethan period and the Spanish Golden Age of the Baroque repertoire, as well as creators of the 20th century like the Italian Luigi Pirandello and the German Bertolt Brecht, who were imitated by others. By the end of the course, students will know the seminal works in the history of theatre and their influence on the contemporary dramatic art that continually draws upon them. There will be one or more mandatory cultural outings if circumstances and budget allow.

Contact Hours:
3 - 0 - 6

Credit(s):
1

FRF420 *Le roman épistolaire*

The course provides students an in-depth knowledge of the epistolary novel at the end of the 17th century and during the Enlightenment through the study of its most representative works. The French novel underwent an important change in 1669 with the publication of Guilleragues' novel, *Lettres d'une religieuse portugaise,* comprised entirely of letters. This new narrative device, which became increasingly popular among novelists, legitimized the expression of love by concealing the identity of the author behind that of the letter writer, giving the impression of an actual eyewitness account. This course aims to define the epistolary novel, to analyze the issues inherent to the letter form novel, as well as to study major works of this genre, including *Lettres de la marquise de M*** au comte de R**** (1732) by Crébillon *fils*, *Lettres de Fanni Butlerd* (1757) by Marie-Jeanne Riccoboni, *Julie ou La Nouvelle Héloïse* (1761) by Jean-Jacques Rousseau, *Caliste ou Lettres écrites de Lausanne* (1788) by Isabelle de Charriére and *Les Liaisons dangereuses* (1782) by Choderlos de Laclos.

Prerequisite(s):
FRF151 or FRF152 or equivalent.

Semester:
Usually offered in the Winter.

Contact Hours:
3 - 0 - 6

Credit(s):
1

FRF422 *Littérature de voyage*

The objective of this course is to introduce students to two similar literary genres: the travelogue and the travel novel. Since the age of the Great Discoveries, the travelogue gave rise to increasing interest in France. While Paul Le Jeune and Jean de Brébeuf gave a written account of their travels to America, Jean Chardin and Jean-Baptiste Tavernier renewed the way in which the East was perceived. Anchored in reality, the travelogue, which claimed to be objective and transparent, served a double role: to portray the truth and to teach through description. The travelogue became a useful means to fight the accusations of improbability and puerility which weighed down the novel as a genre. This course seeks to define and describe travel literature, to analyse its issues, as well as to study major works of the period including travelogues such as *Le Grand Voyage du pays des Hurons* (1632) by Gabriel Sagard and *Le Voyage autour du monde* (1766-1769) by Bougainville, as well as travel novels including *Espion turc* (1694) by Giovanni Paolo Marana, *Lettres persanes* (1721) by Montesquieu, *Lettres moscovites* (1736) by Francesco Locatelli and *Lettres d'une Péruvienne* (1747) by Françoise de Graffigny.

Prerequisite(s):

FRF151 or FRF152 or equivalent.

Note(s):

Normally offered every other year.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF426 *Études dirigées avancées*

This two-semester course is intended for fourth-year students doing an honours degree in French, Literature, and Culture who obtained an average of A- or higher in their French, Literature, and Culture Department courses in their third year. Before registering in this course, students must find a professor to guide them during both semesters, and they must receive the approval of the Department Head. This course is given in the form of guided readings. Students must produce either a significant quantity of written work or a single written piece of a substantial length on a specific theme. Students will develop their critical thinking skills and will use a number of theoretical works published in their area of research.

Note(s):

Usually offered annually.
This course must be approved by the department head.

Contact Hours:

3 - 0 - 6

Credit(s):

2

FRF427 *Fanatisme, tolérance et religion*

This course will study the themes of fanaticism, tolerance and religion in a literary perspective and provide a more complete picture of cultural intelligence. Through text analysis and lectures, the student will understand that the notions of tolerance and fanaticism were quite familiar to the Enlightenment French philosophes. By reading works of fiction, essays and treaties, the student will develop a thorough understanding of issues and of ways of thinking underlying the quest for a more equal and tolerant society, a quest that continued to inspire writers such as Victor Hugo and Boris Vian in the 19th and 20th centuries. By reading and studying texts written by essay writers, playwrights and novelists, the student will develop a new way of understanding the world and the ways in which many thinkers interpreted the dangers underlying fanaticism.

Note(s):

This course is intended for students in their second, third or fourth year of study.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF428 *L'Essai au XXI^{e} siècle : crise, terreur, paranoïa et sécurité intérieure*

This course aims to impart to the student, by means of textual analyses and lectures, a greater knowledge of diverse currents that characterize the francophone essay since the beginning of the 21st century. Through readings of different essays and studies of the specific poetics of this literary genre, the student will become familiar with the ways in which the 21st century essay breaks today's world down into themes. The student will also gain greater awareness of society's profound transformations, its crises, its innovations and its catastrophes, which all contribute to the creation of a new apocalyptic "imaginaire", which can be defined by the loss of stable points of reference. Readings of various essays will allow us to study sequentially the discursive construction of new internal threats, different conspiracy theories, the topic of crisis as a way of interpreting the world, rhetorical anxiety-provoking situations and the stylization of paranoia (Hofstadter). By the end of the course, the student will have acquired a thorough knowledge of the poetics of this genre as well as an enhanced ability to pinpoint and analyze recurrent themes by which the modern essay strives to make sense out of the 21st century.

Note(s):

Usually offered every other year.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF429 *Combat, trauma et dépendances*

The course aims to study the different representations of the impact of service and the experience of war on the mental health and substance use disorders of the actors involved. The goal is to provide an overview of issues related to trauma and addictions, first in a general context and then, more specifically, in relation to military experience. The analysis of canonical literary texts on traumatic experiences and addictive behaviors will provide a better understanding of the concepts studied. Finally, students will address these notions in different types of combat-related narratives. At the end of the course, students will have acquired several concepts that allow a more precise knowledge of these phenomena inseparable from the modern representation of war.

Note(s):

Usually offered every other year.
Also offered through Distance Education.
This course is intended for students in their second, third or fourth year of study.
This course will count as an optional course in the Military and Strategic Studies (MSS) programme.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF432 *Le surréalisme*

This course examines surrealism, the most significant cultural movement of the 20th century. It starts with a review of the 19th-century writers who were the forerunners of the movement and the dada phenomenon, where it all started. It then examines the founding works of André Breton and the key concepts found therein, but also the work of authors including Reverdy, Éluard and Desnos. In addition to looking at different literary genres, students will focus their attention on the visual arts-particularly photography, painting and sculpture-and on contemporary expressions of surrealism that can be found in advertising, film, etc. At the end of the course, students will have a strong understanding of the period during which surrealism flourished most strongly, the inter-war period, as well as the movement's forerunners in the previous century and its many descendants today.

Note(s):

Usually offered every other year.
This course is intended for students in their second, third or fourth year of study.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF434 *Témoigner*

This course aims, through lectures and text analysis, to study the poetics and aesthetics of testimony, from Jean Norton Cru (*Témoins* [witnesses], 1929) to the present, more specifically war testimony, workers' testimony, journalistic testimony and auto ethnographic testimony. This course aims to give students in-depth knowledge of the art of testimony (narrative techniques, the work of memory, striving for coherence, effects of reality) and a better understanding of the polarity of opinions expressed in often-contradictory testimonies regarding similar experiences. Students will grasp the issues that the various testimonies reveal and, through analyzing the tensions inherent in any recounted experience, gain a better understanding of the significance and the scope of testimonies.

Note(s):
Usually offered every other year.
Also offered through Distance Education.
This course is intended for students in their second, third or fourth year of study.

Contact Hours:
3 - 0 - 6

Credit(s):
1

FRF436 *L'Absurde*

This course will begin by examining the philosophical roots of the notion of "absurd" as they were expressed in the 19th century, such as Kierkegaard's "despair", and as they developed in the 20thcentury, such as Heidegger's "anxiety." But the main focus will be on the ways in which the notion was expressed by 20th-century writers. The works of Sartre and Camus will be of primary importance, in the three major literary genres they used: essays, stories and theatre. We will also examine the aesthetic change of direction that the absurd took after World War II, with the theatre of derision. At the end of the course, students will be able to identify the absurd in theoretical and fictional works and will be familiar with the different forms it has taken over time.

Note(s):
Usually offered every other year.

Contact Hours:
3 - 0 - 6

Credit(s):
1

FRF438 *Rétrospective sur un auteur*

This course proposes to study various facets of the work of a single author, in the context of his/her time frame. The choice of the author will depend upon the professor teaching the course that particular year. This course aims to present an in-depth perspective on the work of an author of French, Quebec or francophone literature in general. The author's work will be explored whenever possible by referencing at least two genres in which he/she has excelled. By the end of the course, the student, through study of complete works and representative excerpts, will discover the depth of the author's impact on the literature of his/her time and upon posterity. The student will learn in detail the literary currents associated with the author, as well as the distinctive characteristics of his/her writing and his/her thematic and stylistic preoccupations. Finally, this course will allow the student the opportunity to become familiar with the author's era, opening up further important historical, political and sociological considerations.

Note(s):
Usually offered every other year.

Contact Hours:
3 - 0 - 6

Credit(s):
1

FRF440 *Vie et mort des grands héros de l'Antiquité*

This course is a study of the ways in which Greek and Roman writers of antiquity represent great heroes. At the end of the course, students will be familiar with the main classical models dealing with heroism and will be able to explain their relationship with mythology and philosophy. They will be able to recognize and analyze the parameters within which the concept of wartime heroism is formed and is justified in the epics of Homer

and Virgil; the tragedies of Sophocles, Aeschylus and Euripides; and the works of Plutarch, Lucan, Apuleius, Caesar and Athanasius of Alexandria.

Note(s):

This course is intended for students in their second, third or fourth year of study.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF443 *La rhétorique antique*

This courses aims, through text analysis and lectures, to give students an in-depth knowledge of various concepts of ancient rhetoric. Through reading different treatises and studies, students will become familiar with the ways in which rhetoric was defined during the Greek and Roman antiquities, they will understand the nature of its components and sub-components, and they will learn the rhetorical and logical foundations of argument analysis. The rhetoric of philosophers such as Plato, Aristotle, Demosthenes, Cicero, Quintilian and Apsines will be studied in order to understand the historical mistrust of rhetoric and the way its merits have been defended. At the end of the course, students will have learned what characterizes ethos, logos, pathos, syllogism, enthymeme, hypotyposis, topos, paralogism, etc., so as to better analyze the way in which persuasive speeches are constructed.

Note(s):

This course is intended for students in their second, third or fourth year of study.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF444 *La rhétorique moderne*

This course aims, through text analysis and lectures, to give students an in-depth knowledge of various concepts of rhetoric from the 18th century to present. Through reading different treatises and studies, students will become familiar with the ways in which the modern world has transformed our understanding of rhetoric. The rhetoric of philosophers such as Dumarsais, Fontanier, Schopenhauer, Chaïm Perelman, Stephen Toulmin, Marc Angenot and Michel Meyer will be examined from various angles in order to understand how this discipline has developed over the past three centuries. At the end of the course, students will have learned the cognitive advantages and limits of metaphorical production, ethical and eristic rhetoric, the foundations of problematology, and the relationship between persuasion and a given axiological system. Students will acquire the skills necessary for recognizing and using a large number of argumentative techniques in accordance with their purpose.

Note(s):

This course is intended for students in their second, third or fourth year of study.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF454 *Roman québécois et franco-canadien*

This course traces the evolution of the narrative genre in Quebec and French Canada. While establishing socio-historical milestones and basic theoretical notions, he will study novels and short stories that represent some of the major stages of this evolution. The Quiet Revolution will be unavoidable, but also national sentiment as well as commitment in a broader sense, women's writing, indigenous voices, postmodernism, migrant literature and that of cramped space. At the end of the course, the student will be able to analyze the contextualization, ideological orientations, themes and formal originality of narrative works.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF461 *Écrire au féminin*

From Marguerite de Navarre to Annie Ernaux, Madame de La Fayette, Mme Riccoboni, Madame de Staël and George Sand to name only a few, women have long since carved out a place for themselves in literary history. Through a close reading of diverse texts - including fairy tales, short stories and novels - students will understand the conditions women authors faced and the reception of their works. They will be able to analyze the main themes raised in the works studied, to identify the strategies used to question the place and roles of women in society and to formulate a critical reflection on the publications of women writers from the Renaissance to today.

Note(s):

This course is intended for students in their second, third or fourth year of study.

Semester:

Usually offered every other year in the Winter.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF466 *Poésie canadienne-française des origines au milieu du XX^{e} siècle*

This course is a study of Quebec poetry from its origins up to the mid-20th century. After reviewing the beginnings of written poetry in French Canada, we will examine Quebec poetry specifically: the Literary and Patriotic Movement of Quebec; the Montreal literary school; the regionalist poets and the exotic poets, including the argument that brought them into conflict; and lastly, the solitude generation. We will situate these poetic movements in their respective sociocultural contexts and will see the role they played in the community. Their aesthetic characteristics will also be pointed out. To accomplish this, we will study numerous representative poets, but will look at a few of them more closely, such as Nelligan, DesRochers, Saint-Denys Garneau and Grandbois.

Note(s):

This course is intended for students in their second, third or fourth year of study.

Semester:

Usually offered every other year in the Fall.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF471 *Théâtre québécois et franco-canadien*

This course will cover the history of theatre in Quebec and French Canada up to the mid-twentieth century, before further exploring the rise of this literary genre and performing arts in subsequent decades, up to the present day. Neo-realism, the quest for identity, collective creation, feminism and the considerable evolution of its preoccupations since the 1970s, homosexual affirmation, urban storytelling designed for the stage, the theme of migration, postmodern aesthetics, and indigenous creation will all be elements to be considered. At the end of the course, students will be able to analyze them and will be able to appreciate the abundance and diversity of French-language drama production in Canada. There will be one or more mandatory cultural outings if circumstances and budget allow.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF473 *Théâtre français du XVII^{e} au XIX^{e} siècles*

Students enrolled in this course will primarily study plays of major playwrights of 17th century France, but also of the 18th and 19th centuries. Different genres, such as historic tragedies, comedy ballet, romantic drama, etc., will be included. By the end of the semester, students will have a solid knowledge of the mechanics of drama, its esthetics and style, as well as of the social, political, moral and psychological content of the plays selected. Students will be able to understand how the plays studied echo their era and how they resonate with today’s readers.

Cultural trips will be encouraged pending favourable circumstances and available budget.

Note(s):

This course is intended for students in their second, third or fourth year of study.

Semester:

Usually offered every other year.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF474 *La littérature française de 1945 à 1980*

This course aims to provide students a better understanding of the profound changes taking place in the field of French literature in the aftermath of World War II, which determined the shape of contemporary literature in France.

Through a detailed study of several important literary movements such as the OuLiPo, and through specific examples from the "age of suspicion" inaugurated by the Nouveau Roman to the death of the two great figures Roland Barthes and Jean-Paul Sartre, this course will capture the innovations developed by writers of that time, in terms of poetics and theory, by situating them in their context.

Prerequisite(s):

FRF151 or FRF152 or equivalent

Semester:

Usually offered every other year in the Fall.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF476 *La littérature française de 1980 à aujourd'hui*

This course offer students an in depth understanding of current French literature, as well as an understanding of the issues to the contemporary era, not only within the study of literature, but also outside its boundaries.

The 1980s saw a new generation of writers appear, which, although they inherited from the formalists and experimental novels of their predecessors, as well as from their theoretical concerns, implemented a return to the notion of the story and to the traditional novel. This shift also concerns the practice of the previous generation of writers, whose writing also tends to become transitive, with different aesthetic modes.

The course will begin by focusing on this turning point and by offering a portrait of the following thirty years. Several major works of this time will then be considered, while particular attention will be paid to the innovations that characterize their relationship with reality.

Prerequisite(s):

FRF151 or FRF152 or equivalent

Semester:

Usually offered every other year in the Winter.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF479 *Discours et pouvoir*

Through lectures and analysis of texts, this course will equip students with technical and theoretical knowledge of various discourses that represent power or use it to change opinions. The course will begin with a look back at previous centuries to illustrate the discursive use of power in relation to forms of social unrest such as revolutions, conscription, wars, crises and recessions. Through their reading of essays, pamphlets, treaties and opinion pieces, students will learn to decode the ways in which cultural, political, military, economic and bureaucratic powers interfere

with discourse production. They will also see how those powers can be praised, criticized or rejected using a variety of arguments. Students will become familiar with a number of modes of domination and with how discourses have objectified them. By the end of the course, they will have acquired valuable skills in the discursive representation of power, its nature, its evolution and its complexity.

Note(s):

This course is intended for students in their second, third or fourth year of study.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF493 *Littératures de la francophonie canadienne hors Québec*

An introduction to the diverse manifestations of French-Canadian literature outside Québec. A study of French-Canadian culture---especially Acadian, Franco-Ontarian and Franco-Manitoban--- through their literary works. After a brief look at the history of the French presence in Canada, we will examine the sociopolitical and cultural connections between the French minorities of l'Acadie, of Ontario and of western Canada and, inevitably, the relationship of these minorities with Quebec. Special attention will be given to the literary concept of l'exiguïté, in connection with the search for identity and with the evolution of these minorities in the context of multiculturalism.

Note(s):

This course is intended for students in their second, third or fourth year of study.

Semester:

Usually offered every other year in the Fall

Contact Hours:

3 - 0 - 6

Credit(s):

1

FRF495 *La francophonie dans le monde*

This course will study the literature and culture of francophone societies outside France, Canada and Africa. More specifically, it will concentrate on the literature of the Americas (Antilles, Louisiana), of Europe (Belgium, Switzerland) and of French Polynesia (New Caledonia). It will analyze the evolution of these literatures and, if need be, of the oral traditions particular to the culture studied. A main theme of this course will be the sometimes problematic relationship of these literatures with metropolitan France. The goal of the course is to lead the student to a better understanding of lesser-known francophone cultures.

Note(s):

This course is intended for students in their second, third or fourth year of study.

Semester:

Usually offered every other year in the Winter.

Contact Hours:

3 - 0 - 6

Credit(s):

1

Date modified:

2025-01-31

French as a Second Language

Programme Information

Course Descriptions

Related links

Department of French, Literature, and Culture

Language Centre

Minor, Certificate and Attestation in French as a Second Language

Introduction

All non-Francophone students who have obtained a minimum of BBB on the Public Service Commission (PSC) Second Language Evaluation (SLE) but did not obtain more than one E can register for the Minor, Certificate, and Attestation in French as a Second Language.

> **Important:** Only students with a minimum BBB profile not containing more than one E will be allowed to register for these programmes.

Programme Requirements

> **Important:** Achieving the BBB bilingualism rating automatically earns one credit in the minor, the certificate and the attestion in French as a Second Language only; it cannot be used as a credit in any other programme.

Minor (eight credits)

BBB Language Profile (**one credit in this minor;** cannot be used as a credit in any other programme)

Two mandatory credits

FLF202 : Expression et compréhension écrites
FLF203 : Expression et compréhension orales

Five optional credits

Five credits selected from the list of optional courses.

Certificate (six credits)

BBB Language Profile (**one credit in this certificate;** cannot be used as a credit in any other programme)

Two mandatory credits

FLF202 : Expression et compréhension écrites
FLF203 : Expression et compréhension orales

Three optional credits

Three credits selected from the list of optional courses.

Attestation (four credits)

BBB Language Profile (**one credit in this attestation;** cannot be used as a credit in any other programme)

Two mandatory credits

FLF202 : Expression et compréhension écrites
FLF203 : Expression et compréhension orales

One optional credit

One credit selected from the list of optional courses.

List of optional courses

FLF301 : Compréhension écrite
FLF302 : Expression écrite
FLF303 : Expression orale
FLF304 : Compréhension orale
FLF402 : Le récit court
FLF431 : La représentation de la guerre en littérature
FLF432 : La représentation des conflits au théâtre
FLF433 : La guerre : médias et témoignage
FLF450 : Argumentation et persuasion
FLF470 : Actualité et multimédia
FLF472 : La francophonie au Canada

Course Descriptions

> **Important:** Courses will be offered by the Department of French Language, Literature and Culture in collaboration with the Language Centre (two-thirds/one-third respectively). The Department of French Language, Literature and Culture will focus on cultural content (literary,

social, historical, etc.) and the Language Centre will focus on language (grammar, syntax, vocabulary, pronunciation).
These courses are open to all non-Francophone students who have obtained a minimum of **BBB** on the Public Service Commission (PSC) Second Language Evaluation (SLE) but did not obtain more than one **E**.

200-level Courses

FLF202 *Expression et compréhension écrites*

This course aims to improve students' reading comprehension through attentive and analytical reading as well as develop their written expression by having them compose relatively simple texts in a variety of forms. By taking into account various situations involving written communication, students will acquire context-specific vocabulary and become more proficient with grammar, especially tense sequence and verbal mood.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FLF203 *Expression et compréhension orales*

The goal of this course is to improve students' oral communication skills, in terms of both comprehension and expression. Students will listen to a wide variety of audio material from a range of sources and genres and will learn to better grasp the content and its nuances. They will also practise giving oral presentations with set objectives in mind. Those two types of exercises—comprehension and expression—will enable them to recognize and formulate complex sentences and pay attention to tense sequence and verbal mood.

Contact Hours:

3 - 0 - 6

Credit(s):

1

300-level Courses

FLF301 *Compréhension écrite*

The goal of this course is to develop students' comprehension of texts of moderate difficulty through reading and analytical exercises. The texts will be in different genres (summaries, critiques, reports, etc) and will cover a variety of topics (literary, historical, social, etc). At the end of the course, students will be able to identify the different elements that give a written text its structure, be familiar with the different types of sentences, have a better grasp of syntax, and possess a relatively complex vocabulary.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FLF302 *Expression écrite*

The goal of this course is to develop students' ability to express themselves in writing by having them compose texts of varying degrees of difficulty, based on their individual needs. Students will be required to write different types of essays (descriptive, narrative, argumentative, explanatory, etc) on a range of subjects related to culture, current affairs, and more. Through numerous writing exercises and constructive feedback, they will acquire a relatively complex vocabulary, know how to use different verbal moods and tenses, and be able to handle logical relationships (cause, aim, condition, etc.).

Contact Hours:

3 - 0 - 6

Credit(s):

1

FLF303 *Expression et compréhension orales*

In this course, students will practise producing messages that are specific to different speaking contexts. By the end of the course, students will have improved their speaking skills, enriched their knowledge of syntax and verbal moods and tenses, and be able to handle the logical relationships between the different parts of speech that structure thought.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FLF304 *Compréhension orale*

The goal of this course is to improve listening comprehension. Students will listen to different types of audio and audio-visual content (newsletters, reports, conferences, testimonials, songs, short stories, monologues, etc.). At the end of the course, they will have developed their listening and analytical skills and deepened their knowledge of grammar concepts such as comparison, negation and active and passive voices.

Contact Hours:

3 - 0 - 6

Credit(s):

1

400-level Courses

FLF402 *Le récit court*

Through the study of short stories, both fiction (short story, tale, fable) and non-fiction (autobiographical narrative), students will learn about literary history and narratology in order to better understand modern culture. Through text analysis and creative exercises, students will develop their communication skills both orally and in writing.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FLF431 *La représentation de la guerre en littérature*

This course is aimed at deepening students' understanding of written and spoken French by having them read fictional and non-fictional works and listen to recordings. By analyzing written texts and audio and audio-visual documents, writing reports and presenting lectures, students will enrich their vocabulary, syntax and ways of expressing themselves on the topic of war. At the end of the course, students will be able to better understand war literature and identify different points of view. They will be able to express themselves clearly and coherently on the subject, both orally and in writing.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FLF432 *La représentation des conflits au théâtre*

By having students read and view plays or a few key play excerpts, this course will explore conflict, dilemma, and the concept of heroism. It will situate the plays in their social, historical or political context and will highlight their cultural or mythological references as well as their stylistic composition. At the end of the course, students will be able to identify the ethical and ideological issues that the dramatic genre evokes through the representation of conflict.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FLF433 *La guerre : médias et témoignage*

This course examines stories, testimonials and reports about the experience of war, genocide or other extreme situations. By reading and listening to excerpts or entire documents, students will deepen their knowledge on these subjects, distinguish between fact and opinion, and analyze objectivity and subjectivity, which are intimately linked to the field covered. Students will perfect their speaking and writing abilities with the help of exercises on connectors and stylistic devices, and they will focus on expressing themselves clearly and coherently.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FLF450 *Argumentation et persuasion*

Through the analysis of political debates, opinion speeches and advertisements, this course will focus on examining the art of persuasion and the key underlying concepts. Students will analyze the use of those devices within a debate, a plea, deliberative discourse or invective, for example. They will also be taught how to distinguish between literal and figurative meanings and to evaluate the weight that words carry and determine their scope and potential to be convincing. Through oral presentations or written texts, the student will practise different types of oratory and apply various rhetorical techniques.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FLF470 *Actualité et multimédia*

This course is aimed at developing students' understanding of the polemics, controversies and debates that fuel the French-language media on various current topics. It will involve reading and listening to key facts, news stories, interviews, newspaper articles, essays and reports, among other things. Students will determine the intention behind those types of speech and learn about their means of expression. They will develop their knowledge of Francophone culture, levels of language, vocabulary, and certain verb tenses and moods.

Contact Hours:

3 - 0 - 6

Credit(s):

1

FLF472 *La francophonie au Canada*

The goal of the course is to allow students to acquire knowledge of the Canadian Francophonie and some of its cultural, literary, historical and political aspects. Students will analyze texts from various genres: realistic works, opinion pieces, travel stories, etc. By the end of the course, students will have acquired both a deeper understanding of French-Canadian culture and a greater ability to express themselves in an adequate and nuanced manner, both orally and in writing.

Contact Hours:

3 - 0 - 6

Credit(s):

1

Date modified:

2025-04-14

Undergraduate History Programme

Related links

Undergraduate history courses

Undergraduate arts programmes

Department of History

Admissions

General Information

The Department of History shares in the primary mission of the college's academic wing, to provide university-level education to officer cadets as one of the essential elements of their professional development. To this end, the programme in history is designed to meet the specific needs of two types of students, those who major in history and those taking degrees in other departments who have an interest in the discipline.

The Department of History has four primary teaching goals:

1. to teach the essential elements of historical analysis so that students acquire the historical background required to understand the fundamental issues of our time;
2. to provide survey and specialist courses that cover Canadian history, military history and strategic thought, Canadian military history, the history of international relations, and the history of the United States, and Europe, as well as several other courses on more specialized themes and topics;
3. to explain the different historiographic schools of thought and apply the different methods; and
4. to develop students' intellectual rigor so that they can present their thoughts in the form of sound arguments, both orally and in writing.

Structure

All students pursuing a degree in history are required to complete the core curriculum. Students are not normally allowed to register for 300 or 400 level course without having completed one junior course.

All the HIE400-level courses are designed as seminar courses. If enrolment in one of these exceeds 18, priority will be given to those students who require them to fulfill mandatory degree requirements. Authority to authorize exceeding this cap rests with the head of the history department.

Core curriculum courses

The department offers a number of courses that are required as part of the core curriculum. In many instances, these courses can also be counted towards requirements for B.A. (Honours) History, B.A. History or Minor in History.

Core history courses for students in the arts:

- HIE101: The Historical Origins of the Contemporary World
- HIE103: History of Canada
- HIE203: Introduction to Canadian Military History
- HIE271: Introduction to Military History and Thought
- *(For students in History or Military and Strategic Studies HIE270 replaces HIE271.* ***It is highly recommended that those wishing a minor in History take HIE270****)*.

Core history courses for students in science and engineering:

- HIE203: Introduction to Canadian Military History
- HIE207: History of Canada
- HIE271: Introduction to Military History and Thought
- HIE289: The Impact of Science and Technology on Society and the Environment ***(an engineering degree requirement only)****.*

General programme requirements

Students enrolled in a B.A. History, who wish to pursue a B.A. (Honours) History, will apply to the department in the second term of their third year. Eligibility to enter the honours programme includes; a B- average in the third year, maintaining a B average in all history courses to date and, the permission of the department.

Physical Conditioning and Second Language Courses

⚠ **Important:** The physical conditioning courses and the second language courses are part of the four-pillar degree and apply to all RMC degree programmes except the 30-credit general degree programmes.

ℹ **LCF:** Based on the result of a placement test, students will be registered in LCF courses at the 100, 200, 300, or 400-level. Students will automatically be exempt from applicable lower level LCF courses once placed in the appropriate course. Students who attain a Second Official Language (SOL) proficiency level of at least BBB or higher on the Public Service Commission (PSC) Second Language Evaluation (SLE) will be exempt from LCF courses at RMC.

- ATE101: Foundations of Fitness, Health and Sports *(UTPNCM & non-ROTP take ATE102)*
- ATE301: Unarmed Combatives, Military Skills and Individual Sports *(UTPNCM & non-ROTP take ATE302)*
- LCF100 : Compétence de base – partie I
- LCF200 : Compétence de base – partie II
- LCF301 : Compétence intermédiaire – partie I
- LCF302 : Compétence intermédiaire – partie II
- LCF400 : Compétence intermédiaire - partie III

ℹ **Note:** The PSC SLE is the only SOL certification-testing instrument currently accredited and used by the CAF to assess the SOL proficiency level. *(DAOD 5039-8, Canadian Armed Forces Second Official Language Certification Testing)*

B.A. (Honours) History

ℹ **Note:** To earn a Bachelor of Arts (Honours) a student must meet the requirements of Academic Regulation 3.1.

Completion of a 40-credit programme in the arts, including the core courses for arts programmes. A minimum of 20 credits in history, approved by the department, including all of the following:

Mandatory courses

The following ten credits are mandatory:

- HIE101: The Historical Origins of the Contemporary World (1 credit)
- HIE103: History of Canada (1 credit)
- HIE203: Introduction to Canadian Military History (1credit)

- HIE206: What is History? Methods of Historical Inquiry (1credit)
- HIE270: An Introduction to Military History (2 credits)
- HIE284: A History of Europe since the 15th Century (2 credits)
- HIE424: Thesis **or** HIE426: Advanced Directed Studies (2 credits)

Optional courses

The following ten credits are optional:

- four history credits at the 400 level (4 credits)
- six other history credits (6 credits)

B.A. History

Completion of a 40-credit programme in the arts, including the core courses for arts programmes. A minimum of 16 credits in history, approved by the department, including all of the following:

Mandatory courses

The following eight credits are mandatory:

- HIE101: The Historical Origins of the Contemporary World (1 credit)
- HIE103: History of Canada (1 credit)
- HIE203: Introduction to Canadian Military History (1 credit)
- HIE206: What is History? Methods of Historical Inquiry (1 credit)
- HIE270: An Introduction to Military History (2 credits)
- HIE284: A History of Europe since the 15th Century (2 credits)

Optional courses

The following eight credits are optional:

- four history credits at the 400 level (4 credits)
- four other history credits (4 credits)

Programme Outline Tables

The following tables are examples of a typical outline, by year, of a B.A. (Honours) History programme of study or a B.A. History programme of study that would cover the required courses.

> ⚠ **Important:** Students who started their 40-credit programme prior to Academic Year 2024-2025 will follow the old mathematics requirement MAE103, MAE106 and, MAE113. Students starting their 40-credit programme in Academic Year 2024-2025 and thereafter will follow the new mathematics requirement MAE107, MAE108 and, MAE109.

B.A. (Honours) History

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ECE104 ENE111 HIE101 POE116 PSE103 ATE LCF	CSE260 ENE112 HIE103 MAE107 1 optional credit [1] ATE LCF	ENE211 HIE206 HIE270 HIE284 MAE108 ATE LCF	ENE212 HIE203 HIE270 (cont'd) HIE284 (cont'd) MAE109 ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	PSE301 **History** 3 credits **Elective** 1 credit ATE LCF	1 science credit [2] **History** 3 credits **Elective** 1 credit ATE LCF	HIE424 **or** HIE426 POE205 **400-level History** 2 credits 1 science credit [2] ATE LCF	HIE424 **or** HIE426 (cont'd) PSE401 **400-level History** 2 credits **Elective** 1 credit ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

B.A. History

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ECE104 ENE111 HIE101 POE116 PSE103 ATE LCF	CSE260 ENE112 HIE103 MAE107 1 optional credit [1] ATE LCF	ENE211 HIE206 HIE270 HIE284 MAE108 ATE LCF	ENE212 HIE203 HIE270 (cont'd) HIE284 (cont'd) MAE109 ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	PSE301 **History** 2 credits **Elective** 2 credits ATE LCF	1 science credit [2] **History** 2 credits **Elective** 2 credits ATE LCF	POE205 1 science credit [2] **400-level History** 2 credits **Elective** 1 credit ATE LCF	PSE401 **400-level History** 2 credits **Elective** 2 credits ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

1 One of the following: POE202 or PSE105.

2 Credits required for the Science core requirement are 1 credit in Chemistry or Biology and 1 credit in Physics.

Double Major

Students wishing to complete a double major, one of which is in History, are required to complete the 16 credits as above, and meet the requirements for a major as set out in the second discipline.

Minor in History

> **Note:** Open to students in any programme at Royal Military College of Canada

Requirements:

- 8 credits in history

Date modified:

2025-02-20

Undergraduate History Courses

HIE101 The Historical Origins of the Contemporary World

HIE103 History of Canada

HIE104 Survey of Post-Confederation Canada

HIE203 Introduction to Canadian Military History

HIE205 Canadian Military History: (Origins to 1870)

HIE206 What is History? Methods of Historical Inquiry

HIE207 History of Canada

HIE208 Canadian Military History: A Study in War and Military History, 1867 to the Present

HIE270 An Introduction to Military History

HIE271 Introduction to Military History and Thought

HIE275 Survey of Technology, Society and Warfare

HIE284 A History of Europe since the 15th Century

HIE289 The Impact of Science and Technology on Society and the Environment

HIE301 Indigenous-Settler Relations in Canada

HIE302 Cities at War

HIE306 War Through Film

HIE305 Africa in World History

HIE310 A Political History of Italy, from Unification to the Republic, 1861-1946

HIE312 History of the United States 1750-1877: From Revolution to Reconstruction

HIE314 History of the United States 1870 to the Present: Reconstruction to the Age of Reagan

HIE320 A Social and Cultural History of the Atomic Age

HIE322 Conflict in the Middle East, 1914-Present

HIE324 Selected Issues in History

HIE328 Selected Issues in Military History

HIE332 War in the Classical Age

HIF334 Historical Evolution of Operational Art

HIE336 The American Civil War

HIE338 North American Colonial Warfare, 1608 to 1815

HIE340 History of the First World War

HIE342 History of the Second World War

HIE343 Occupied Europe, 1938-1945

HIE345 Operational History Battlefield Tour

HIE346 Canadian Forces Operations in the Modern Era

HIE347 Learning Lessons of War Through Battlefield Tours

HIE348 Fascism, Nazism and Communism, 1917-1945

HIE350 Genocides and Mass Crimes in the 20th Century

HIE352 History of Germany from Bismarck to Hitler

HIF354 *Histoire du monde arabe et musulman*

HIE360 The Rise of Peacekeeping

HIE362 History of Peace Operations since 1980

HIF364 *Napoléon et son temps*

HIE366 Europe, Napoleon, and the World War of 1789 to 1815

HIE371 Introduction to War and Strategy

HIE373 The Diplomacy of the Great Powers: International History 1815-1914

HIE374 From World War to World War: International History 1914-1945

HIE375 Limited War during the Cold War 1945-1991

HIE377 The Cold War

HIF383 *Histoire de la France, de la guerre franco-prussienne à la présidence de Charles de Gaulle*

HIE390 European Imperialism - The Fifteenth to the Eighteenth Century

HIE392 European Imperialism - Nineteenth and Twentieth Centuries

HIE394 A History of China: Origins and Identities

HIE396 A History of Air Power, 1914-1991

HIE398 A History of Naval Power, 1914-1991

HIF401 *Histoire du Québec de 1945 à nos jours*

HIE402 Military History of the British Empire and Commonwealth, 1870-1990

HIE403 Social History of Canada (1870-1980)

HIE404 Conspiracism, Disinformation, and Reason in History

HIE405 History of the Relations between Canada and the United States

HIE406 Canadians & the World: Canadian Foreign Relations 1867 to the Present

HIE407 Problems in Global and Transnational History

HIE409 The Grand Strategy of Small Powers

HIE410 Canada & War

HIE413 Vietnam at War: 1940-1991

HIF415 *Guerre d'Indochine et d'Algérie (1946-1962) : Décolonisation et contre-insurrection*

HIE416 The United States as an Emerging World Power: 1750-1919

HIE418 The United States as a World Power: 1919 to the Present

HIE419 The United States and the Second World War

HIE422 Naval History: The Ages of Sail

HIE423 Naval History: The Ages of Steam

HIE424 Thesis

HIF425 *Histoire de la Nouvelle-France : le rêve français en Amérique*

HIE426 Advanced Directed Studies

HIF427 *Histoire du régime britannique au Canada*

HIF435 *Façonner un continent : les guerres en Amérique du Nord (1754-1815)*

HIF437 *Le Canada français et la guerre depuis 1867*

HIE440 Public History

HIE444 War and Memory in the Twentieth Century

HIE446 The Third Reich at War, 1939-1945

HIE449 History of Intelligence since 1870

HIE450 The Transition from War to Peace in the 19th and 20th Century

HIE451 War and the Environment

HIE452 War, Peace, and Civil Society in Modern History

HIE456 Issues in Women, War and Society

HIE461 Air Warfare in World Conflict, 1903-1945

HIE463 Air Warfare in cold War and Small Wars, 1945-2010

HIE466 Peace and Diplomacy: Issues in the Foreign Policies of the Great Powers between 1815 and 1914

HIE468 War, Peace and Diplomacy: Issues in the Foreign Policies of the Great Powers since 1914

HIE470 Strategy and Strategists

HIE474 Military Technology: Men, Machines and War

HIE475 Technology, Society and Warfare

HIE476 Guerrilla and Revolutionary War

HIE477 An Introduction to the History of Terrorism

HIE478 Small Wars

HIE483 Continuity and Change in the Military history of Modern China

HIE484 Themes in Modern History

HIE485 Conflict in Modern Africa

HIE486 Conflict and the Law in Historical Context

HIE490 Directed Studies in History

Courses 100-199

HIE101 The Historical Origins of the Contemporary World

This course is an introduction to the historical origins of the contemporary world, as it exists in the first half of the 21st century. It seeks first to present the main characteristics of today's world and then trace their development over the previous five or so centuries. The course proposes to explain the historical genesis of the following phenomena: the emergence of large geopolitical regions, demography and human settlement, the State as a form of political organization, capitalism as the dominant economic order, religious phenomena, the current

Related links

History programmes requirements

History department

Course details guide

political ideologies, the development of science and technology, the environmental state of the planet, and finally the emergence of major international organizations. The objective is twofold: to present how humanity has been affected by the development of these phenomena and to explain the constant weight of the past in their evolution. Ultimately, the course seeks to help students understand the world in which we live as a product of history and to reflect on the importance of history as a discipline that facilitates the understanding of the present.

Exclusion(s):	HIE102
Note(s):	Mandatory for all students enrolled in Arts ***(to be taken in conjunction with HIE103)***.
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE103 History of Canada

This course introduces students to the political, social, economic, and cultural history of Canada from the period of first contact between Indigenous peoples and European explorers to the present day through an examination of key turning points in its development. The course emphasizes four particular including: the diversity of the Canadian experience and identity, Canada's place in the North Atlantic World, the development of the Canadian economy, and the growth and development of the Canadian state. By the end of the course, students should have a solid knowledge of Canada's historical development; have become familiar with the basic elements of historical research and practice, such as the examination of primary documents and historiography; and be able to produce a university level research paper.

Exclusion(s):	HIE102, HIE104, HIE207
Note(s):	Mandatory for all students enrolled in Arts.
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE104 Survey of Post-Confederation Canada

This course introduces students to the political, economic and social history of Canada from 1867 to the present. Particular emphasis is placed on the following themes: Canada in the North Atlantic World, the development of the Canadian state, the development of the Canadian economy and its impact on society, and the diversity of the Canadian experience and identity.

Exclusion(s):	HIE102, HIE103, HIE207
Note(s):	Only offered through Distance Education.
Contact Hours:	0 - 0 - 9
Credit(s):	1

Courses 200-299

HIE203 Introduction to Canadian Military History

A survey of the military history of Canada from the rise of New France to the present. Emphasis will be given to the evolution of the Armed Forces.

Exclusion(s):	HIE202, HIE205, HIE208

Note(s):	Mandatory for students enrolled in Arts, Science, and Engineering.
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE205 Canadian Military History: Origins to 1870

This course, which covers the pre-Columbian period to the beginning years of Confederation, introduces students to the most significant military organizations and events of the period, within their social and political context.

Exclusion(s):	HIE202, HIE203
Note(s):	Only offered through Distance Education.
Contact Hours:	0 - 0 - 9
Credit(s):	1

HIE206 What is History? Methods of Historical Inquiry

This course introduces students to the fundamental methodological, theoretical, and historiographical approaches to historical inquiry. The course focuses on the variety of evidence that historian's use, as well as the methods and techniques of analysis they employ to better understand the past. Topics include types and schools of historical inquiry; evidence and interpretation; quantitative and qualitative analysis; ethical and professional responsibility; and developing a research plan. Upon completion of the course, students should be able to understand: various types of primary source evidence, the major schools of historical interpretation, the concept of historiography, key methodological approaches to historical analysis, and the ability to apply this knowledge to their own historical research projects.

Prerequisite(s):	At least one of the following: HIE101, HIE103, HIE203 or HIE207
Exclusion(s):	POE220
Note(s):	Mandatory for students enrolled in History or in Military and Strategic Studies.
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE207 History of Canada

This course introduces students to the social, economic, political, and cultural history of Canada from the mid-19th century to the present day. The course emphasizes four major themes: the diversity of the Canadian experience and identity; Canada’s place in the North Atlantic World; the development of the Canadian economy; and the growth and development of the Canadian state. By the end of the course, students will have a better knowledge of Canadian history and a general understanding of historiography, and will be able to produce a university level research paper.

Exclusion(s):	HIE102, HIE103, HIE104
Note(s):	Mandatory for all students enrolled in Science and Engineering.
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE208 Canadian Military History: A Study in War and Military History, 1867 to the Present

This course introduces students to the general themes of Canadian military history in the post-Confederation period. Particular emphasis is placed on the following topics: the evolution of the Canadian military since 1867; traditions and customs of the Canadian Forces; the evolution of the role of the Canadian officer and approaches to leadership since 1867; the relationship between Canadian politics and society and the evolution of the Canadian military; the impact of changes in military arts and sciences and doctrine on operations and war fighting; and Canadian participation in joint and combined operations.

Exclusion(s):	HIE202, HIE203
Note(s):	Only offered through Distance Education.
Contact Hours:	0 - 0 - 9
Credit(s):	1

HIE270 An Introduction to Military History

This course is an introductory survey of military history from Antiquity to the present. It traces the development of strategic thought and the impact of new technologies. Key topics include: Ancient warfare, naval warfare, war in the Middle Ages, the gunpowder revolution, the levee en masse, the industrial revolution, the total wars of the twentieth century, air power, nuclear weapons, small wars, and limited wars. The relationship between war and society will also be examined. The course will impart to students a thorough understanding of how warfare developed in the Western World, as well as an ability to analyze war at the tactical, operational, strategic, and grand strategic levels.

Exclusion(s):	HIE271, HIE371
Note(s):	Mandatory for students enrolled in History, and Military and Strategic Studies.
Contact Hours:	3 - 0 - 6
Credit(s):	2

HIE271 Introduction to Military History and Thought

This course is an introductory survey of military history from Antiquity to the present. It traces the development of strategic thought and the impact of new technologies. Key topics include: Ancient warfare, naval warfare, war in the Middle Ages, the gunpowder revolution, the levee en masse, the industrial revolution, the total wars of the twentieth century, air power, nuclear weapons, small wars, and limited wars. The relationship between war and society will also be examined. The course will impart to students a thorough understanding of how warfare developed in the Western World, as well as an ability to analyze war at the tactical, operational, strategic, and grand strategic levels.

Exclusion(s):	HIE270, HIE371
Note(s):	Mandatory for students enrolled in Science, Engineering and all Arts programs **with the exception of History and Military and Strategic Studies**.
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE275 Survey of Technology, Society and Warfare

This course is a survey of the relationship between technology, society and warfare. Topics covered include the impact of the industrial revolution on warfare; technological developments and military doctrine during the two world wars and Cold War; the Revolution in Military Affairs; and emerging and evolving military technologies and doctrines. In studying these historical examples, students will reflect on the major political, economic and social factors that inform the development of the technology and the role of technology in warfare.

Exclusion(s):	HIE474, HIE475
Note(s):	Only offered through Distance Education.
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE284 A History of Europe since the 15th Century

This course focuses on the history of European civilization from the late Middle Ages to the middle of the 20th century. It seeks to identify and analyze the foundations of European civilization and especially those that still shape European life today. The main political, geographic, social, economic, and religious characteristics, which have marked Europe's past will be identified and examined (for example, Christianity, individualism, capitalism and industrialization). Thus, this course will place the comparatively original and unique characteristics of Europe into historical perspective.

Note(s):	Mandatory for students in History.
	Students in History are strongly encouraged to take this course in their second year.
Contact Hours:	3 - 0 - 6
Credit(s):	2

HIE289 The Impact of Science and Technology on Society and the Environment

A lecture course on the impact of modern science and technology on society and the environment from the 16th century to the present. The focus is primarily on technological and social change and will consider technical or scientific knowledge in their wider economic, political and social context.

Note(s):	Available only to students in Engineering.
Exclusion(s):	POE372 and POE374
Semester:	Usually offered in the Fall
Contact Hours:	2 - 0 - 4
Credit(s):	0.5

Courses 300-399

HIE301 Indigenous-Settler Relations in Canada

This course explores relations between Indigenous Peoples and European settler societies from first contact to the present day. Particular attention will be devoted to the impact of changing imperial regimes in North America, culminating with the creation of the Canadian state, on Indigenous-Settler relations. Key issues addressed include conflict and cooperation in warfare and the fur trade, land, treaties, the Canadian state's assimilation polices, Indigenous political and legal resistance, and the Canadian Constitution. By the end of the course, students will be able to describe and analyse change and continuity in Indigenous-Settler relations over time as well as some of the impacts of colonialism.

Prerequisite(s):	For Arts students: HIE103 or HIE104 For Science and Engineering students: HIE207
Note(s):	Also offered through Distance Education.

Contact Hours:	3- 0 - 6 (Distance Learning: 0 - 0 - 9)
Credit(s):	1

HIE302 Cities at War

This course will provide a global view of the impact of war on great metropolises throughout history. Beginning with Antiquity and ending in the present day, it will feature weekly case studies that will chart the evolution of cities over the course of seven thousand years while analyzing the ways in which war has interacted with parallel historical phenomena such as the agricultural revolution, migration, natural and manmade disasters, colonialism, industrialization, modernization, and globalization. By the end of this course, students will have gained a better understanding of how cities at war, and the experiences of those who have lived there, have shaped our world today.

Prerequisite(s):	For Arts students: HIE103 and HIE104 and two of the following: HIE203, (HIE270 or HIE271), HIE284 For Science and Engineering students: HIE203, HIE207 and HIE271
Contact Hours:	3- 0 - 6
Credit(s):	1

HIE305 Africa in World History

This course places Africa in a global context, addressing the main developments in the continent's major zones (North, South, East and West) from the precolonial period through the twenty-first century. The main goal is to provide students with a historical framework for interpreting the current state of African societies and their relations with the world. The similarities and differences of these regions and societies will be discussed through major themes, including early kingdoms and states; slavery and the slave trades; the abolition of the trans-Atlantic slave trade and its impact on African societies; European conquest and colonization; social and economic change during the colonial period; the impact of the world wars and the Cold War; the rise of nationalism; the challenges of independent Africa; globalization in contemporary Africa; and Africa in world affairs. The course considers issues of change and continuity in African societies and how these events affected ordinary Africans, male and female alike, as well as their religions and socio-economic systems. By the end of the course, students should be able to demonstrate how the history of Africa relates to other world societies and recognize Africans as significant historical actors in the making of the modern world.

Note(s):	Offered in alternate years
Contact Hours:	3- 0 - 6
Credit(s):	1

HIE306 War Through Film

Few forms of media captivate the public imagination as effectively as film. From war dramas to comedy-satire and from documentaries to biopics, the abundance of movies that have been made about war during the twentieth and twenty-first centuries has helped shape our understanding of one of humanity's most complex phenomena. This course will explore the very human cost of war through the powerful medium of film. It will study the impact it has had on both combatants and combatants. From war fronts to home fronts, in places both real and imagined, it will permit us to study a range of worldviews and perspectives. By the end of this course, students will be able to think about the ways in which various genres of film have been used to portray the past all the while shaping public memory and popular culture.

Prerequisite(s):	For Arts students: HIE103 and HIE104 and two of the following: HIE203, (HIE270 or HIE271), HIE284 For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Offered in alternate years
Contact Hours:	3- 0 - 6
Credit(s):	1

HIE310 Political History of Italy, from Unification to the Republic, 1861-1946

First, this course emphasizes and analyses the main political developments of the period covered, for instance the making of the unitary state, the colonial policy, the involvement in the First World War, and Mussolini's rise to power. Second, it underlines the influence and contribution of economic, geographical and social factors in this political evolution. Finally, when relevant and useful, resemblances and differences between Italy's political history and other European states will be established. As a result, the complexity of the Italian political life, its successes and failures, its continuities and ruptures, but also and maybe more important, its paradoxes should appear clearly.

Note(s): Offered in alternate years.

Contact Hours: 3 - 0 - 6

Credit(s): 1

HIE312 History of the United States 1750-1877: From Revolution to Reconstruction

This course explores the political, social, economic, and cultural development of the United States from its birth in the Revolution through to the end of the Civil War and Reconstruction. The course focuses largely on the impact of the three “revolutions” – the American Revolution, the Market Revolution, and the American Civil War - that the American people experienced over this turbulent century and which continue to define American political, social, and cultural values to this day. This course is a mixture of lectures and seminars in which students are encouraged to examine and debate the issues, which defined this period. By the end of the course, students should acquire a solid understanding of the major themes and historiographical approaches to American history, be able to work with primary source material, and be able to combine those elements into their own historical research and writing.

Note(s): Offered in alternate years.

Semester: Usually offered in the Fall

Contact Hours: 3 - 0 - 6

Credit(s): 1

HIE314 History of the United States 1870 to the Present: Reconstruction to the Age of Reagan

This course explores the political, social, economic, and cultural development of the United States from the end of the Civil War to the early 21st century. The course largely focuses on the rise of the United States as a global hegemon and its impact on American society at home and abroad. Key issues examined include the Industrial Revolution, the New Deal, the Cold War, the Rights Revolution of the 1960s, and the Culture Wars of the late 20th century. This course is a mixture of lectures and seminars in which students are encouraged to examine and debate the issues, which defined this period. By the end of the course, students should acquire a solid understanding of the major themes and historiographical approaches to American history, be able to work with primary source material, and be able to combine those elements into their own historical research and writing.

Note(s): Offered in alternate years.

Semester: Usually offered in the Winter

Contact Hours: 3 - 0 - 6

Credit(s): 1

HIE320 A Social and Cultural History of the Atomic Age

The technological possibility of eradicating life on earth was possibly the most dramatic development in human history. This lecture course will examine the scientific origins and the social and cultural effects of the introduction of nuclear energy and nuclear weapons onto the world stage from the 1930s through the 1960s.

Note(s):	Offered in English Only
Contact Hours:	3- 0 - 6
Credit(s):	1

HIE322 Conflict in the Middle East, 1914-Present

This one-term lecture course will cover the history of state and interethnic conflict in the Middle East from the First World War to the war against ISIS. In addition to the contentious Arab-Israeli interactions, conflicts in Yemen and Oman, Lebanon, and the Iran-Iraq War of the 1980s will be highlighted, as well as the emergence and operations of non-state organizations like the Irgun, the Muslim Brotherhood, the PLO, and al-Qaeda. Students will develop an understanding of the origins of and motives for disputes in this region as well as the methodologies employed by the belligerents in pursuit of their aims.

Note(s):	Offered in alternate years.
Contact Hours:	3- 0 - 6
Credit(s):	1

HIE324 Selected Issues in History

This directed reading course is open to 3rd and 4th year Arts students (normally students in History) who wish to pursue a particular area of historical interest that is not available through regular departmental offerings. This option will only be available in exceptional circumstances and requires the recommendation of a supervisor and the permission of the chair of the department.

Contact Hours:	3- 0 - 6
Credit(s):	1

HIE328 Selected Issues in Military History

This directed reading course is open to 3rd and 4th year Arts students (normally students in History) who wish to pursue a particular area of military historical interest that is not available through regular departmental offerings. This option will only be available in exceptional circumstances and requires the recommendation of a supervisor and the permission of the chair of the department.

Contact Hours:	3- 0 - 6
Credit(s):	1

HIE332 War in Classical Age

This course aims to provide students with an introduction to war and diplomacy, as they evolved in the era of Ancient Greece and both Republican and Imperial Rome. Beginning with the foundation of powerful city-states in Greece, it studies the first elements of Greek diplomacy and warfare. It then looks at the evolution of the military systems of the Greeks, as well as the diplomacy behind it, in the rivalry between the principal city-states, the rise of Philip and Alexander of Macedon, and the wars of the Alexandrian succession. It would then move to a study of the diplomacy and war making of Republican Rome, its army and navy and its expansion into Italy, and wider conquests, especially in the Punic Wars, and the diplomacy, military control, and other factors behind the 'Pax Romana.' The evolution of the Roman Army over these key centuries will receive particular attention.

Note(s):	Offered in alternate years.
Semester:	Usually offered in Fall & Winter
Contact Hours:	3 - 0 - 6

Credit(s): 1

HIE334 Historical Evolution of Operational Art

The Historical Evolution of Operational Art will examine the practice of operational art in history — the pursuit of strategic objectives through the arrangement of tactical actions. It will look at how these concepts evolved since the eighteenth century by studying prominent military campaigns, which evidenced operational art. By the end of the course students will have gained an appreciation of the ability of military forces to achieve strategic goals, the role of joint and combined operations, the impact of conflict termination in shaping military plans, the theory, planning and execution of historical campaigns and operational art, and the ability to analyze operational approaches.

Contact Hours: 3 - 0 - 6

Credit(s): 1

HIE336 The American Civil War

No other event has marked the history of the United States so palpably. Even today, commentators and historians refer to Lincoln as one of the most important presidents the United States has ever elected, in particular due to the crucial role he played in this war and to his Emancipation Proclamation, which put an end to slavery. But there was more to this war. Among other things, it marked the end of pro-slavery rule in the South, the standardization of economic practices across the entire American territory for the first time, and the start of the second great wave of industrialization that would make the United States the greatest industrial power by the end of the First World War. We shall therefore cover the political, economic, social and military impact of this war.

Note(s): Offered in alternate years.

Semester: Usually offered in the Fall

Contact Hours: 3 - 0 - 6

Credit(s): 1

HIE338 North American Colonial Warfare, 1608 to 1815

This course will examine the colonial conflicts that, between the establishment of the first permanent European colonies in the early seventeenth century and 1815, defined the modern political boundaries of North America. Topics will include native and European fighting methods, the employment of regular, irregular, and locally raised forces, the development of British and French strategic cultures and expeditionary capabilities, the early development of American military and naval forces, the logistical challenges of campaigning in North America, naval warfare on the inland seas of North America, and civil-military relations. This course will emphasize the political, diplomatic, operational and logistical challenges of trans-Atlantic campaigning, and the integration of irregular indigenous warriors and colonial populations into campaign plans.

Note(s): Also offered through Distance Education.

Course is currently offered in "English Only."

Offered in alternate years.

Contact Hours: 3 - 0 - 6

Credit(s): 1

HIE340 History of the First World War

A study of the nature of total war at the beginning of the 20th century, including the origins of war, the process of strategic planning, the problems of coalition warfare, great battles on land, on the sea and in the air, propaganda, public opinion and espionage, technological changes and the social, political and economic consequences of war.

Note(s):	Also offered through Distance Education.
	Offered in alternate years.
Semester:	Usually offered in the Fall
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE342 History of the Second World War

A study of the nature of World War II, including the origins of war, the process of strategic planning, the problems of coalition warfare, great battles on land, on the sea and in the air, propaganda, public opinion and espionage, technological changes and the social, political and economic consequences of war.

Note(s):	Offered in alternate years.
	Also offered through Distance Education.
Prerequisite(s):	A junior history course.
Semester:	Usually offered in the Winter
Contact Hours:	3 - 0 - 6 (Distance Learning: 0 - 0 - 9)
Credit(s):	1

HIE343 Occupied Europe, 1938-1945

The Second World War has often been memorialized in its iconic battles such as Stalingrad or the D-Day. However, the reality for most Europeans in the six years of conflict was Axis occupying armies on their territories. To be sure, owing to the German successes during the first three years of the war, entire swathes of continental Europe extending from France to Poland, and from Scandinavia to the Balkans were brought under the yoke of Axis forces. Civilians had to endure the consequences of years of military occupation, a forceful cohabitation with foreign soldiers. This course will examine the nature and impact of the Nazi and Fascist occupations on Western and Eastern Europe preceding and during World War II and the responses of the people occupied. It will focus particularly on the concept of resistance and collaboration, and the relationship between occupiers and occupied at various levels: state collaboration, but also the day-to-day relationships and their social consequences (black market, prostitution, accommodation, etc.)

Note(s):	Offered in alternate years
Contact Hours:	3- 0 - 6
Credit(s):	1

HIE345 Operational History Battlefield Tour

This course offers a unique and immersive opportunity for third and fourth -year students to actively engage in a compelling historical journey. Unlike traditional credit courses, this non-credit option centers around participating in a battlefield tour led by experienced historians. Throughout this hands-on experience, students will gain a profound understanding of significant historical events, the human experience in times of conflict, and the impact of war on societies. By actively exploring these historic sites, participants will be enriched with real-world insights, fostering a deeper connection to history and military heritage.

Prerequisite(s):	For Arts students: HIE101, HIE103, HIE203 (HIE270 or HIE271) For Science and Engineering students: HIE203, HIE207 and HIE271

Note(s):	Enrolment is limited. Students needs a recommendation of a history professor and are selected by the Battlefield Tour Selection Committee. Students must also be in good standing within the four-pillar program.
Semester:	Usually offered in the Winter, each year.
Contact Hours:	3- 0 - 6
Credit(s):	0

HIE346 Canadian Forces Operations in the Modern Era

The Canadian Forces as an institution has participated in the widest variety of military operations types and deployed in more geographically diverse areas than any of its predecessor organizations in Canadian history. This course will trace the origins of the Canadian Forces in the 1960s and will examine how the CAF conducted overseas operations, including policies and strategies for waging the Cold War, UN peacekeeping, the intervention era of the 1990s, and the war in Afghanistan.

Semester:	Usually offered in the Fall & Winter
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE347 Learning Lessons of War Through Battlefield Tours

This course is an engaging and intellectually stimulating third-year offering, designed to immerse students in the art of crafting historically accurate, emotionally impactful, and professionally engaging battlefield tours. In this course, students will explore the multifaceted aspects of battlefield tours, including historical research, tour design, storytelling, and ethical considerations. By delving into the intersection of history, professional relevancy, and memorialization, students will gain a comprehensive understanding of the complexities involved in curating battlefield tours that pay homage to the past while promoting educational and professional experiences for present and future generations.

Prerequisite(s):	For Arts students: HIE101, HIE103, HIE203 (HIE270 or HIE271) For Science and Engineering students: HIE203, HIE207 and HIE271
	Enrollment in this course also requires successful completion of HIE345: Operational History Battlefield Tour. The latter can be waived by the Course Instructor in consultation with the Head History.
Note(s):	Offered each year
Semester:	Usually offered in the Winter
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE348 Fascism, Nazism and Communism, 1917-1945

This course explores the birth and the development of the Fascist, Nazi, and Communist ideologies in Europe and their transformation into political regimes. The first part examines the ideological and historical origins of their rise, while the second part analyzes the conditions and characteristics of their development in peacetime. Finally, we will see how these regimes survived or perished during the Second World War. Based on a comparative perspective, this course will help to reveal the exceptional nature of this period in European history.

Note(s):	Offered in alternate years.
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE350 Genocides and Mass Crimes in the 20th Century

This course proposes to focus on the genocides and mass crimes of the 20th century. Paying particular attention to definitions and typologies of what constitutes genocide, it examines its manifestations in the last century, from the Armenian case to that of Darfur. This course provides both formal presentations and discussion periods on themes that fall within the subject studied. After completing this course, students will have a better knowledge of genocides and mass crimes perpetrated in the 20th century. They will also understand the cultural, legal, sociological, strategic and ethical components of genocides while familiarizing themselves with the relevant historiography on the subjects.

Note(s):	Offered in alternate years.
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE352 History of Germany from Bismarck to Hitler

This course explores German history from the wars of German unification to the fall of the Third Reich. It examines many topics, such as the foundation of the German Reich; the evolution of its domestic and foreign policies under the “Iron Chancellor”, in particular the issues of the Bismarck’s system of alliances; social-imperialism, pan-germanism, and the “Weltpolitik” under Kaiser Wilhelm II; the First World War, including Germany’s war aims, its military strategies, its war economy, and the “silent dictatorship” of Hindenburg and Ludendorff; the November Revolution and the fall of the monarchy; the foundation of the Weimar Republic; the “Diktat” and the “stab-in-the-back myth”; the Communist revolutions; and the Right-wing nationalist and militarist putsches; the rise of National Socialism and its seized power in 1933; the establishment of the Nazi dictatorship; the foreign relations of the Nazi regime and Hitler’s foreign policy aims; the Second World War, including the German Blitzkrieg, annexation and occupation policies, domestic mobilization, the German resistance, and the war crimes of the Wehrmacht and the Holocaust. At the end of the course, students will be able to describe, explain, and assess factors of continuity and change in German history.

Note(s):	Offered in alternate years
Contact Hours:	3- 0 - 6
Credit(s):	1

HIF354 *Histoire du monde arabe et musulman*

This course provides an overview of the history of the Arab and Muslim World since Antiquity. We will study the history of its geography, language and culture and the rise of Islam. We will see its components and their impact on the formation of the near, Middle and Far East. Finally, we will address the history of great crises of the 20th century and their historical roots. Students will develop, at the end of the course, an understanding of the major historical components of the Arab-Muslim world.

Note(s):	Course currently offered in French Only
	Offered in alternate years.
Semester:	Winter
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE360 The Rise of Peacekeeping

This course is a historical survey of the roots of peacekeeping from antiquity until the modern era. It will explore topics like the Pax Romana, the Peace of God in the Middle Ages, the maintenance of peace and international law in the early modern period, and end with post-Cold War peacekeeping and related operations. Students will be able, at the end of the course, to analyze and explain the international and military context of establishing peace from pre-history until the beginning of the 21st Century.

Prerequisite(s):	HIE203
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE362 History of Peace Operations since 1980

This course is a historical survey of peace operations since the 1980s. It explores the environment and expressions of these peace operations during the post-Cold War years and the evolution of various forms of peace operations. At the end of the course, students will be able to analyze and explain the evolution of peace operations since the end of the Cold War and outline the political and military challenges posed by these activities, which occur across the spectrum of conflict and the continuum of operations.

Prerequisite(s):	HIE203
Exclusions(s):	POE410
Note(s):	Mandatory for Military and Strategic Studies students
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIF364 *Napoléon et son temps*

A study of the man, his ambitions, his political system, and of his way of war. We will discuss his great battles and campaigns, those with which his genius marked history: Marengo, Austerlitz, Jena, Wagram, Borodino, and the Germany and France campaigns, among others. We will also discuss the complex world surrounding the eventual Emperor of the French, from his family to his diplomacy, and the political life within France itself. The student should be able to better weigh the impact of Napoleon on the history of France and the world. The course will also allow students to think critically about the limit of one's actions and of determinism in history.

Note(s):	Course currently offered in French Only
	Offered in alternate years.
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE366 Europe, Napoleon, and the World War of 1789 to 1815

This course is an introduction to the wars that dominated Europe and extended around the globe from the opening of the French Revolution in 1789 until the conclusion of the Congress of Vienna and Napoleon's final abdication in 1815. The course will examine the transformation of warfare that witnessed the rise of the nation in arms (the near total mobilization of manpower and resources) and introduced new operational concepts that changed the conduct of war. It will consider these themes through an overview of the major land and naval campaigns in Europe, the Levant, and in the East and West Indies, and through the major developments in operational art, force structures, command and control, and logistics, along with the use of coalitions and of economic warfare in defeating an opponent in a modern conflict. This course will provide students with a fundamental understanding of the changes this period brought to the conduct of warfare, and the effects this global conflict had on the Atlantic and Indian Ocean worlds.

Note(s):	Course is currently offered in "English Only."
	Offered in alternate years.
Contact Hours:	3 - 0 - 6

Credit(s):	1

HIE371 Introduction to War and Strategy

This course is an introduction to a discussion of western strategic thinking in the nineteenth and twentieth centuries. Strategic thinking and theorists in all three elements (land, sea, and air), as well as imperialism, technological change, anti-colonialism and terrorism, nuclear weapons theory and unconventional warfare are discussed. The course analyzes various combinations of industrial power, public opinion, military power, intelligence processes, economic strength, and foreign policy a country uses to create a military "strategy".

Exclusion(s):	HIE270, HIE271
Note(s):	Only offered through Distance Education.
Prerequisite(s):	A junior history course
Contact Hours:	0 - 0 - 9
Credit(s):	1

HIE373 The Diplomacy of the Great Powers: International History 1815-1914

This course explores the major developments in international history from the Treaty of Vienna in 1815 to the July Crisis of 1914. It will focus particularly on the foreign policies of the European Great Powers but also the Ottoman Empire, the United States, Japan and China. An emphasis will be placed on the advent of the Concert of Europe, the challenges of the Eastern Question, the development of colonial rivalries, the impact of German and Italian unifications, and the origins of the First World War. By the end of the course, students will have acquired a solid understanding of the major diplomatic themes of 19th century international history.

Note(s):	Offered in alternate years
Contact Hours:	3- 0 - 6
Credit(s):	1

HIE374 From World War to World War: International History 1914-1945

A lecture course concentrating on the major political, economic and social developments in international history between 1914 and 1945. Emphasis will be placed upon the origins of the First World War, the development of war aims and peace terms, inter-alliance relations, the Paris Peace Settlement, inter-war diplomacy, the "appeasement" debate, and the diplomacy of the Second World War.

Semester:	Usually offered in the Fall
	Offered in alternate years.
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE375 Limited War during the Cold War 1945-1991

This course examines the plethora of smaller conflicts that occurred under the umbrella of the larger ideological and military competition between the West and the Soviet Union during the Cold War. These conflicts include French, British, and Portuguese wars of decolonization, the South African-Cuban confrontation in Angola, the Eritrean war, and conflicts in Latin America. Special attention will also be paid to the Soviet Union’s war in Afghanistan, the lesser-known Indo-Pakistani wars, and the Iran-Iraq War. Students will develop an understanding of how the Cold War period involved multiple ‘hot’ wars and how and why these conflicts were fought.

Notes:	Offered in alternate years.
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE377 The Cold War

The Cold War had both lasting military and social impact. The Cold War was the only sustained conflict in history that had the potential to end life on earth with mass nuclear weapons use. It was a conflict that had its own unique methods of fighting, from the intelligence war and covert action to space and even sporting events. This course will examine how the war was fought between the superpowers, and the dramatic influence it had on numerous regional conflicts from 1945 to 1990 as well as on Western society and culture.

Note(s):	Offered in alternate years.
Semester:	Usually offered in the Fall & Winter
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIF383 *Histoire de la France, de la guerre franco-prussienne à la présidence de Charles de Gaulle*

This course will deal with the history of France from the Franco-Prussian war of 1870 until the end of the presidency of Charles de Gaulle in 1969. The course will analyze the most important political, economic and social characteristics of each Republic, insisting particularly on mutations and turning points. Internal politics and constitutional developments, international relations, economic and social transformations of each republican period will be examined in a way to make apparent the most significant trends or consequences that have affected the collective life of the French people.

Prerequisite(s):	HIE284
Note(s):	Course is currently offered in "French Only"
	Offered in alternate years.
Semester:	Usually offered in the Winter
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE390 European Imperialism - The Fifteenth to the Eighteenth Century

This course is an introduction to the early expression of European Imperialism between the fifteenth and eighteenth centuries. The course focuses on the Atlantic World highlighting the Spanish and Portuguese experience and contrasting them with the British, French and Dutch where appropriate. The course attempts to give equal importance to the stories of the men and women living in areas facing the Atlantic Ocean, including Native Americans, Africans and Europeans. The process of early European imperialism will be analyzed through major themes, including European explorations; contact and encounter; bondage and freedom; trade and economy; religious systems; cultural transfers; revolutions; gender and abolition. Students should consider how European explorations affected Atlantic societies and how indigenous populations in Africa and in the Americas contributed to shape the history of the Old Continent.

Note(s):	Offered in alternate years.
	Usually offered in the Fall

Semester:	
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE392 European Imperialism - Nineteenth and Twentieth Centuries

This course explores the phenomenon of modern European imperialism during the nineteenth and twentieth centuries. We will analyze the rise of the major European empires in Africa and Asia, assess their impact, and trace the development of resistance and decolonization movements from World War One through the 1960s, as well as the legacies of colonialism. Topics include the theories of imperial expansion; the rise of scientific racism; the impact of European trade and “modernization” on colonial societies; the importance of colonies to European politics, economics and societies; the migration of peoples, ideas, commodities and diseases; the impact of the world wars; the development of nationalism; the struggle for decolonization; and the new scramble for oil, gas and minerals. Within these broad topics, we will address the role of technology and material culture, as well as explore the importance of class, race, gender and nationality. At the end of the course, students should be able to recognize the social, political, and economic factors driving European colonialism in the late nineteenth century.

Prerequisite(s):	HIE390
Note(s):	Offered in alternate years
Semester:	Usually offered in the Winter
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE394 A History of China: Origins and Identities

This course serves as an introduction to the long history of the region comprised by the current People’s Republic of China. Modern China’s long history of internal settlement and expansion, conflict and consolidation, order and idealism from the beginning of its recorded history through the great upheavals of 19th and 20th centuries continues to inform the rhetoric and behaviour of the PRC. This course explores these rich histories and their enduring role in shaping political and international discourse within modern China. The course will allow students to grasp the broad outlines of China’s history with an emphasis on the enduring and distinct philosophical and political themes that inform its present.

Note(s):	Course is currently offered in "English Only"
	Offered in alternate years
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE396 A History of Air Power, 1914-1991

This course is an introduction to the history of air power in the 20th Century, from the Great War to the First Gulf War. It first explores the role and importance it played during the two world wars and in the violent conflicts of the Cold War between the West and the East, but also in the conventional and unconventional wars of the 1919-1939 era, as well as those after 1945. It then examines the development of aircrafts and the ways in which they have transformed military institutions and organizations since 1914, as well as the ties they have maintained with the armies and navies, in times of peace as in times of war. Finally, it highlights the place taken by those, military or politicians, who promoted it as an element of military power and the impact it had on the conduct of war and strategy. Finally, the course puts into perspective the close relationship between air forces and the economic, technical and scientific development of states wishing to acquire them.

	3 - 0 - 6

Contact Hours:	
Credit(s):	1

HIE398 A History of Naval Power, 1914-1991

This course provides students with an overview of naval warfare, theory and history, as evidenced by the exercise of western naval/sea power during the conflicts of the twentieth century. The main topics examined will be the impact of influential naval theorists, the importance of the control of the seas and its relationship to grand and national strategies, the evolution of western naval doctrines, and the impact of technological change on the development of naval warfare from the industrial to the information age. By the end of the course students will have a broad understanding of the significant naval transformations that occurred as western navies (including the Royal Canadian Navy) moved from maritime forces shaped by the technology, capabilities and ideas of the late nineteenth century, through decades of modification, eventually resulting in fleets capable of meeting the imperatives of the late twentieth century.

Contact Hours:	3 - 0 - 6
Credit(s):	1

Courses 400-499

HIF401 *Histoire Québec de 1945 à nos jours*

This course will examine the socioeconomic and political situation in Quebec at the end of the Second World War; Duplessis's return to power and the resulting political dynamic; Quebec's journey into modernity; the Quiet Revolution, its roots and impact; Quebec social movements, their creation and demands; the nationalist movement (RN, RIN, MSA); the Liberals in power and the language issue; the October Crisis; the Parti Québécois taking office; the 1980 referendum, its failure and impact; the repatriation of the Constitution; federal-provincial tensions; the Conservatives and the collapse of the Meech Lake Accord; the debates surrounding Charlottetown; the context of the second referendum; the rise of the new right; and the challenging of the "Quebec model."

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Course is currently offered in "French Only"
	Offered in alternate years
Semester:	Usually offered in the Fall & Winter
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE402 Military History of the British Empire and Commonwealth, 1870-1990

This seminar will be a trans-national examination of the military history of the British Empire and Commonwealth from 1870 to the end of the Cold War. It look at how the United Kingdom, Canada, Australia, New Zealand, South Africa, and India, cooperated, or did not cooperate, on matters of foreign policy and defence. Topics to be explored include imperial defence, army reform, the naval arms race of the Edwardian era, imperial policing, military manpower, industrial mobilization, the two World Wars, and the Cold War.

Prerequisite(s):	For Arts students: HIE101 and HIE103 two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
	Offered in English only

Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE403 Social History of Canada (1870-1980)

This seminar will analyze selected issues in the development of Canada from 1870 until 1980. Topics will include industrialization, immigration, social movements, reform, urbanization, regionalism, cultural conflict, social effects of war and the changing cultural definitions of Canada.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Semester:	Usually offered in the Winter
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE404 Conspiracism, Disinformation, and Reason in History

In today's information space, nations and other political actors utilize disinformation as a stratagem of power. A key element of such disinformation campaigns relies on conspiracism based on themes originally generated in the 19th Century as the world entered modernity. Historical understanding of numerous critical topics is undermined by a lack of understanding of how groups employ conspiracism to distort perceptions and thus alter political realities. This course will examine the basis of conspiracism and how it has been employed in various historical contexts from the 1800s to present.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE405 History of the Relations Between Canada and the United States

An analysis of various themes in the Canadian-American relationship from the beginning of European colonization until the present. Based on readings and discussion in class. The course will consider the mutual influences exercised by these two countries on their respective political, economic, social, cultural and intellectual development.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Semester:	Usually offered in the Fall
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE406 Canadians and the World: Canadian Foreign Relations 1867 to the Present

This seminar course examines the development of Canada's foreign and external affairs since 1867, with a particular emphasis on the post-1945 period. The broad purpose of the course is to discover and dissect some of the broad patterns of Canada's growing international presence over the course of the 20th century including: Canada's role as a "middle power", Canada as a peacekeeping/warrior nation, and its role in multilateral organizations such as the UN, NATO, and the G8, to name just a few. Also central to the course will be Canada's relationship with various empires including Great Britain and more recently the United States. The course analyzes those relationships and the development of Canadian foreign policy from various theoretical perspectives. By the end of the course students should be familiar with the major themes of and approaches to Canada's foreign relations; be able to understand and utilize various theoretical, methodological and historiographical perspectives; and express their knowledge and understanding in a major research project.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Semester:	Usually offered in the Fall
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE407 Problems in Global and Transnational History

The world is interconnected through countless transnational and global trends and processes. As historians, we analyze, problematize, and distort these phenomena by studying them through transnational and global lenses. Such 'transnational' and 'global histories', which have drastically transformed the discipline of history over the past several decades, allow us to question the ways in which these forces have shaped the world around us. This course will study major themes and trends in transnational and global history across different time periods, contexts, and spaces. Students will engage with a new module each week, ranging on topics from war and peace, conflict resolution, genocide, migration, humanitarianism, human rights, public health, and international justice. An emphasis on secondary sources will allow students to extrapolate key findings, generate informed debate, and interrogate key differences between 'transnational' and 'global' histories. By the end of the course, students will be able to answer the following questions: What are 'transnational' and 'global histories' and how do they distort traditional understandings of historical processes? How has historical understanding of such phenomena shifted over time and how can we, as historians, discern the ways in which these topical issues illuminate contemporary concerns in the world today?

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE409 The Grand Strategy of Small Powers

The study of grand strategy is often framed in terms of large powers or empires, such as the Persian Empire, Imperial Athens, the British Empire, or the Soviet Union. Some scholars doubt whether smaller states can mount a grand strategy at all. Yet many small polities and movements, such as the Melians, Early Modern England, the Viet Minh, and Communist Cuba, combined military, economic, cultural, and diplomatic approaches to achieve their strategic aims, despite the efforts of much larger powers. This course will use an interdisciplinary approach to combine theory about grand strategy with practical case studies of small powers, which successfully or unsuccessfully crafted them.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
	Offered every second year

Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE410 Canada and War

An examination of the impact of modern wars on Canadian society from 1860 to the present. Specific themes will include Canadian reaction to North American conflicts and to British imperial wars; the impact of World War I and II; Canada and Cold War and Canada and peacekeeping.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Offered in alternate years.
Contact Hours:	3 - 0 - 6
Credit(s):	2

HIE413 Vietnam at War: 1940-1991

This course examines the military, political, economic, social, and cultural impacts of the various conflicts waged in, over and by Vietnam in South-East Asia between 1940 and 1991 from a historical perspective. Students will examine the conflict from these various angles as well as from the perspectives of the various participants: Vietnamese (South and North), France, the United States, as well as the various allies each side attracted to their cause. As the premier war of “Third World” liberation/decolonization in the 20th century, but also the most important proxy war battle of the Cold War, the impacts of the various Vietnam wars continue to resonate.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284.
	For Science and Engineering students: HIE203, HIE207, HIE271.
Crosslisting(s):	WS513
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIF415 *Guerre d’Indochine et d’Algérie (1946-1962) : Décolonisation et contre-insurrection*

This seminar explores the history of post-colonial conflict in Indochina (1946-1954) and Algeria (1954-1962) based largely upon the historiography of the last twenty years. It addresses the economic, political, and social aspects of the history of decolonization, and the revolutionary/guerilla/’terrorist” modes of warfare practiced in Indochina and Algeria. The course also examines the counter-insurgency response of the French government and military. The course will be based on primary sources. The course is designed to allow students to better understand the impact of “terrorism”, religion, and nationalism during the period of post-colonial conflict.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Course is currently offered in "French Only"
	Offered in alternate years
	Usually offered in the Fall

Semester:	
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE416 The United States as an Emerging World Power: 1750-1919

This seminar course explores the transformation of the United States from a disparate group of 13 British colonies to the world's most pre-eminent nation by the end of World War I through the lens of its foreign relations. This 150-year period was perhaps the most eventful and most important in the history of the “Great Republic.” Between the American Revolution and the Treaty of Versailles, the United States fought a successful war for independence, expanded rapidly across the continent, fought a fratricidal civil war, and then emerged as the world’s most dynamic industrialized nations. The course examines how each of these developments shaped and was shaped by America's relationship with the rest of the world. By the end of the course, students should be familiar with the major themes and approaches to American foreign relations; be able to understand and utilize various theoretical, methodological, and historiographical perspectives; and express their knowledge and understanding in a major research project.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Students are encouraged to take one or more of the following courses: HIE312, HIE314.
Semester:	Usually offered in the Fall
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE418 The United States as a World Power: 1919 to the Present

The seminar course explores the United States’ rise to global hegemon during the 20th century through the lens of its foreign relations. The course covers the “the American Century” through three particular periods: first, the rise, fall, and resurrection of Wilsonian internationalism from 1920 through to the end of the Second World War; second, the emergence of the Cold War and the United States program of building alliances to counter the “Communist threat”; and third, how the decline and ultimate end of the Cold War both closed and opened areas of conflict and cooperation with the rest of the world. Though the course focuses mainly on America’s relationship with the rest of the world, a significant time is spent analyzing the domestic origins and impacts of those relations. By the end of the course, students should be familiar with the major themes and approaches to American foreign relations; be able to understand and utilize various theoretical, methodological, and historiographical perspectives; and express their knowledge and understanding in a major research project.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Offered in alternate years. Students are encouraged to take one or more of the following courses: HIE312, HIE314, or HIE416.
Semester:	Usually offered in the Winter
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE419 The United States and the Second World War

This seminar course focuses on the American nation during the Second World War. It examines the neutrality phase of 1937-1941 as well as aspects of the American war effort from 1941 to 1945, including economic, political, and military mobilization and its impact on the home front as well as military operations in the Mediterranean, Northwest European, and Pacific theatres. At the end of the course, students will have a better understanding of the American war effort, become familiar with its historiography, and be able to present their knowledge analytically in a longer research project.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Offered in alternate years
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE422 Naval History. The Age of Sail

A survey of naval and maritime history from the 16th to the early 19th century. The broad themes addressed include organizational, technological and social developments impinging upon the conduct of naval operations, and the course of maritime commerce. In addition, selected aspects of the "world wars" of the 17th and 18th centuries will be examined to illustrate transitions in technology, tactical doctrine, and major strategic debates.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Course is currently offered in "English Only."
Semester:	Usually offered in the Fall
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE423 Naval History: The Age of Steam

A survey of naval and maritime history from the mid 19th through the 20th centuries. The broad themes addressed include organizational, technological and social developments impinging upon the conduct of naval operations, and the evolution of modern navies to the nuclear age. In addition, selected aspects of the "world wars" of the 20th century will be examined to illustrate transitions in technology, tactical doctrine, and major strategic writers and debates.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Semester:	Usually offered in the Winter
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE424 Thesis

Special research on an approved subject to be prepared as a thesis, which will be examined by a committee constituted for the purpose. The thesis must be submitted for examination no later than 31 March. (Taken only with permission of the Department.)

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Only taken with permission of the department.
Credit(s):	2

HIF425 *Histoire de la Nouvelle-France : le rêve français en Amérique*

This course studies the development of French colonial societies in North America from their beginnings in the 17th century to 1763. Classroom discussions will deal with a full-fledged empire: Canada, Acadia, Louisiana and the Antilles. We will uncover the ambitions and plans of the French in America, but also look at the actual events experienced by the people in the New World.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Course is currently offered in "French Only"
	Offered in alternate years
Semester:	Usually offered in the Fall
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE426 Advanced Directed Studies

Special research on an approved subject, under the direction of an instructor, resulting in the submission of at least 2 major research papers. (Taken only with permission of the Department.)

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Only taken with permission of the department.
Credit(s):	2

HIF427 *Histoire du régime britannique au Canada*

This course examines the development of Canadian colonial societies in North America after the Treaty of Paris (1763). It explains the world of Les Anciens Canadiens and sets it in its economic, environmental, social and political context alongside the other British colonies in North America. Themes will be addressed according to the historical sequence of milestone events: the conquest, the American Revolution and the Rebellions.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Course is currently offered in "French Only."
	Offered in alternate years

Semester:	Usually offered in the Winter
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIF435 *Façonner un continent : les guerres en Amérique du Nord (1754-1815)*

Using all historiographical approaches, this course looks at the main armed conflicts involving the French and British powers in America during the colonial era. The Seven Years' War, the Battle of the Plains of Abraham and the War of 1812 will be analyzed in terms of what was at stake demographically, economically, socially and politically as well as from a strategic and military perspective.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Course is currently offered in "French Only"
	Offered in alternate years
Semester:	Usually offered in the Fall
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIF437 *Le Canada français et la guerre depuis 1867*

This course aims to familiarize students with the milestones, the concepts, the politico-military debates and the leaders in the military history of Quebec and French Canada. It includes discussions of the two world wars, bilingualism in the Canadian Forces, the Royal 22e Régiment, and 425 Squadron. It examines French Canadians' relationship with warfare and with the Canadian Forces throughout history. This social, political and institutional study of history takes stock of more than a century of the profession of arms as practiced by Quebecers and French Canadians.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Course is currently offered in "French Only"
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE440 Public History

In this course students have the opportunity to do unpaid work in one of three historical domains: teaching, research, or museums. In the former case students work at RMC; in the latter cases students are placed in institutions in Kingston, Ottawa or other locations where they complete a project or task of approximately 100 hours under the co-supervision of a member of the professional staff of that institution and member of the RMC history department. (In general, students should be prepared to work at the placement organization for approximately 8 hours per week: either one full day or two half days.) In addition to the practicum work, the student will complete a 4000 word reflection, which describes the literature and practice of the domain as well as the learning that they have achieved with regard to the practice of history.

Additional Information:

1. Only taken with permission of the department.
2. Normally taken in the Winter term of Year 3 or the Fall term of Year 4.

3. Limited to students majoring in History who have a minimum B- average prior to taking the course.
4. Students working in Ottawa must make arrangements to complete sufficient other credits to remain on full-time status during the term.
5. Students wishing to work in Ottawa must provide their own accommodation and rations. Some financial support may be available from time to time and rations and quarters at RMC are normally credited to help defray expenses.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Contact Hours:	3- 0 - 6
Credit(s):	1

HIE444 War and Memory in the Twentieth Century

This course explores the different ways in which the relationships of nations to their past have been socially constructed, articulated and contested throughout the twentieth century. Using different countries as case studies, the course examines the ways in which narratives of war have been utilized by different social and political groups to inform present-day identity politics. The course critically examines the developing relationship between history, memory and identity formation across the twentieth century, adopting an historical approach to investigate the evolution of the political use of memory. As such, it links well with the Battlefield Tour organized by the History department.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Offered in alternate years
Contact Hours:	3- 0 - 6
Credit(s):	1

HIE446 The Third Reich at War, 1939-1945

This seminar course explores the German nation at war during the period 1939-45. It examines all aspects of the German war effort, including domestic mobilization, military operations, German invasions of other countries, and the rise and fall of German fortunes. At the end of the course, students will be able to describe, explain, and assess: German war aims, German strategy and tactics, the German war economy, and the Wehrmacht’s role in the Holocaust.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207, HIE271
Note(s):	Offered in alternate years
Semester:	Could be offered in Fall or Winter
Contact Hours:	3- 0 - 6
Credit(s):	1

HIE449 History of intelligence since 1870

Using historical case studies from the Franco-Prussian War onwards, this course examines the methodologies of intelligence operations, including issues of deception, human and technical intelligence gathering, counterintelligence, and more. These case studies will include the operations of a number of states including the United States, Great Britain, France, Prussia/Germany,

Tsarist/Soviet Russia, and Israel.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Course is currently offered in "English Only"
	Offered in alternate years
Semester:	Usually offered in the Fall or Winter
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE450 The Transition from War to Peace in the 19th and 20th Century

This course explores how countries transition from wartime to peacetime, from the American Civil War to the War in Afghanistan. Using different wars as case studies, this course examines the ways in which the legacy of conflict, reconstruction, demobilization (military and cultural), disarmament and reintegration, etc., have impacted the after-war societies. Using primary sources, this course will also critically examine the debates surrounding questions created by the aftermath of war in order to understand the different social and political relationship at play when (re)building “peace” after a war. /p>

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE451 War and the Environment

This seminar course explores the complex inter-relationship between warfare and the natural environment from the 17th century to the present. The course will use case studies from a number of world regions to analyze the environmental and ecological impact of military mobilization over time. In addition, students will assess the influence of environmental factors on the conduct of war. Particular attention will be devoted to the impact of technological change/ industrialization and to changing understandings of the environment. Case studies will include the American Civil War, the World Wars, the Vietnam War, and the Cold War era.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Course is currently offered in "English Only"
	Offered in alternate years
Semester:	Usually offered in the Fall
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE452 War, Peace, and Civil Society in Modern History

Historians have long contended that the long twentieth century was among the most violent in human civilization. At least 75 million people were killed in two world wars. Even the “long peace” that followed was characterized by numerous regional and intrastate conflicts that were often just as destructive as those two decades of total war. However, the twentieth century was also an age of the great flowering of democracy, human rights, diplomacy, and the rule of law. Across the globe, transnational movements formed non-governmental organizations (NGOs), whose members waged their own battles against militarism, human rights abuses, and environmental degradation. This course examines this interplay between war and peace, the state and civil society across the globe over the last two centuries. In the process, it examines how military conflict affected the social, political and economic developments of states, and how in turn those developments sparked the rise of transnational movements whose actions had influenced both the waging of war and the establishment peace.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Offered in alternate years
Semester:	Usually offered in the Fall
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE456 Issues in Women, War and Society

An exploration, through seminars of selected themes and issues in the history of women, war and society from the 17th century to the present. Particular attention will be paid to women's changing involvement in war and revolution in the 18th and 19th centuries; the rise of modern military institutions; women's involvement in World War I and II; debates about gender integration in the late 20th century.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Course is currently offered in "English Only."
	Offered in alternate years
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE461 Air Warfare in World Conflict, 1903-1945

This course examines air warfare from the earliest days of powered flight to the end of the Second World War. It focuses primarily on the development of the idea of air power and on the organization and employment of air power in war. Major themes include: the emergence of air forces; key concepts of air power and the ways in which they were developed and tested in war; the use of air power in general and limited wars; the conduct of joint operations involving air and surface forces; the morality and legality of air warfare; the culture of the aviator; the impact of technology and, issues of command and leadership in air forces. A limited amount of air campaigns will be examined as a means of integrating these themes.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Offered in alternate years.

Semester:	Usually offered in the Fall
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE463 Air Warfare in Cold War and Small Wars, 1945-2010

This course examines air warfare from the advent of the atomic weapon until the ‘peace operations’ of the early 21st century. It focuses primarily on the ongoing metamorphosis of the concepts and doctrines of air power, and on the organization and employment of air power and aerospace power in war and peace. As in HIE471 major themes include: the emergence of air forces; key concepts of air power and the ways in which they were developed and tested in war; the use of air power in general and limited wars; the conduct of joint operations involving air and surface forces; the morality and legality of air warfare; the culture of the aviator; the impact of technology and, issues of command and leadership in air forces. A limited amount of air campaigns will be examined as a means of integrating these themes.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Offered in alternate years.
Semester:	Usually offered in the Winter
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE466 War, Peace and Diplomacy: Issues in the Foreign Policies of the Great Powers between 1815 and 1914

This seminar course examines the conduct of Great Power relations from the Congress of Vienna to the July Crisis of 1914. Students will analyze various themes and topics in international history, including personality and policy-making; conference diplomacy and peacemaking; civil-military relations and the development of national strategy; imperial rivalries and defence of empire; foreign policies in revolution; and alliance diplomacy in peace and war. By the end of the course, students will have a detailed understanding of the major themes and historiographical interpretations of international relations in the nineteenth century, and be able to express their knowledge in a major research project.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Offered in alternate years.
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE468 War, Peace and Diplomacy: Issues in the Foreign Policies of the Great Powers since 1914

This seminar course examines the conduct of Great Power relations from the outbreak of war in 1914 to the end of the Cold War. Students will analyze various themes and topics in international history, including personality and policy-making; conference diplomacy and peacemaking; civil-military relations and the development of national strategy; disarmament and arms limitation; the diplomacy of decolonisation, revolution and neutrality; and alliance diplomacy in peace and war. By the end of the course, students will have a detailed understanding of the major themes and historiographical interpretations of international relations in the twentieth century, and be able to express their knowledge in a major research project.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Offered in alternate years.
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE470 Strategy and Strategists

A study of the most important interpreters of warfare from classical thinkers (Thucydides and Sun-Tzu) to the present. Also considered will be airpower and its proponents; geopolitical and maritime doctrines of war; the developments of military technology since 1945 and their impact on strategic thinking; the theories of deterrence, revolutionary and guerrilla war; disarmament and arms control and the international law of war.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	HIE470 is offered only to 3rd and 4th year History and MSS degree students. Others wishing to complete the course must have the approval of the History Department Head
Contact Hours:	3 - 0 - 6
Credit(s):	2

HIE474 Military Technology: Men, Machines and War

An examination of the impact of technology on war, and the relation of these to society as a whole. In addition to identifying the key technological advances in weapon development and defence-related fields, this course will look at the effect of technology on tactics, strategy, and society itself, from the pre-gunpowder period to the nuclear age.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Exclusion(s):	HIE275, HIE475
Semester:	Usually offered in the Fall
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE475 Technology, Society and Warfare

The relationship between technology and warfare is undeniable: from the Great War (1914-18) to the War on Terrorism today, technology has played a central role in military operations. In this course, students will define and analyze technology as a general concept and its relationship to warfare in particular. Students will also reflect on the factors -political, economic, cultural, etc.- that contribute to the creation of technology and that determines its use in warfare. The course will examine the principal developments in military technology from a historical perspective, beginning with the development of artillery in the fifteenth century and ending with an analysis of the contemporary and future battle space.

Prerequisite(s):	A junior-level history course.

Exclusion(s):	HIE275, HIE474
Note(s):	Only offered through Distance Education.
Contact Hours:	0 - 0 - 9
Credit(s):	1

HIE476 Guerrilla and Revolutionary War

A study of the role and conduct of guerrilla warfare and its connection with other types of conflicts. This course will trace the development of thinking about guerrilla warfare as well as the evolution of its practice.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Semester:	Usually offered in the Winter
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE477 An Introduction to the History of Terrorism

This is an introduction to terrorism and counterterrorism in a variety of historical contexts. Among other things, it will consider the origins, complexities and basic elements of terrorism, as well as the various approaches taken to control this "poor man's weapon".

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Semester:	Usually offered in the Winter
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE478 Small Wars

The course is a study of the role and conduct of small wars and their connection with other types of conflict. This course will trace the development of thinking about conflicts other than major wars, as well as the evolution of their practice. Students will become acquainted with the nature, dimensions, and history of past and recent small wars and be able to critically evaluate these types of conflicts.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Usually offered in the Winter
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE483 Continuity and Change in the Military History of Modern China

This course is a 4th year seminar course aimed at exploring the rich military history of modern China. The course is organized thematically to explore, through student led seminars, the many ages of China's military heritage. Eras addressed include the Warring States Period; Mongol Invasions and Influence; The Century of Humiliation and the end of the Imperial Era; the Anti-Japanese War; the Civil War; the Cold War; Red Army and Red Guards during the Cultural Revolution; The People's Liberation Army (PLA) from the People's War to Modernization. This course will provide a solid grounding in the enduring military philosophy and political-military interactions that inform the behaviour of modern China.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207, HIE271
	HIE394
Note(s):	Offered in alternate years.
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE484 Themes in Modern History

This course is designed to facilitate the special expertise of visiting professors to teach in their area of expertise. Each course will have a distinct theme reflecting that expertise and the subject of the course, if offered, will be published at the time of student registration. The course will be an advanced seminar and open only to history and MSS majors and honours students. Students may only take this course once.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE485 Conflict in Modern Africa

Why does violent conflict persist in contemporary Africa? Why do most international interventions fail to bring peace to African populations in vulnerable areas? This course aims to develop an understanding of social and political conflicts in sub-Saharan Africa from the late pre-colonial period to the present. The bulk of the course is concerned with an exploration of theories regarding the causes of conflict in Africa, including the economic and social impact of colonialism, state weakness, political culture, ethnic divisions, religious identity, and underdevelopment. The course will also examine mechanisms for resolving conflicts and issues related to outside intervention. Topics include the national and regional variations in the African experience of conflict; the social and political nature of war; the impact of inequality and poverty; the role of the colonial and postcolonial state; the impact of violent conflict on civilians; and the characteristics of African guerrilla movements. By the end of the course, students should be able to think critically about the different actors and dimensions of conflict in Africa, and express arguments based on evidence in written and oral forms.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Offered in alternate years
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE486 Conflict and the Law in Historical Context

This fourth-year seminar studies the major developments and impact of the rules of armed conflict or international humanitarian law (IHL) throughout history. Through a series of case studies from Antiquity to the present, students will analyze the means and modes of warfare, the differences between combatants and non-combatants, the role of state and non-state actors, the evolution of international conventions, and the way in which IHL has interacted with human rights, multilateral organizations and humanitarian interventions. By the end of this course, students will be able to interrogate historiographical contributions to the field, debate key issues in an informed and inquisitive manner, and articulate findings and ideas through a research project.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Contact Hours:	3 - 0 - 6
Credit(s):	1

HIE490 Directed Studies in History

This course is available for non-Honours students who wish to pursue in-depth research and study under one-on-one supervision with a faculty member on a topic within the range of expertise of the supervisor, mutually agreed between the supervisor and the student. Both the topic and the evaluation scheme must be approved by the Department Head.

Prerequisite(s):	For Arts students: HIE101 and HIE103 and two of the following: HIE203, (HIE270 or HIE271), HIE284
	For Science and Engineering students: HIE203, HIE207 and HIE271
Note(s):	Permission of the Department Head
Contact Hours:	1 - 0 - 8
Credit(s):	1

Date modified:
2025-12-08

Undergraduate Military and Strategic Studies Programme

Related links

Undergraduate arts programmes

Admissions

Contact

Programme Chair
Dr. Ali Ghanbarpour-Dizboni

Programme web page
Military and Strategic Studies

General Information

This multidisciplinary programme is unique in North America at the undergraduate level. The Military and Strategic Studies (MSS) programme offers students an opportunity to acquire a sound grounding in military history, strategic thought, and international relations, as well as in Canadian government, Politics and Economics, English, Culture, and Communication or French, Literature, and Culture studies, and Military Psychology and Leadership. It leads to a B.A. (Honours) Military and Strategic Studies or B.A. Military and Strategic Studies. The MSS programme provides a solid basis for graduate studies and a professional career.

Students are encouraged to take at least one MSS course in their second language. Students with the requisite language profile are free to take all or a combination of courses in either official language while earning their degrees.

In addition to their course work, students enrolled in the MSS programme are encouraged to participate in the various extracurricular activities of the programme, including field trips to Ottawa, Washington, New York, USMA, USNA, and NATO HQ and several Model UN and NATO simulations at leading North American universities.

Patterns of Study

To earn a Bachelor of Arts (Honours) or Bachelor of Arts in Military and Strategic Studies students can pursue one of two patterns of study:

1. B.A. (Honours) Military and Strategic Studies or B.A. Military and Stratigic Studies, or;
2. B.A. (Honours) Military and Strategic Studies or B.A. Military and Stratigic Studies, with a Minor in: Business Administration; Economics; English, Culture, and Communication; French, Literature, and Culture; or Psychology.

Physical Conditioning and Second Language Courses

⚠ **Important:** The physical conditioning courses and the second language courses are part of the four-pillar degree and apply to all RMC degree programmes except the 30-credit general degree programmes.

🛈 **LCF:** Based on the result of a placement test, students will be registered in LCF courses at the 100, 200, 300, or 400-level. Students will automatically be exempt from applicable lower level LCF courses once placed in the appropriate course. Students who attain a Second Official Language (SOL) proficiency level of at least BBB or higher on the Public Service Commission (PSC) Second Language Evaluation (SLE) will be exempt from LCF courses at RMC.

- ATE101: Foundations of Fitness, Health and Sports *(UPTNCM & non-ROTP take ATE102)*
- ATE301: Unarmed Combatives, Military Skills and Individual Sports *(UPTNCM & non-ROTP take ATE302)*
- LCF100 : Compétence de base – partie I
- LCF200 : Compétence de base – partie II
- LCF301 : Compétence intermédiaire – partie I
- LCF302 : Compétence intermédiaire – partie II
- LCF400 : Compétence intermédiaire - partie III

🛈 **Note:** The PSC SLE is the only SOL certification-testing instrument currently accredited and used by the CAF to assess the SOL proficiency level. *(DAOD 5039-8, Canadian Armed Forces Second Official Language Certification Testing)*

B.A. (Honours) Military and Strategic Studies

⚠ **Important:** To earn a Bachelor of Arts (Honours) a student must meet the requirements of Academic Regulation 3.1.

A 40-credit degree programme including the core courses for arts programmes (20 credits).

Mandatory Courses (14 credits)

🛈 **Note:** Students will choose one of "HIE206: What is History? Methods of Historical Inquiry" or "POE220: Research and Method" based on the subject (Political Science or History) of their theses (or research projects) MSE424 and MSE426.

- HIE206: What is History? Methods of Historical Inquiry **OR** POE220: Research and method (1 credit)
- HIE270: Introduction to Military History (2 credits)
- HIE362: History of Peace Operations since 1980 **OR** POE410 International Conflict Management (1 credit)
- HIE470: Strategy and Strategists (2 credits)
- POE218: International Relations Theory (1 credit)
- POE317: Introduction to Contemporary Strategic Studies (1 credit)
- POE414: Contemporary International Issues and Events (1 credit)
- POE415: Contemporary International Conflict (1 credit)
- PSE312: Military Psychology and Combat (1 credit)
- MSE424: Thesis or MSE426: Research Project in Military Strategic Studies (2 credits)

Plus 1 credit from these 6 courses:

🛈 **Note:** The following 6 courses cannot be counted twice. They are also listed among the Military and Strategic Studies optional courses. Students can choose them as optional courses. When taking one of these courses it **will not count simultaneously as both** a mandatory course and an optional course.

- HIE332: War in Classical Age (1 credit)
- HIE334: Historical Evolution of Operational Art (1 credit)
- HIE340: History of the First World War (1 credit)
- HIE342: History of the Second World War (1 credit)

- HIE366: Europe, Napoleon and the World War of 1789 to 1815 (1 credit)
- HIE377: Cold War (1 credit)

Optional courses

five credits as listed:

- 2 credits, at the 400-level (approved by the professor in charge of the Military and Strategic Studies programme), from the list of MSS optional courses and;
- 3 credits, of your choice, from the list of MSS optional courses

Electives

- 1 credit

> **MSE424 / MSE426:** Special research on an approved subject, under the direction of a designated supervisor, resulting in the submission of a "**MSE424: Thesis**" or "**MSE426: Research Project in Military Strategic Studies**". Students will be provided with guidance on topics and methods before submitting a research proposal for approval. Theses must follow Royal Military College of Canada thesis guidelines and will be evaluated by at least one subject expert in addition to the Chair and supervisor. An oral defence will normally be arranged for a thesis.
> (***Important:*** *Those transferring from "MSE424: Thesis" to "MSE426: Research Project in Military Strategic Studies" must do so no later than the add-course deadline of the winter term)*.

B.A. Military and Strategic Studies

A 40-credit degree programme including the core courses for arts programmes (20 credits).

Mandatory courses (12 credits)

- HIE206: What is History? Methods of Historical Inquiry **OR** POE220: Research and method (1 credit)
  HIE270: Introduction to Military History (2 credits)
- HIE362: History of Peace Operations since 1980 **OR** POE410 International Conflict Management (1 credit)
  HIE470: Strategy and Strategists (2 credits)
- POE218: International Relations Theory (1 credit)
- POE317: Introduction to Contemporary Strategic Studies (1 credit)
- POE414: Contemporary International Issues and Events (1 credit)
- POE415: Contemporary International Conflict (1 credit)
- PSE312: Military Psychology and Combat (1 credit)

Plus 1 credit from these 6 courses:

> **Note:** The following 6 courses cannot be counted twice. They are also listed among the Military and Strategic Studies optional courses. Students can choose them as optional courses. When taking one of these courses it **will not count simultaneously as both** a mandatory course and an optional course.

- HIE332: War in Classical Age (1 credit)
- HIE334: Historical Evolution of Operational Art (1 credit)
- HIE340: History of the First World War (1 credit)
- HIE342: History of the Second World War (1 credit)
- HIE366: Europe, Napoleon and the World War of 1789 to 1815 (1 credit)
- HIE377: Cold War (1 credit)

Optional courses

3 credits as listed:

- 1 credit, at the 400-level (approved by the professor in charge of the Military and Strategic Studies programme), from the list of MSS optional courses and;
- 2 credits, of your choice, from the list of MSS optional courses

Electives

- 5 credits

Note: Students enrolled in Military and Strategic Studies may not complete a Double Major with History or Political Science.

Programme Outline Tables

The following tables are examples of a typical outline, by year, of a B.A. (Honours) Military and Strategic Studies programme of study or a B.A. Military and Strategic Studies programme of study that would cover the required courses.

Important: Students who started their 40-credit programme prior to Academic Year 2024-2025 will follow the old mathematics requirement MAE103, MAE106 and, MAE113. Students starting their 40-credit programme in Academic Year 2024-2025 and thereafter will follow the new mathematics requirement MAE107, MAE108 and, MAE109.

B.A. (Honours) Military and Strategic Studies

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ECE104 ENE111 HIE101 POE116 PSE103 ATE LCF	CSE260 ENE112 HIE103 MAE107 1 optional core credit [1] ATE LCF	ENE211 HIE206 **or** POE220 HIE270 MAE108 POE218 ATE LCF	ENE212 HIE203 HIE270 (cont'd) MAE109 POE205 ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	PSE301 PSE312 1 mandatory credit from list above [4] **MSS Optional** [3] 1 credit **Elective** 1 credit ATE LCF	1 science credit [2] POE317 HIE362 **or** POE410 **MSS Optional** [3] 2 credits ATE LCF	HIE470 MSE424 **or** MSE426 POE414 1 science credit [2] **MSS Optional** [3] 1 credit ATE LCF	HIE470 (cont'd) MSE424 **or** MSE426 (cont'd) POE415 PSE401 **MSS Optional** [3] 1 credit ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

B.A. Military and Strategic Studies

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ECE104 ENE111 HIE101 POE116 PSE103 ATE LCF	CSE260 ENE112 HIE103 MAE107 1 optional core credit [1] ATE LCF	ENE211 HIE206 **or** POE220 HIE270 MAE108 POE218 ATE LCF	ENE212 HIE203 HIE270 (cont'd) MAE109 POE205 ATE LCF

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	PSE301 PSE312 1 mandatory credit from list above [4] **MSS Optional** [3] 1 credit **Elective** 1 credit ATE LCF	1 science credit [2] HIE362 **or** POE410 POE317 **MSS Optional** [3] 1 credit **Elective** 1 credit ATE LCF	HIE470 POE414 1 science credit [2] **MSS Optional** [3] 1 credit **Elective** 1 credit ATE LCF	HIE470 (cont'd) POE415 PSE401 **Elective** 2 credits ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

1 One of the following courses: ECE103, POE202 or PSE105.

2 The credits required for the Science core requirement are 1 credit in Chemistry or Biology, and 1 credit in Physics.

3 You must choose your courses from the list of MSS optional courses below.

4 You must choose a course from the list of optional mandatory courses above.

Minor in Military and Strategic Studies

Note: There is no Minor in Military and Strategic Studies.

- Minors in Business Administration; Economics; English, Culture, and Communication; French, Literature, and Culture; or Psychology; may be earned together with a B.A. (Honours) Military and Strategic Studies or a B.A. Military and Strategic Studies.
- Students pursuing one or more of these minors will complete 8 credits in the minor.

Military and Strategic Studies optional courses

You must choose the optional courses for the Military and Strategic Studies programme from the following list:

- BAE344: Operations Management
- CCE204: Military Chemistry
- ECE424: Economics of Defence
- ECE428: Economics of National Security
- ENE331: World Literature 1
- ENE333: World Literature II
- ENE363: American Literature: The American Dream: Race, Gender, War
- ENE375: Literature and Spirituality
- ENE413: Literature, Culture & Ecology
- ENE415: Literature, Culture & Evolution
- ENE423: Literary Theory II: Gender, Sex, and Sexuality

- ENE450: The News Media and the Military
- ENE451: War Literature I
- ENE453: War Literature II
- ENE471: Topics in English Literature II
- ENE484: Postcolonial Literature
- FRF324 : *La littérature francophone subsaharienne des In dépendances à aujourd'hui*
- FRF326 : *La littérature francophone du Maghreb et du Moyen-Orient, de la colonisation à nos jours*
- FRF332 : La guerre expression narration et représentation
- FRF379 : L'Art oratoire
- FRF383 : *Les Moralistes français du XVIIe siècle*
- FRF404 : L'imaginaire de la Route de la Soie de Marco Polo à aujourd'hui
- FRF427 : Fanatisme, tolérance et religion
- FRF428 : *L'essai au XXIe siècle : crise, terreur, paranoïa et sécurité intérieure*
- FRF429 : Combat, trauma et dépendances
- FRF434 : *Témoigner*
- FRF440 : *Vie et mort des grands héros de l'Antiquité*
- FRF479 : *Discours et pouvoir*
- FLF431 : *la représentation de la guerre en littérature*
- FLF432 : *La représentation des conflits au théâtre*
- FLF433 : *La guerre : médias et témoignages*
- HIE206: What is History? Methods of Historical Inquiry
- HIE320: A Social and Cultural History of the Atomic Age
- HIE322: Conflict in the Middle East, 1914- Present
- HIE328: Selected Issues in Military History
- HIE332: War in Classical Age
- HIE334: Historical Evolution of Operational Art
- HIE336: The American Civil War
- HIE338: North American Colonial Warfare, 1608-1815
- HIE340: History of the First World War
- HIE342: History of the Second World War
- HIE346: The History of Canadian Forces Operations
- HIE348: Fascism, Nazism and Communism, 1917-1945
- HIF354 : Histoire du monde arabe et musulman
- HIE362: History of Peace Operations since 1980
- HIF364 : Napoléon et son temps
- HIE366: Europe Napoleon and the World War of 1789 to 1815
- HIE374: From World War to World War: International History 1914-1945
- HIE375: Limited War during the Cold War, 1945-1991
- HIE377: The Cold War
- HIF383: *Histoire de la France, de la guerre franco-prussienne à la présidence de Charles De Gaulle*
- HIE390: European Imperialism - The Early Stages in Renaissance Europe
- HIE392: European Imperialism - Nineteenth and Twentieth Centuries
- HIE396: History of Air Power, 1914-1991
- HIE398: A History of Naval Power, 1914-1991
- HIE405: History of the Relations between Canada and the United States
- HIE406: Canadian External Relations
- HIE410: Canada and War
- HIE416: The United States as an Emerging World Power 1750-1919
- HIE418: The United States as a World Power, 1919 to the Present
- HIE422: Naval History. The Age of Sail
- HIE423: Naval History: The Age of Steam
- HIF435: *Façonner un continent : les guerres en Amérique du Nord (1754-1815)*
- HIF437: *Le Canada français et la guerre depuis 1867*
- HIE440: Public History
- HIE446: The Third Reich at War 1939-1945
- HIE449: History of intelligence since 1870
- HIE451: War and the Environment
- HIE452: War, Peace, and Civil Society in Modern History
- HIE456: Issues in Women, War and Society
- HIE461: Air Warfare in World Conflict, 1903-1945

- HIE463: Air Warfare in Cold War and Small Wars, 1945-2010
- HIE474: Military Technology: Men, Machines and War
- HIE475: Technology, Society and Warfare
- HIE476: Guerrilla and Revolutionary War
- HIE477: An Introduction to the History of Terrorism
- HIF479: *La guerre d'Algérie*
- HIF492: *Crimes et criminels de guerre: Droit pénal international*
- MAE234: Introduction to Cryptography
- MAE236: Introduction to Game Theory
- PHE280: Physics of Armaments
- POE214: Comparative Politics
- POE220: Research and method (1 credit)
- POE319: Terrorism: History and Strategy
- POE324: International Organizations
- POE410: International Conflict Management
- POE412: Contemporary American Foreign and Defence Policy
- POE413: Nuclear Weapons & International Relations
- POE416: Canadian Foreign and Security Policy
- POE423: Politics in Africa
- POE424:Politics in the Middle East
- POE425: Regional Comparative Politics
- POE432: Civil Military Relations
- POE435: Terrorism and Political Violence
- POE437: Contemporary Regimes: States and Nations
- POE441: Foreign Policy of the Russian Federation
- POE453: Topics in International Relations
- POE486: Air and Space Law
- POE488: The Law of Armed Conflict
- PSE324: Cross-Cultural Psychology
- PSE328: Group Dynamics
- PSE332: Introduction to Interviewing and Counselling
- PSE346: Persuasion and Influence
- PSE370: Recruitment and Selection
- PSE380: Psychology and Philosophy of Religious Conflicts
- PSE430: Stress
- PSE451: Survival Psychology
- PSE454: Advanced Leadership
- PSE462: Human Factors in Applied Military Science
- PSE482: Peace and Conflict Psychology
- PSE484: The Psychology of Gender in the Military

Date modified:

2025-05-27

Psychology Undergraduate Programme

Related links

Psychology courses

Undergraduate arts programmes

Department of Military Leadership and Psychology

Admissions

General Information

The Department of Military Psychology and Leadership serves two purposes.

1. first, the degree programme in psychology, with a focus on military applications, provides a university level education that will meet the needs of those enrolled in a B.A. (Honours) Psychology or a B.A. Psychology, as well as students taking psychology courses out of interest in the discipline.
2. second, the department offers a suite of courses under the core curriculum providing the foundation of military leadership, ethics, and military professionalism.

The department of military psychology and leadership has three primary objectives:

1. to provide a theory-based understanding of human behaviour and mental processes;
2. to teach critical thinking and the scientific method as they apply to psychology; and
3. to show students how to apply their knowledge of psychology in their day-to-day lives as well as throughout their military careers, regardless of their military occupations occupations and positions within the organization.

The programme focuses on the application of psychology in particular and behavioural science in general, to the military environment (workplaces, military operations). Thus, the content of the programme examines topics in the general domains of military psychology; personnel psychology; leadership and ethics; basic experimental psychology; and special topics. A psychology degree from the Royal Military College of Canada provides an excellent grounding for professional development, including graduate level studies, and represents an exceptional way to develop the leadership abilities of graduates. Nationally, RMC offers the only undergraduate psychology programme with a focus on military applications, which makes it a unique degree in Canada.

Core Curriculum Courses

The military psychology and leadership department recognize the need to provide leadership education, raise social consciousness and positively impact the psychological, philosophical and moral development of students. To achieve these goals, the department offers mandatory courses as part of the core curriculum required by students. The focus and scope of each are described below.

100-level courses

PSE103: Introduction to Human Psychology and PSE105: Social Psychology.

Meeting the increasingly unique and complex challenges of an officer in the Canadian Forces requires a combination of conceptual, technical, interpersonal, and professional skills which were not required only a short while ago. To prepare officers for their future leadership responsibilities, the psychology programme promotes an appreciation of human behaviour by providing introductory courses for arts, science and engineering students that focus on basic psychological phenomena such as learning, perception, memory, personality and emotion. Beyond self-awareness, an officer must be able to determine the appropriate type and degree of influence required for effective leadership of individuals and groups. Students examine human behaviour in organizational and social contexts by studying such topics as values, attitudes, obedience, aggression, racial and gender relations, and prejudice.

300-level course

PSE301: Organizational Behaviour and Leadership

An important element of successful leadership is an officer's ability to diagnose organizational performance, adapt effective leadership approaches to various situations, and convey the appropriate leadership style to followers. This course has been designed to help students understand leadership theory, human motivation, power and politics, organizational culture, and managing resistance to change.

400-level course

PSE401: Military Professionalism and Ethics

An officer's ability to function will be greatly impaired if his/her leadership is perceived to lack integrity. Thus, the department focuses on the necessity for personal integrity, the importance of human dignity, and the need to reflect continually on one's own values and professional conduct in fourth year. The department reinforces these concepts by readings and discussions centred on the function of ethics in social and organizational life, ethical theories and decision criteria which distinguish between right and wrong, the impact of situational factors on ethical behaviour, the nature of military professionalism and ethical obligations, specific codes of conduct extant in war, and value conflicts and moral dilemmas inherent in military service.

Programme Eligibility

- Students successfully completing their first year in arts are eligible for entry into the programme leading to a B.A. (Honours) Psychology, a B.A. Psychology, or a Minor in Psychology. Students are normally admitted to these programmes after the first year with permission of the department head.
- Students normally apply for B.A. (Honours) Psychology at the beginning of the third year. Students in B.A. (Honours) Psychology are required to complete a thesis in the fourth year.

Physical Conditioning and Second Language Courses

⚠ **Important:** The physical conditioning courses and the second language courses are part of the four-pillar degree and apply to all RMC degree programmes except the 30-credit general degree programmes.

ℹ **LCF:** Based on the result of a placement test, students will be registered in LCF courses at the 100, 200, 300, or 400-level. Students will automatically be exempt from applicable lower level LCF courses once placed in the appropriate course. Students who attain a Second Official Language (SOL) proficiency level of at least BBB or higher on the Public Service Commission (PSC) Second Language Evaluation (SLE) will be exempt from LCF courses at RMC.

- ATE101: Foundations of Fitness, Health and Sports *(UTPNCM & non-ROTP take ATE102)*
- ATE301: Unarmed Combatives, Military Skills and Individual Sports *(UTPNCM & non-ROTP take ATE302)*
- LCF100 : Compétence de base – partie I
- LCF200 : Compétence de base – partie II
- LCF301 : Compétence intermédiaire – partie I
- LCF302 : Compétence intermédiaire – partie II
- LCF400 : Compétence intermédiaire - partie III

ℹ **Note:** The PSC SLE is the only SOL certification-testing instrument currently accredited and used by the CAF to assess the SOL proficiency level. *(DAOD 5039-8, Canadian Armed Forces Second Official Language Certification Testing)*

B.A. (Honours) Psychology

> ⚠ **Important:** To earn a Bachelor of Arts (Honours) a student must meet the requirements of Academic Regulation 3.1.

Of the 40 credits required for the B.A. (Honours) Psychology, including the core courses for arts programmes. A minimum of 20 credits must be from psychology, as approved by the department, including:

Mandatory courses

The following 14 credits are mandatory:

- PSE103: Introduction to Human Psychology
- PSE105: Social Psychology
- PSE211: Research Methodology in Psychology
- PSE213: Statistics for the Behavioural Sciences
- PSE236: Cognition and Learning
- PSE240: Personality
- PSE301: Organizational Leadership and Behaviour
- PSE312: Applied Military Psychology
- PSE350: Advanced Research Methods
- PSE352: Advanced Statistical Analysis for the Behavioural Sciences
- PSE401: Military Professionalism and Ethics
- PSE424: Thesis (2 credits)
- PSE454: Advanced Leadership

Optional courses

6 credits chosen from the following: [1]

- BAE326: Human Resources Management
- PSE302: Brain and Behaviour
- PSE310: Origins of Psychology
- PSE324: Cross-Cultural Psychology
- PSE328: Group Dynamics
- PSE330: Introduction to Abnormal Psychology
- PSE332: Introduction to Interviewing and Counselling
- PSE334: Introduction to Human Sexuality
- PSE342: Emotion and motivation
- PSE344: Sensation and Perception
- PSE345: The Psychological Science of Fear
- PSE346: Persuasion and Influence
- PSE347: Positive Psychology
- PSE348: Psychology of Creativity and Innovation
- PSE349: Music and Psychological Science
- PSE360: Human Development through the Lifespan
- PSE370: Recruitment and Selection
- PSE380: Psychology and Philosophy of Religious Conflicts
- PSE394: Special Topics in Psychology
- PSE410: Psychology, Morality, and Ethics
- PSE415: Psychological Assessment
- PSE422: Laboratory on the Psychology of Environmental Sustainability
- PSE426: Advanced Cognitive Psychology
- PSE430: Stress
- PSE440: Forensic Psychology
- PSE444: Sports Psychology
- PSE450: Advanced Social Psychology
- PSE451: Survival Psychology
- PSE462: Human Factors in Applied Military Science

- PSE464: Directed Studies in Psychology
- PSE465: Directed Studies in Leadership
- PSE470: Evolutionary Psychology
- PSE482: Peace and Conflict Psychology
- PSE484: The Psychology of Gender in the Military
- PSE493: Directed Research in Psychology
- PSE494: Advanced Special Topics in Psychology

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1 A minimum of one credit, chosen from the optional courses, must be at the 400-level. *(Students may take up to two credits as optional programme courses from St-Lawrence College or Queen's University, with the approval of the head of the department)*.

B.A. Psychology

Of the 40 credits required for B.A. Psychology, including the core courses for arts programmes. A minimum of 16 credits must be from psychology, as approved by the department, including:

Mandatory courses

The following 10 credits are mandatory:

- PSE103: Introduction to Human Psychology
- PSE105: Social Psychology
- PSE211: Research Methodology in Psychology
- PSE213: Statistics for the Behavioural Sciences
- PSE236: Cognition and Learning
- PSE240: Personality
- PSE301: Organizational Leadership and Behaviour
- PSE312: Applied Military Psychology
- PSE401: Military Professionalism and Ethics
- PSE454: Advanced Leadership

Optional courses

6 credits chosen from the following: [2]

- BAE326: Human Resources Management
- PSE302: Brain and Behaviour
- PSE310: Origins of Psychology
- PSE324: Cross-Cultural Psychology
- PSE328: Group Dynamics
- PSE330: Introduction to Abnormal Psychology
- PSE332: Introduction to Interviewing and Counselling
- PSE334: Introduction to Human Sexuality
- PSE342: Emotion and motivation
- PSE344: Sensation and Perception
- PSE345: The Psychological Science of Fear
- PSE346: Persuasion and Influence
- PSE347: Positive Psychology
- PSE348: Psychology of Creativity and Innovation
- PSE349: Music and Psychological Science
- PSE350: Advanced Research Methods [3]
- PSE352: Advanced Statistical Analysis for the Behavioural Sciences
- PSE360: Human Development through the Lifespan
- PSE370: Recruitment and Selection
- PSE380: Psychology and Philosophy of Religious Conflicts
- PSE394: Special Topics in Psychology
- PSE410: Psychology, Morality, and Ethics
- PSE415: Psychological Assessment
- PSE422: Laboratory on the Psychology of Environmental Sustainability
- PSE426: Advanced Cognitive Psychology

- PSE430: Stress
- PSE440: Forensic Psychology
- PSE444: Sports Psychology
- PSE450: Advanced Social Psychology
- PSE451: Survival Psychology
- PSE462: Human Factors in Applied Military Science
- PSE464: Directed Studies in Psychology [3]
- PSE465: Directed Studies in Leadership [3]
- PSE470: Evolutionary Psychology
- PSE482: Peace and Conflict Psychology
- PSE484: The Psychology of Gender in the Military
- PSE493: Directed Research in Psychology
- PSE494: Advanced Special Topics in Psychology

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2 A minimum of one credit, chosen from the optional courses, must be at the 400-level. *(Students may take up to two credits as optional programme courses from St-Lawrence College or Queen's University, with the approval of the head of the department)*.

3 Courses are for senior students, with approval from the head of the department.

Programme Outline Tables

The following tables are examples of a typical outline, by year, of a B.A. (Honours) Psychology programme of study or a B.A. Psychology programme of study that would cover the required courses.

⚠ **Important:** Students who started their 40-credit programme prior to Academic Year 2024-2025 will follow the old mathematics requirement MAE103, MAE106 and, MAE113. Students starting their 40-credit programme in Academic Year 2024-2025 and thereafter will follow the new mathematics requirement MAE107, MAE108 and, MAE109.

ℹ **Note:** Course offerings may vary from year to year. For planning purposes, students enrolled in this programme should access the official list of courses offered each semester through their My Services portal account.

B.A. (Honours) Psychology

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ECE104 ENE111 HIE101 POE116 PSE103 ATE LCF	BAE220 [4] ENE112 HIE103 MAE107 PSE105 ATE LCF	ENE211 MAE108 PSE211 PSE236 **Elective** 1 credit ATE LCF	ENE212 HIE203 MAE109 PSE213 PSE240 ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	PSE301 PSE352 1 science credit [5] **Psychology** [6] 2 credits ATE LCF	HIE271 PSE312 PSE350 **Psychology** [6] 2 credits ATE LCF	POE205 PSE424 PSE454 **Psychology** [6] 1 credit **Elective** 1 credit ATE LCF	PSE401 PSE424 **(cont'd)** 1 science credit [5] **Psychology** [6] 1 credit **Elective** 1 credit ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

B.A. Psychology

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ECE104 ENE111 HIE101 POE116 PSE103 ATE LCF	BAE220 [4] ENE112 HIE103 MAE107 PSE105 ATE LCF	ENE211 MAE108 PSE211 PSE236 **Elective** 1 credit ATE LCF	ENE212 HIE203 MAE109 PSE213 PSE240 ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	PSE301 1 science credit [5] **Psychology** [6] 3 credits ATE LCF	HIE271 PSE312 **Psychology** [6] 1 credit **Elective** 2 credits ATE LCF	POE205 PSE454 **Elective** 3 credits ATE LCF	PSE401 1 science credit [5] **Psychology** [6] 2 credits **Elective** 1 credit ATE LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

4 CSE260 counts as the Information Technology credit required in the core courses for arts programmes.

5 Credits required for the science core are 1 credit in Chemistry or Biology and 1 credit in Physics.

6 Students may take any Psychology course offered or approved by the department.

Double Major or Combined Major

- **Double Majors** with other arts programmes are possible. Students who choose to follow a double major in psychology and one other arts programmes are required to follow the core courses for arts programmes.

- **Combined Majors** with science programmes are possible. Students who choose to follow a combined major in the sciences and psychology are considered science students, and as such are required to follow the core courses for science programmes. Please consult one of the department's undergraduate advisors for details.

Concentration in Psychology

> **Note:** The Concentration in Psychology is **not** open to ROTP Cadets

- A concentration in psychology consists of a minimum of 12 credits in psychology approved by the department, including the core courses for arts programmes. Of these 12 credits in psychology, a minimum of 6 credits must be at the 300 or 400 level.
- Students who select the concentration in psychology are required to take the following courses or their equivalent from a recognized university:

Mandatory courses

The following 5 credits are mandatory:

- PSE103: Introduction to Human Psychology
- PSE301: Organizational Leadership and Behaviour
- PSE312: Applied Military Psychology
- PSE401: Military Professionalism and Ethics
- PSE454: Advanced Leadership

Optional courses

1 credit chosen from the following:

- BAE242: Quantitative Methods I
- PSE211: Research Methodology in Psychology
- PSE213: Statistics for the Behavioural Sciences

6 credits chosen from:

- Any Psychology course offered, or approved by the department.

Minor in Psychology

Students taking a minor in Psychology must complete a minimum of 8 credits in psychology, including the core courses for arts programmes.

Mandatory courses

The following 3 credits are mandatory:

- PSE103: Introduction to Human Psychology
- PSE301: Organizational Leadership and Behaviour
- PSE401: Military Professionalism and Ethics

Optional courses

5 credits chosen from:

- Any Psychology course offered, or approved by the department, including (one from BAE242, or ECE242 not both) and BAE326.

> **Note:** Students may take up to two credits as optional programme courses from St-Lawrence College or Queen's University, with the approval of the Department Head.

Date modified:

2025-02-03

Undergraduate Psychology Courses

PSE103 Introduction to Human Psychology

PSE105 Social Psychology

PSE120 Indigenous Peoples and the Military

PSE211 Research Methodology in Psychology

PSE213 Statistics for the Behavioural Sciences

PSE230 Sensemaking in the Information Age

PSE236 Cognition and Learning

PSE240 Personality

PSE301 Organizational Behaviour and Leadership

PSE302 Brain and Behaviour

PSE310 Origins of Psychology

PSE312 Applied Military Psychology

PSE324 Cross-Cultural Psychology

PSE328 Group Dynamics

PSE330 Introduction to Abnormal Psychology

PSE332 Introduction to Interviewing and Counselling

PSE334 Introduction to Human Sexuality

PSE342 Emotion and Motivation

PSE344 Sensation and Perception

PSE345 The Psychological Science of Fear

PSE346 Persuasion and Influence

PSE347 Positive Psychology

PSE348 Psychology of Creativity and Innovation

PSE349 Music and Psychological Science

PSE350 Advanced Research Methods

PSE352 Advanced Statistical Analysis for Behavioural Sciences

PSE360 Human Development through the Lifespan

PSE370 Recruitment and Selection

PSE380 Psychology and Philosophy of Religious Conflicts

PSE394 Special Topics in Psychology

PSE401 Military Professionalism and Ethics

PSE410 Psychology, Morality and Ethics

PSE415 Psychological Assessment

PSE416 Laboratory on Prejudice: From Attitudes to Action

PSE422 Laboratory on the Psychology of Environmental Sustainability

PSE424 Thesis

PSE426 Advanced Cognitive Psychology

PSE430 Stress

PSE440 Forensic Psychology

PSE444 Sport Psychology

PSE450 Advanced Social Psychology

PSE451 Survival Psychology

PSE454 Advanced Leadership

PSE462 Human Factors in Applied Military Science

PSE464 Directed Studies in Psychology

PSE465 Directed Studies in Leadership

PSE470 Evolutionary Psychology

PSE482 Peace and Conflict Psychology

PSE484 The Psychology of Gender in the Military

PSE493 Directed Research in Psychology

PSE494 Advanced Special Topics in Psychology

Related links

Undergraduate psychology programme requirements

Course details guide

Courses 100-199

PSE103 Introduction to Human Psychology

The purpose of this course is to introduce students to a set of essential topics that are studied in the field of psychological science. Broadly, this course explores research methods, biopsychology, memory, learning, motivation, emotion, consciousness, social behaviour, culture, sex, and gender, stress and health, and psychopathology. Throughout this course, students will learn about what influences people to think, feel, and behave the way they do and how psychology applies to their day-to-day lives as future leaders in the CAF.

Note(s):
Also offered through Distance Education.
A required course for all students in Arts, Science and Engineering.

Exclusion(s):
PSE123

Semester:
Usually offered in the Fall

Contact Hours:

3 - 0 - 6 (Distance Learning: 0 - 0 - 9)

Credit(s):
1

PSE105 Social Psychology

This course provides a comprehensive treatment of the major topics and issues in social psychology. The course will emphasize the unique contribution of social psychology to the theory of social behaviour in such areas as social beliefs and judgments, behaviour and attitudes, attitude change, culture and gender, conformity and obedience, persuasion, prejudice and discrimination, aggression, and social conflicts and their resolution. Students will apply theories and concepts of social psychology to the analysis of the military and social milieu.

Prerequisite(s):
PSE103

Semester:
Usually offered in the Winter

Contact Hours:
3 - 0 - 3

Credit(s):
1

PSE120 Indigenous Peoples and the Military

This interdisciplinary course introduces students to historical and contemporary understandings of the relations between Indigenous Peoples and the military with an emphasis on drawing on the social sciences to examine the Canadian context. Areas covered include: relations amongst Indigenous Peoples, the Crown and Canadian Society; the experiences of Indigenous members serving in the military; examination of unique aspects of the cultures of Indigenous Peoples and the dominant cultures of military including the Canadian Forces; and, consideration of Indigenous and military images, beliefs and practices of the warrior and the leader.

Note(s):
Students enrolled in the Indigenous Leadership Opportunity Year (ILOY) programme are given priority, but the course is open to ROTP students with permission of the Department.

Contact Hours:
3 - 0 - 6

Credit(s):
2

Courses 200-299

PSE211 Research Methodology in Psychology

This course takes a broad approach to research methods in the behavioural sciences. Students are introduced to basic concepts in experimental design and statistical analysis of psychological data. More specifically, students are taught how to obtain reliable and valid measures of human behaviour and psychological attributes. Insights into methodological issues related to the study of psychological phenomena in applied contexts are gained through having students carry out simple research projects in the context of a variety of laboratory activities.

Note(s):
For students in Arts.
A required course for the students electing a B.A. in Psychology

Prerequisite(s):
PSE103

Semester:
Usually offered in the Fall

Contact Hours:

2 - 1 - 6

Credit(s):

1

PSE213 Statistics for the Behavioural Sciences

This course introduces the use of statistical concepts in the behavioural sciences. Students will learn about such concepts as measures of central tendency, measures of dispersion, and the normal distribution. Hypothesis testing will be introduced along with statistical tests for independent and related samples. The course will also include a brief introduction to non-parametric statistics and how to report results in APA style

Note(s):

This course is intended only for students wishing to do a Major, Minor, or a Concentration in Psychology.
A required course for the students electing a B.A. in Psychology.

Prerequisite(s):

PSE103

Exclusion(s):

BAE242, ECE242

Semester:

Usually offered in the Winter

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE230 Sensemaking in the Information Age

This course will expose students to skills required to think critically and better evaluate information they encounter in their day-to-day lives. Learning to distinguish accurate information from more questionable information requires strong reasoning skills and awareness of biases and techniques that are often employed to mislead or misinform naïve audiences. Topics to be covered include an introduction to formal logic, statistical reasoning, and visual representation of data. Cognitive biases and the psychology of sensemaking will be explored, and the psychological underpinnings of propaganda will be examined. Classes will blend lectures, experiential exercises, and group discussions to give students the opportunity to acquire and practice their reasoning skills using material derived from a variety of media sources and historical propaganda campaigns. Skills acquired in this course will generalize to virtually all other disciplines and will enable students to build their critical thinking capacity in ways that will enhance their performance in academic courses, future professional roles, and in everyday life.

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE236 Cognition and Learning

This course is concerned with the basic mental processes involved in learning and information processing. Topics include the basic and fundamental processes involved in learning and in cognition, including mind design, cognitive aspect of learning theories, attention, short-term and long-term memory, and higher mental processes of knowledge and language. The course incorporates three in-class laboratory exercises. Each lab includes running an assigned experiment, subsequent data collection and analysis, and write up as an experimental study using APA format. Students will use concepts of decision-making to analyze military situations.

Prerequisite(s):

PSE103

Note(s):

A required course for the students electing a B.A. in Psychology

Contact Hours:

3 - 0 - 6

Credit(s):
1

PSE240 Personality

This course is intended to introduce students to theory and research in personality. Students will review various theoretical models, the historical context in which they were developed, and how empirical research has informed these theories and been informed by these theories. The course will provide a broad overview of several major theories of personality, including psychoanalytic/psychodynamic, social/lifespan, humanistic, trait theories and cognitive/behavioural perspectives, and will examine both classic and current ideas about the nature and function of personality. Upon completion of this course, students will have an understanding of the basic concepts and principles of each theoretical perspective, be able to relate the personality theories to their own development, characteristics, and behaviours, and be able to apply the theories to others' lives in order to better understand their personalities and experiences.

Note(s):
A required course for the students electing a B.A. in Psychology.

Prerequisite(s):
PSE103

Contact Hours:
3 - 0 - 6

Credit(s):
1

Course 300-399

PSE301 Organizational Behaviour and Leadership

This course is designed to familiarize students with basic theories, concepts, and skills related to Organizational Behaviour (OB) and effective leadership. OB is a field of study investigating the impact that individuals, groups, and organizational factors have on workplace performance and satisfaction. The primary goals of OB are to predict, explain, and manage behaviour in the workplace. A special emphasis is placed on how leaders can use their knowledge and understanding of OB to improve performance and increase the well-being of members. Throughout the course gender, diversity, and topics related to workplace harassment are discussed as these considerations span across many of the topics being presented. This course culminates with an in-depth discussion of socialization, culture and organizational change.

Note(s):
Also offered through Distance Education.
Restrictions for ROTP and RETP: This course is for students who have completed 16 credits or equivalent or with the permission of the department head.

Prerequisite(s):
PSE103

Semester:
Usually offered in the Fall

Contact Hours:
3 - 0 - 6 (Distance Learning: 0 - 0 - 9)

Credit(s):
1

PSE302 Brain and Behaviour

This course introduces the scientific study of how the brain relates to behaviour. The content falls in three areas: a) an examination of neurons, neurotransmitters, and how individual nerves work and communicate with other structures; b) a description of sensory and motor systems; and c) a summary of how the nervous system controls various aspects of behaviour and mental processes, such as learning, memory, motivation, emotion, aggression and cognition.

Prerequisite(s):
PSE103

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE310 Origins of Psychology

This course traces the historical roots of psychology from ancient Greece to the modern era. It explores how it was influenced by insights from medicine, philosophy, mathematics and other natural sciences. It also explains how events such as wars, technological advances and cultural revolutions, shaped our current views on human mental activity. Finally, students are led to develop critical thinking skills related to historical analysis.

Prerequisite(s):

PSE103

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE312 Applied Military Psychology

The course gives students the opportunity to examine the psychological dimensions of military operations. The course begins with an overview of the field of military psychology and then focuses on selected topics like military socialization, combat stress, sleep deprivation, fear and courage, and psychological operations. At the end of the course, students will be able to describe the impact of these psychological factors on performance during military operations.

Note(s) :

Also offered through Distance Education.
A required course for students electing a B.A. in Psychology.

Prerequisite(s):

PSE103

Contact Hours:

3 - 0 - 6 (Distance Learning: 0 - 0 - 9)

Credit(s):

1

PSE324 Cross-Cultural Psychology

Modern military operations typically involve multinational contingents comprised of units from a wide variety of cultures. The purpose of the course is to gain an understanding of the diversity that exists in the world and within Canada. This course provides an overview of some of the differences that exist across cultures and why these differences may exist. Topics to be covered include acculturation, stereotypes, prejudice, cross-cultural research, values, beliefs, gender roles, conflict and negotiation, communication, and intercultural training.

Note(s):

For students in Arts

Prerequisite(s):

PSE103 and PSE105

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE328 Group Dynamics

The objective of the course is to enable students to develop an understanding of small group processes, particularly influences that groups have on individual members, as well as those factors which determine group effectiveness. The principal topics to be addressed are the stages of group development; socialization processes; communication; decision-making process; and, group norms, cohesion and role definition.

Note(s):

Also offered through Distance Education.
For students in Arts

Prerequisite(s):

PSE103

Contact Hours:

3 - 0 - 6 (Distance Learning: 0 - 0 - 9)

Credit(s):

1

PSE330 Introduction to Abnormal Psychology

Starting with the distinction between abnormal and normal behaviour, the course moves to the contemporary classification system of abnormal behaviour. The major psychological disorders are discussed in detail (e.g., anxiety disorders, major affective disorders, stress disorders, neurosis, psychosis, and personality disorders). Current schools of treatment are also discussed, as well as their relative strengths and weaknesses.

Note(s):

For students in Arts

Prerequisite(s):

PSE103

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE332 Introduction to Interviewing and Counselling

The goal of this course is to introduce students to counselling theory and skills that they can later apply as leaders and managers. This course will give students an opportunity to study theoretical perspectives on counselling and to apply these theories in situations that require interviewing and helping skills. After examining a number of theoretical concepts in counselling, the course will focus on the preparation and conduct of counselling interviews, solution-oriented interviews, active listening, verbal and non-verbal communication, problem solving and facilitating attitudes used in counselling interviews. A mix of psychological theory, case studies and practical applications will be presented throughout the course.

Prerequisite(s):

PSE103 and PSE240

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE334 Introduction to Human Sexuality

The primary goal of this course is to provide a comprehensive overview of human sexuality. The focus of this approach is to examine human sexuality from a variety of backgrounds such as biology, physiology, public health, sociology, and psychology. This course is designed to provide students with informed sources, themes and research findings in order to develop their critical analysis. Through lectures, discussions, and the study of issues such as sexuality over the lifespan, reproduction, sexual identity and diversity, interpersonal communication, sexual health and risk, paraphilias, and sexual dysfunctions students will gain an appreciation of the complexity of human sexuality.

Prerequisite(s):

PSE103

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE342 Emotion and Motivation

This course explores the evolutionary, physiological, cognitive, social and cultural aspects of human emotion and motivation. It begins with a survey of theoretical and methodological issues related to the scientific measurement of such phenomena. Next, it describes the origins, components, functions and consequences of different emotional and motivational states. Of particular interest is the analysis of how such states impact health, performance and social behaviour. Finally, students are provided with different strategies to manage their own emotions and motivation.

Prerequisite(s):

PSE103

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE344 Sensation and Perception

This course explores the scientific study of human perception. It begins with a survey of different philosophical questions regarding the nature, functions and origins of our perceptions. Next, it presents the different types of stimuli and sensors implicated in vision, hearing and touch. Lastly, it explains how the nervous system processes and organizes these sensory inputs into coherent and complete perceptual representations of the world. Students will also learn to identify common myths and errors related to perception.

Prerequisite(s):

PSE103

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE345 The Psychological Science of Fear

Fear is a rich and complex emotion, which is essential for human survival. This course provides students with a deeper understanding and appreciation of this emotion. After covering the neurophysiological, social, cognitive, historical and cultural foundations of fear, it explores specific questions including why people choose to engage in fear-evoking activities and how different mechanisms underlie specific phobias (needles, dogs, tight spaces, etc.). Lastly, students gain insights into current and specific types of fears (e.g., fear of pandemics, climate change, cyber-crime, etc.) and learn different evidence-based ways to manage and overcome fears.

Prerequisite(s):

PSE103

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE346 Persuasion and Influence

The goal of this course is to provide students with knowledge on the theories and concepts of persuasion and influence, from both social psychology and leadership perspectives. Main course topics include communicator's characteristics, receiver's characteristics, cognitive and social factors, attitude formation and change, behaviour modification and interpersonal communication. Also, different influence strategies will be presented.

Prerequisite(s):

PSF103

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE347 Positive Psychology

The purpose of this course is to explore some of the principles, concepts and theories within the field of positive psychology, such as living a meaningful and gratifying life, mindfulness, engagement and hope. Using a scientific perspective, we will study the factors (biological, psychological, social and emotional) that promote well-being and the positive aspects of human experience. In addition, we will examine techniques and exercises that contribute to a more fulfilling and satisfying life. This course includes two teaching methods: didactic (lecture courses and required reading) and experiential / interactive (group discussions and activities).

Prerequisite(s):

PSE103

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE348 Psychology of Creativity and Innovation

Creativity is as a central source of meaning in our lives and an important quality for leadership. This course explores the psychological foundations of creativity. Using a blend of neurophysiological, social and cognitive perspectives – as well as case studies from different highly creative people – students will learn what creativity is, how it can be evaluated, how it functions, and how to develop it. Along the way, they will learn about popular misconceptions regarding creativity as a process and creative people as individuals and they will understand how new forms of technology can impact how we can create and innovate.

Prerequisite(s):

PSE103

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE349 Music and Psychological Science

Music is an essential part of humanity and has been described as its universal language. This course focuses on the psychological science of music. It explores the origins and nature of music using a range of perspectives including neurological, evolutionary, and cultural. Next, students learn about the links between music, emotion, motivation, cognition and movement. Finally, the course explores the effects of music on brain systems, the possible cognitive benefits of musical training and how music can be used as a therapeutic tool.

Prerequisite(s):

PSE103

Contact Hours:

3 - 0 - 6

Credit(s):

PSE350 Advanced Research Methods

This course will teach students how to design and carry out substantive research projects in the behavioural sciences. Using approaches such as seminars, lectures and laboratory activities, students will become familiar with all aspects of the research process, including strategies for reviewing the academic literature, critical reading of scientific articles, developing meaningful research questions and supporting hypotheses, and linking hypotheses with appropriate research designs and analytic techniques. Related topics such as reliability, validity, research ethics, and the development of strong experimental protocols will be covered, and students will be guided through some administrative processes related to carrying out research with human participants, such as developing REB applications and preparing experimental materials professionally. Data handling, communicating statistical findings, and APA format will also be addressed. This course provides students with the skills necessary for successful completion of an Honours thesis in psychology and will equip them with the basic tools to conduct independent research in the behavioural sciences.

Note(s):

A required course for students electing a B.A. Honours in Psychology or by permission of the MPL department head.

Prerequisite(s):

PSE352

Semester:

Usually Offered in the Winter

Contact Hours:

2 - 1 - 6

Credit(s):

1

PSE352 Advanced Statistical Analysis for the Behavioural Sciences

This course addresses the theoretical concepts and applications of univariate statistical techniques in the behavioural sciences and introduces multivariate statistical techniques. Statistical analyses covered include analysis of variance, multivariate techniques, correlation techniques, and non-parametric analyses. Laboratory sessions will introduce the use of computerized statistical software, data manipulation, and the interpretation of results. Students will also learn to describe and report results in APA format.

Note(s):

A required course for students electing a B.A. Honours in Psychology or by permission of the MPL department head.

Prerequisite(s):

PSE213 and PSE211

Semester:

Usually Offered in the Fall

Contact Hours:

2 - 1 - 6

Credit(s):

1

PSE360 Human Development through the Lifespan

This course is designed to familiarize students with basic research and theory of human development across the life span. Physical, cognitive, communicative/linguistic, and social/emotional development during childhood, adolescence, adulthood, and old age will be examined. Factors that affect human development and principles of development will be studied.

Note(s):

For students in Arts.

Prerequisite(s):

PSE103

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE370 Recruitment and Selection

This course is designed to familiarize students with basic theories, concepts and practices in industrial psychology. Students will examine how theoretical and empirical research in industrial psychology is used to solve typical human resources challenges. Representative topics include recruitment, job analysis, competency evaluation and assessment, selection tests, psychometric issues in measurement, hiring procedures, applicant screening, the employment interview, legal issues in selection techniques and selection decisions, approaches to performance appraisal and performance rating systems. Students will be expected to demonstrate their comprehension of industrial psychology by completing projects with a direct application in these areas. References are made to the Canadian Forces personnel system to illustrate various points of discussion.

Prerequisite(s):

PSE301

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE380 Psychology and Philosophy of Religious Conflicts

This course offers a critical study of the influence of religion on people and on conflicts. The first objective of this course is to closely examine the role of religion in the development of violence in conflicts and hostilities between different cultural and ethnic groups. The second objective is to understand what incites people or groups to use religion or particular beliefs as a means to provoke violence and create conflict. This course is designed to allow students to grasp a phenomenon that is more and more embedded in political-religious discourse and to analyse its various influences. This end will be accomplished with the help of psychological theories and research, religious concepts and studies, and philosophical insights. The acquisition of knowledge will be attained through formal teaching sessions, discussions and student presentations. Some of the themes that will be studied are war in the name of God, personal and religious identity, religious fanaticism, suicide bombers, attachment theory, and terrorism.

Note(s):

For students in Arts or with the permission of the professor

Prerequisite(s):

PSE103

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE394 Special Topics in Psychology

A lecture course providing an in-depth examination of a specific topic/theme in Psychology. Content in any given year depends on instructor.

Contact Hours:

3 - 0 - 6

Credit(s):

1

Courses 400-499

PSE401 Military Professionalism and Ethics

The purpose of this course is to develop student understanding of the professional and ethical dimensions of officership. Throughout, a distinction is made between the normative ideals of behaviour prescribed by ethical and military theorists and the reality of behaviour as described and explained by cognitive, social, and other psychological factors. Course content is drawn from moral philosophy, psychology, and military sociology and includes readings and discussions on: the function of ethics in social and organizational life; the major ethical theories and decision frameworks developed by moral philosophers to distinguish between right and wrong; individual difference factors in moral development and moral cognition; situational and organizational factors which either foster or undermine ethical behaviour; psychological models of ethical decision-making and action; the nature of military professionalism and the ethical obligations which derive from the military social role and legitimate power; the military ethic and military codes of conduct; specific codes of conduct applicable in war; and value conflicts and ethical dilemmas inherent in military service.

Note(s):

Also offered through Distance Education.
Restrictions for ROTP and RETP: This course is for students who have completed a minimum of 30 credits or equivalent and are in one of the last two semesters of their academic programme, or with the permission of the department head.

Prerequisite(s):

PSE103

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 0 - 6 (Distance Learning: 0 - 0 - 9)

Credit(s):

1

PSE410 Psychology, morality and ethics

The objective of this course is to examine the relation between psychology as an empirical discipline and ethics as a normative discipline. The aim is to engage students in a reflection that will help them understand the important role of psychology in ethical thinking. The course focuses on what psychology teaches us about the structure of human beings as principal agents of ethical decisions. To address this issue, the pedagogical approach for this course will borrow theories, concepts and practices from the domain of psychology and the field of ethics. These three angles (theories, concepts and practices) are intertwined in exploring themes such as personality, identity development, empathy, character development, and in closely studying ethical cases such as cognitive dissonance in ethical discourse, differences between sexes and conflict in values in ethical decision-making.

Note(s):

For students in Arts or with the permission of the professor.

Prerequisite(s):

PSE103

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE415 Psychological Assessment

The topics covered include how different psychological tests are developed (e.g., those for cognitive ability, integrity, and personality assessment); and the use of psychological tests to make decisions about individuals (e.g., for employment or assessment centres). Students will be introduced to the types of measures commonly used in military and non-military contexts including education, selection and clinical psychology. The ethical and legal considerations regarding psychological tests will also be discussed.

Note(s):

For students in Arts

Prerequisite(s):
PSE211 and PSE213.

Contact Hours:
3 - 0 - 6

Credit(s):
1

PSE416 Laboratory on Prejudice: From Attitudes to Action

This course will present the major theory and research on the basic processes involved in prejudice and discrimination. Broad topics to be addressed include perspectives on the origin and causes of prejudice, measures of prejudice, impact of prejudice, and approaches to improving intergroup attitudes, intergroup equality, and social justice. A weekly laboratory will involve the development and execution of studies in this domain.

Prerequisite(s):
PSE103, PSE105, PSE211, PSE213

Contact Hours:
2 - 1 - 6

Credit(s):
1

PSE422 Laboratory on the Psychology of Environmental Sustainability

This course will present the major topics of the psychology of environmental sustainability and the scientific study of the relationship between humans and the rest of nature. It will survey contemporary environmental issues and their relation with human behaviour as global warming is identified as a danger to world peace. The focus is on the application of theories and research in psychology to the issues of conservation. A weekly laboratory will involve the development and execution of studies in the domain of environmental conservation psychology.

Prerequisite(s):
PSE103, PSE105, PSE211

Contact Hours:
2 - 1 - 6

Credit(s):
1

PSE424 Thesis

Special research under the supervision of a faculty member on an approved subject that may include statistical analyses and results interpretation, or in-depth analysis and application of the extant literature. Special topics in research methods as they pertain to the student’s research will be discussed. This thesis will be examined by a committee constituted for the purpose.

Note(s):
A required course for the students electing a B.A. Honours in Psychology

Prerequisite(s):
PSE350 and PSE352 (A minimum of B- will be required for prerequisites) or with the permission of the Department.

Contact Hours:
1.5 - 0 - 7.5

Credit(s):
2

PSE426 Advanced Cognitive Psychology

This is an advanced course on cognitive psychology. There are two major components to this course. The first, a content component, mainly focuses on major empirical findings and theories in cognitive psychology, including research methodology. The main focus of the second component, critical thinking, includes refining students' critical thinking skills through an active engagement in debates on major issues in applied

cognitive psychology, such as, but not limited to, human factors as well as issues of awareness: memory, situation awareness, decision-making, and team cognition.

Note(s):
For students in Arts

Prerequisite(s):
PSE211 and PSE236

Contact Hours:
3 - 0 - 6

Credit(s):
1

PSE430 Stress

This course will concentrate on the fundamental aspects of the biological and psychological approach to stress and its consequences. Students will develop an understanding of the plausible mechanisms that link psychological and behavioural factors to stressors, stress, and strain (stress reactions). They will also gain insight into the ways that interventions may interrupt these processes. The course will cover the different types of stressors and the cumulative nature of stress. Concepts of stress, vulnerability, adaptability, resilience, coping, regenerative power, social support and related research will also be included. Finally, the course will include major stress management techniques, helping others cope with stress, and promoting wellness.

Note(s):
For students in Arts

Prerequisite(s):
PSE301

Corequisite(s):
PSE312

Contact Hours:
3 - 0 - 6

Credit(s):
1

PSE440 Forensic Psychology

This course explores the relationship between psychology and the law/legal system. Students will become familiarized with the nature and scope of forensic psychology. By the end of the course, they will be able to describe the work conducted by forensic psychologists and gain an understanding of the theories and empirical evidence that guide their work within the legal system. Topics that will be critically evaluated include criminal profiling, interrogations/confessions, eyewitness testimony, juries and jury selection, lie detection, fitness to stand trial, predicting violent behaviour and sentencing/imprisonment.

Note(s):
For students in Arts or with the permission of the instructor

Prerequisite(s):
PSE105 and PSE236

Contact Hours:
3 - 0 - 6

Credit(s):
1

PSE444 Sport Psychology

This course introduces the student to the psychological and social factors inherent in sport and exercise. Topics will include understanding participants (e.g., personality, motivation, stress); understanding sport and exercise environments (e.g., competition, feedback, reinforcement); understanding group processes (e.g., team dynamics, cohesion, leadership); enhancing performance (e.g., imagery, goal setting, concentration);

improving health and well-being (e.g., athletic injuries and psychology, addictive and unhealthy behaviours, burnout and overtraining). This course will provide students with a greater understanding of the psychological dimensions of sport, exercise and health, and then be better prepared to implement this knowledge in military settings.

Note(s):

For students in Arts

Prerequisite(s):

PSE103

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE450 Advanced Social Psychology

This course will explore advanced topics in social psychology. Students will develop an understanding of the complexities of human relationships, gain an appreciation for how our behaviours come to be shaped by others, and how we, in turn, can exert an influence on those with whom we interact. Core material covered addresses: historical perspectives; interpersonal aspects; personal, interpersonal and collective phenomena; interdisciplinary perspectives; evolutionary social psychology; and emerging trends. Students will be introduced to commonly used social psychological experimentation and methodologies.

Prerequisite(s):

PSE105 and PSE211

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE451 Survival Psychology

The goal of this seminar is to better understand how groups and individuals behave before, during and after life-threatening events. Students will be presented with key concepts related to short and long-term survival situations and will explore the psychological impact of these experiences on survivors. This course will expand students' understanding of extreme events by exploring topics such as psychological preparedness, fight, flight and freeze responses and recovery from life-threatening events in military and non-military contexts.

Prerequisite(s):

PSE103

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE454 Advanced Leadership

The general objective of this course is to explore leadership theory and practice in depth, building on the concepts introduced in PSE301, and secondly, to develop an appreciation of how these impact on work performance and motivation. The general focus will be on the critical analysis of current leadership theories and their application to the military. Students will also be introduced to diagnostic and intervention strategies related to organizational development and to the leader as an agent of change. Ultimately, the student will be able to evaluate work situations and employ strategies to increase personnel performance and improve motivation and job satisfaction.

Note:

Also offered through Distance Education.
A required course for students electing a B.A. in Psychology

Prerequisite(s):

PSE103 and PSE301

Semester:
Usually Offered in Winter

Contact Hours:
3 - 0 - 6 (Distance Learning: 0 - 0 - 9)

Credit(s):
1

PSE462 Human Factors in Applied Military Science

This course will introduce students to the broad problems in human-machine interactions and interfacing. This will involve studying human capabilities as applied to engineering and design. Topics will also include the measurement of human and machine capabilities, the effects of noise on performance, and the effects of sustained operations on performance. The various techniques used to enhance human effects of sustained operations on performance. The various techniques used to enhance human performance will also be discussed and evaluated. Aids to memory, perception, discrimination, and detection will be examined and demonstrated in class. Students will also be introduced to the use of computers in psychological settings.

Note(s):
For students in Arts

Prerequisite(s):
PSE103, PSE211, PSE301

Contact Hours:
3 - 0 - 6

Credit(s):
1

PSE464 Directed Studies in Psychology

With permission of the department head, specialized study on an approved subject in one of the area's studies in Military Psychology, but not available in other courses offered by the department. The method of instruction (i.e., lecture, seminar, tutorial, directed reading, etc.) will be determined by student needs and faculty availability.

Note(s):
For students Arts

Prerequisite(s):
PSE211 and PSE301

Semester:
Usually offered in the Fall & Winter

Contact Hours:
3 - 0 - 6

Credit(s):
1

PSE465 Directed Studies in Leadership

With permission of the department head, specialized study on an approved subject in one of the area's studies in Military Leadership, but not available in other courses offered by the department. The method of instruction (i.e., lecture, seminar, tutorial, directed reading, etc.) will be determined by student needs and faculty availability.

Note(s):
For senior students, with permission of the department

Prerequisite(s):
PSE211 and PSE301

Semester:

Usually offered in the Fall & Winter

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE470 Evolutionary Psychology

This course explores how biological evolution shaped human behaviour and mental processes. Starting with an overview of Darwin's theory of natural and sexual selection, it addresses a variety of topics, including cooperation, altruism, competition, aggression and mating strategies. Borrowing from a wide array of disciplines, it invites students to analyze behaviours from an ultimate and functional perspective. Finally, attention is drawn to possible misinterpretations and abuse of evolutionary explanations in popular discourse.

Prerequisite(s):

PSE103

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE482 Peace and Conflict Psychology

The goal of this course is to provide students with knowledge of psychology's contribution to understanding and improving human relations at interpersonal, intergroup, and international levels. Students will be presented key concepts, major theories and practises underlying peace, conflict, violence, and social inequities. Main course topics include prejudice, social inequalities, militarism, conflict resolution, social justice, peace education and nonviolent approaches to peace.

Prerequisite(s):

PSE103, PSE105

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE484 The Psychology of Gender in the Military

The purpose of this course is to examine psychological and social gender theories based on scientific research on gender-related issues. The topic of gender is somewhat controversial as it challenges various expectations on how women and men are viewed and defined. This course will look at some of these expectations (e.g., assigned roles) and address the psychological and social similarities and differences between women and men. Themes such as, but not limited to, gender role stereotypes, socialization practices, biological factors, and cultural norms will be covered. The role of gender in relation with the military will also be discussed.

Prerequisite(s):

PSE103, PSE105

Contact Hours:

3 - 0 - 6

Credit(s):

1

PSE493 Directed Research in Psychology

This course will involve research experiences relevant to the study of psychology. This is an individual research project to be arranged in consultation with an individual faculty member of the Department of Military Psychology and Leadership. A final report of the research outcomes will be a required deliverable for this course.

Prerequisite(s):

PSE103, PSE211, PSE213 (minimum of 65 will be required in all three courses)

Contact Hours:

1 - 2 - 6

Credit(s):

1

PSE494 Advanced Special Topics in Psychology

An advanced seminar providing an in-depth examination of the recent theoretical, empirical, and methodological developments of a specific topic/theme in Psychology. Content in any given year depends on instructor.

Prerequisite(s):

PSE103, PSE211, and with permission of department head

Contact Hours:

3 - 0 - 6

Credit(s):

1

Date modified:

2025-02-03

NCM Executive Professional Development Programme

General Infomation

The Non-Commissioned Member Executive Professional Development Programme (NEPDP) is intended to further develop the intellectual, analytical and reasoning skills of the Chief Petty Officers 1st Class/Chief Warrant Officers (CPO 1/CWO) who have been selected to hold key positions and senior appointments in the Canadian Armed Forces (CAF) and those chosen Chief Petty Officers 2nd Class/Master Warrant Officers (CPO2/MWO) who are part of a deep Succession Planning process. Candidates must meet the admission requirements established by RMC to be admitted to the programme.

NEPDP Candidates will complete either the Certificate of General Military Studies (CGMS) or the Certificate of Advanced Military Studies (CAMS), according to academic advice and direction on posting.

Admission requirements

An applicant for admission to the NEPDP must have completed:

1. Secondary school (Grade 12) leaving diploma or the equivalent (including GED); and
2. At least one university course taken in the previous five years and earning at least a "C" average in the course, or the equivalent as assessed by RMC. Alternatively, students may provide other academic or work accomplishments as evidence of their ability to perform at a university level, subject to approval by RMC's Prior Learning Assessment Recognition (PLAR) section.

An applicant for the Certificate of Advanced Military Studies (CAMS) will have completed the Intermediate, Advanced, and Senior Leadership Programmes (ILP, ALP, and SLP). These applicants will be deemed to have met the prerequisites for CAMS mandatory courses.

Programme outline

- Students will take a minimum of nine one-credit courses over two terms at RMC. Each student will develop an individual learning plan (LP) that takes into account student's preparation for the programme. The Learning Plan will incorporate the core requirements of either the General or Advanced Certificate and will include courses chosen to reflect a student's interests and academic preparation.
- Students who successfully complete the full programme will be eligible for either the General or Advanced Certificate.
- Students may have the opportunity to upgrade their second language profile, depending on the availability of space and resources.
- An academic bridging programme in August will prepare NEPDP candidates for success.

Certificate of General Military Studies (CGMS)

Applicants must first be selected by the CAF for NEPDP before they can be admitted to the CGMS. The Certificate of General Military Studies is a programme of study that is intended to enhance students' appreciation of military arts and science. The certificate programme requires the completion of nine credits:

Mandatory courses

- HIE203: Canadian Military History
- POE116: Introduction to International Relations
- POE205: Canadian Politics and Society
- PSE103: Introduction to Human Psychology

Optional courses

- five credits chosen from the Humanities and Social Sciences

Notes:

1. Students are encouraged to develop a concentration in a particular discipline.
2. The certificate can be applied to a Bachelor of Arts (B.A) or a Bachelor of Military Arts and Science (B.M.A.Sc.).
3. The CGMS code is AKWB.

Certificate of Advanced Military Studies (CAMS)

Applicants must first be selected by the CAF for NEPDP before they can be admitted to the CAMS. The Certificate of Advanced Military Studies is a programme of study that is intended to prepare senior non-commissioned officers for employment at the strategic level within the Canadian Armed Forces Leadership Development Framework. It encourages the development of strategic expertise, creative and abstract cognitive capacities, and lays the foundation for inter-institutional social capacities, paradigm-shifting change-management, and stewardship of the profession.

The advanced certificate programme requires the completion of nine credits.

Mandatory courses

1. PSE301: Organizational Behaviour and Leadership;
2. PSE401: Military Professionalism and Ethics;
3. PSE454: Advanced Leadership; and,
4. POE317: Introduction to Contemporary Strategic Studies.

Optional courses

- Candidates will take an additional five elective courses, the majority of which will be senior credits, and the majority of which will have military relevance. A recommended list is available from the Academic Advisor.

Date modified:

2024-05-08

Language Courses - Arabic, Mandarin, and Spanish

Introduction

The following courses are available to students who have attained a minimum of CCC in the language profile. The language of instruction for the courses will normally be French.

ARF201 *Introduction à l'arabe I*

This course requires a linguistic profile of CCC.

This course is intended for students who have no knowledge of modern standard Arabic, provides an introduction to the Arabic language. This course will study the basics of this language, including its alphabet, as well as its phonetic and linguistic structures.

Note(s):
Intended for second, third, and fourth-year students in Arts.

Contact Hours:
3 - 0 - 6 (Distance Learning: 0 - 0 - 9)

Credit(s):
1

CHF201 *Introduction au mandarin I*

This course requires a linguistic profile of CCC.

This course, intended for students who have no knowledge of contemporary Mandarin, provides an introduction to this language. This course is designed to introduce students to the basics of Mandarin, including phonetic symbols, vocabulary and grammatical structures. At the end of the semester, students will know a certain number of symbols.

Note(s):
Intended for second, third, and fourth-year students in Arts.

Contact Hours:
3 - 0 - 6 (Distance Learning: 0 - 0 - 9)

Credit(s):
1

ESF201 *Introduction à l'espagnol I*

This course requires a linguistic profile of CCC.

This course, intended for students who have no knowledge of Spanish, provides an introduction to the Spanish language. The course will present the basics of Spanish grammar, including the uses of verbs in the present and the future tenses, and will allow students to build an elementary vocabulary.

Note(s):
Intended for second, third, and fourth-year students in Arts.

Contact Hours:
3 - 0 - 6 (Distance Learning: 0 - 0 - 9)

Credit(s):
1

Date modified:
2024-05-14

Undergraduate Science Programmes

Related links

Department of Chemistry and Chemical Engineering

Department of Mathematics and Computer Science

Department of Physics and Space Science

Faculty List by Department

Undergraduate Admissions

The Royal Military College of Canada, Faculty of Science offers five undergraduate programmes, in both English and French. The subjects in the curriculum are selected for their value to future officers in the Canadian Armed Forces.

The five undergraduate science programmes listed below have a high proportion of time devoted to the Arts. The Faculty of Science offers programmes that are applicable to both the Canadian Armed Forces and the civilian sector. For example;

- Chemistry is fundamental to the study and analysis of propellants, environmental studies, pharmacology and forensic science;
- Physics and Space Science are used in satellite remote sensing, optics and optical fibre networks and materials science; and
- Mathematics and Computer Science are used in war games, operations research and financial computing.

A minor, not linked to any individual programme, is also available through the Faculty of Science; the Minor in Military Sciences is an interdisciplinary minor, awarded to students enrolled in four-pillar Arts degrees recognizing the unique value of the Royal Military College of Canada core curriculum. These are the requirements for the minor in military sciences

A course, not linked to any individual programme, is also available through the Faculty of Science; This course is open to all learners at RMC any year. These are the details of SCE101 Indigenous Perspectives of Science and Technology.

Undergraduate Science Programmes

The Royal Military College of Canada offers, through its faculties and departments, the following programmes leading to a Bachelor of Science (Honours) or a Bachelor of Science and the Certificates.

Chemistry

Computer Science

Mathematics

Physics

Space Science

Additional Undergraduate Science Programme

The link below will connect you to the requirements for the undergraduate science programme leading to a Bachelor of Science (General).

> ⚠ **Important:** The Bachelor of Science (General) is not open to, or availble for direct entry to, students enrolled in the ROTP programme.

Bachelor of Science (General)

Minor in Military Sciences

The Minor in Military Sciences will include eight (8) credits of which two must be senior level (300/400). It will be structured as follows:

Mandatory courses (3 credits)

- MAE107
- MAE108
- MAE109

Optional courses (5 credits)

- 1 junior Physics course (100 or 200-level)
- 1 junior Chemistry or Biology course (100 or 200-level)
- 1 junior Information Technology course (100 or200-level)
- 2 senior Science courses (300 or 400-level)

SCE101 Indigenous Perspectives of Science and Technology

Selected topics in Indigenous applications of science and technology will be reviewed, while also learning about the impacts of historic and ongoing colonial disruptions of Indigenous knowledge systems. Technological innovations developed by Indigenous Peoples, and the associated scientific and philosophical approaches, will be the main focus of the course. Learners will also have the opportunity to engage in embodied Indigenous pedagogical practice in laboratory, classroom, and land-based settings to facilitate learning opportunities and build new relationships to ideas.

Note(s):

This course counts as a junior elective credit in Science for Social Sciences and Humanities students and a junior elective credit in Arts for Science and Engineering students.

Contact Hours(s):

3 - 3 - 3

Credit(s):

1

Date modified:

2024-10-23

Undergraduate Chemistry and Chemical Engineering Programmes

Related Links

Chemistry and Chemical Engineering courses

Undergraduate science programmes

Department of Chemistry and Chemical Engineering

Admissions

⚠ Important Notice:

New enrollments into Chemistry (Honours) and Chemistry, for September 2025, have been paused, noting that current students in Chemistry (Honours) and Chemistry will continue, as will the remainder of Chemistry programmes. Determination on the future status of these paused programmes for Academic Year 2026-2027 is ongoing.

General Information

The Department of Chemistry and Chemical Engineering offers programmes of study leading to a B.Sc. (Honours) Chemistry or a B.Sc. Chemistry and a B.Eng. Chemical Engineering.

A double major is also offered in:

- Chemistry / Physics
- Chemistry / Space Science
- Chemistry / Mathematics
- Chemistry / Computer Science

The typical course of study for B.Sc. (Honours) or B.Sc. in Chemistry is set out in the Programme Outline Tables listed below. The students will have a choice between three options:

1. Chemistry
2. Chemistry with an Environment Option
3. Chemistry with a Life Sciences Option

The different options offered will have a common First and Second Year to ensure a strong background in Chemistry and to allow time for the students to choose a specialization.

The Chemical Engineering programme has a strong Materials Engineering component. Nuclear and Environmental Engineering are also included to reflect the spectrum of chemical engineering interests of value to the Canadian Forces and the Department of National Defence. In addition to the basic Chemical Engineering core, the programme emphasizes the areas of corrosion, fuel cells, batteries, alloys, polymers, ceramics, composite development, explosives. Combustion processes, nuclear energy applications and environmental stewardship. All these areas highlight the unique nature of the Chemical Engineering degree at RMC.

To enter the Second Year programme in Chemical Engineering, students must have completed successfully the First Year Engineering or Science programme, normally with a minimum "D+" combined average in Chemistry, Mathematics and Physics and have the approval of the Department of Chemistry and Chemical Engineering.

Accreditation

The baccalaureate degree programme in Chemical Engineering is accredited by the Canadian Engineering Accreditation Board of the Canadian Council of Professional Engineers, and is recognized by the Chemical Institute of Canada and the Canadian Society for Chemical Engineering as qualifying its graduates for full membership status.

The Chemical Engineering degree programme is headed by a professor-in-charge, who reports to the Dean of Engineering through the Head of Department. The programme is administered by the Chemical Engineering Committee, of which the Professor-in-Charge is Chair.

Physical Conditioning and Second Language Courses

⚠ **Important:** The physical conditioning courses and the second language courses are part of the four-pillar degree and apply to all RMC degree programmes except the 30-credit general degree programmes.

ℹ **LCF:** Based on the result of a placement test, students will be registered in LCF courses at the 100, 200, 300, or 400-level. Students will automatically be exempt from applicable lower level LCF courses once placed in the appropriate course. Students who attain a Second Official Language (SOL) proficiency level of at least BBB or higher on the Public Service Commission (PSC) Second Language Evaluation (SLE) will be exempt from LCF courses at RMC.

- ATE101: Foundations of Fitness, Health and Sports ***(UPTNCM & non-ROTP take ATE102)***
- ATE301: Unarmed Combatives, Military Skills and Individual Sports ***(UPTNCM & non-ROTP take ATE302)***
- LCF100 : Compétence de base – partie I
- LCF200 : Compétence de base – partie II
- LCF301 : Compétence intermédiaire – partie I
- LCF302 : Compétence intermédiaire – partie II
- LCF400 : Compétence intermédiaire - partie III

ℹ **Note:** The PSC SLE is the only SOL certification-testing instrument currently accredited and used by the CAF to assess the SOL proficiency level. *(DAOD 5039-8, Canadian Armed Forces Second Official Language Certification Testing)*

B.Sc. (Honours) Chemistry or B.Sc. Chemistry

ℹ **Note:** To earn a Bachelor of Science (Honours) a student must meet the requirements of Academic Regulation 3.2.

A 42.5 credit programme, including the core courses for Science.

All Chemistry Programmes (years 1 & 2)

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ENE121 CCE101 CSE101 MAE101 PHE104 PSE103 ATE LCF	ENE122 CCE101 (cont'd) MAE101 (cont'd) MAE129 PHE104 (cont'd) ATE LCF	CCE240 CCE247 CCE217 HIE207 MAE226 ATE LCF	CCE211 CCE248 HIE203 MAE209 POE205 ATE LCF
Semester total	**6 credits**	**5 credits**	**5.5 credits**	**6 credits**

Chemistry (years 3 & 4)

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	CCE245 CCE254 CCE385 PHE226 PSE301 ATE LCF	CCE329 CCE354 HIE271 **Elective(s)** 2 credits ATE LCF	CCE317 CCE327 CCE420 [1] POE116 **Elective(s)** 1 credit ATE LCF	CCE309 CCE420 (cont'd) [1] CCE437 CCE460 PSE401 **Elective(s)** 1 credit ATE LCF
Semester total	**5 credits**	**5.5 credits**	**4.5 credits**	**5 credits**

Chemistry with a Chemical, Biological, Radiological and Nuclear (CBRN) option (years 3 & 4)

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	CCE245 CCE254 CCE385 PHE226 PSE301 ATE LCF	CCE329 CCE354 HIE271 **Elective(s)** 1 credit ATE LCF	CCE317 CCE327 CCE351 CCE420 [1] CCE483 POE116 ATE LCF	CCE309 CCE420 (cont'd) [1] CCE437 CCE460 CCE474 PSE401 ATE LCF
Semester total	**5 credits**	**4.5 credits**	**5.5 credits**	**5 credits**

Chemistry with a Life Sciences Option (years 3 & 4)

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	CCE245 CCE254 CCE385 PHE226 PSE301 ATE LCF	CCE242 CCE329 CCE354 HIE271 **Elective(s)** 1 credit ATE LCF	CCE317 CCE327 CCE420 [1] CCE483 POE116 ATE LCF	CCE246 CCE309 CCE420 (cont'd) [1] CCE437 CCE460 PSE401 ATE LCF
Semester total	**5 credits**	**5.5 credits**	**4.5 credits**	**4.5 credits**

1 CCE420 is only required for a B.Sc. (Honours) Chemistry. Students in a B.Sc. Chemistry will choose two optional courses in Science or Engineering at the 300 or 400 level.

Chemistry Minors

Minor in Chemistry

- CCE101 Introductory Chemistry (2 credits)
- CCE217 Physical Chemistry: Analysis of Matter (1 credit)
- CCE240 Molecular & Cellular Biology (1 credit)
- Choose two (2) of the following:
  - CCE211 Analytical Chemistry (1.5 credits)
  - CCE247 Organic Chemistry I (1.5 credits)
  - CCE254 Concepts in Inorganic Chemistry (1.5 credits)
- 1 additional chemistry credit chosen from the following:
  - CCE248 Organic Chemistry II (1.5 credits)
  - CCE309 Introduction to Quantum Chemistry and Spectroscopy (1 credit)
  - CCE317 Kinetics and Surface Science (1 credit)
  - CCE329 Physical Chemistry of Reactions (1 credit)
  - CCE354 Transition Metal Chemistry (1.5 credits)
  - CCE460 Biochemistry (1 credit)

Minor in Experimental Chemistry

> **Note:** This minor is available only to students taking a B.Sc. Chemistry.

The required eight credits are:

- CCE211 Analytical Chemistry (1.5 credits)
- CCE248 Organic Chemistry II (1.5 credits)
- CCE327 Physical Chemistry Laboratory (0.5 credits)
- CCE329 Physical Chemistry of Reactions (1 credit)
- CCE354 Transition Metal Chemistry (1.5 credits)
- CCE420 Chemistry Senior Project (2 credits)

Minor in Life Science

The Faculty of Science sponsors an interdisciplinary minor in Life Sciences available to any candidate with the prerequisites.

The required eight credits are:

- CCE240 Molecular & Cell Biology (1 credit)
- CCE242 Biology of Organisms (1 credit)
- CCE245 Biochemistry Lab (0.5 credit)
- CCE246 Biology Lab (0.5 credit)
- CCE247 Organic Chemistry I (1.5 credits)
- CCE248 Organic Chemistry II (1.5 credits)
- CCE385 Biotechnology (1 credit)
- 1 credit in a statistic course offered by either the Faculty of Science or Faculty of Social Sciences and Humanities (1 credit)

Minor in Environment

The Faculty of Science sponsors a minor in Environment, available to any candidate with the prerequisites.

The required eight credits are:

- CCE211: Analytical Chemistry (1.5 credits)
- CCE240: Molecular and Cellular Biology (1 credit)
- CCE245: Biochemistry Lab (0.5 credits)
- CCE385: Biotechnology (1 credit)
- CCE460: Biochemistry (1 credit)
- CCE466: Environmental Chemistry (1 credit)
- CCE475: Environmental and Bioprocess Engineering (1 credit)
- CCE483: Toxicology (1 credit)

The list of courses has been chosen such that "CCE101: Introductory Chemistry" (for science and engineering students) is necessary to begin taking courses in the minor, and no additional courses in science, engineering, or chemistry are required to take these courses.

Minor in Chemical, Biological, Radiological and Nuclear (CBRN)

- CCE240: Molecular and Cellular Biology (1 credit)
- CCE247: Organic Chemistry I (1.5 credits)
- CCE248: Organic Chemistry II (1.5 credits)
- CCE351: Nuclear Science and Engineering (1 credit)
- CCE385: Biotechnology (1 credit)
- Achoice of:
  - CCE211: Analytical Chemistry (1.5 credits), or
  - CCE409: Combustion and Explosives Engineering (1 credit)
- A choice of:
  - CCE463: Engineering Aspects of CBRN Defence (1 credit), or
  - CCE474: Molecular Mechanisms of Chemical and Biological Warfare Defence (1 credit)

B.Eng. Chemical Engineering

A 48.5 credit programme, including the core courses for Engineering.

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ENE121 PHE104 MAE101 CCE101 PSE103 CSE101 ATE LCF	ENE122 PHE104 (cont'd) MAE101 (cont'd) CCE101 (cont'd) MAE129 GEE167 ATE LCF	HIE207 CCE240 CCE247 CCE203 CCE318 MAE226 ATE LCF	HIE203 POE205 CCE248 CCE319 MAE209 MAE227 GEE291 ATE LCF
Semester total	**6 credits**	**6 credits**	**6.5 credits**	**6.5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	PSE301 CCE425 CCE305 CCE317 MAE315 MEE311 ATE LCF	HIE271 CCE315 CCE325 CCE406 CCE407 GEE231 GEE393 ATE LCF	HIE289 [4] CCE351 CCE415 CCE417 CCE431 GEE241 GEE293 ATE LCF	PSE401 CCE337 CCE433 CCE417 (cont'd) CCE475 **Optional** 1 credit [5] ATE LCF
Semester total	**6 credits**	**6 credits**	**6 credits**	**5.5 credits**

4 POE372 can replace HIE289

5 Students can choose either:

CCE409: Combustion and Explosives Engineering
CCE413: Systems Analysis: Modelling and Optimization
CCE428: Electrochemistry
CCE429: Corrosion
CCE445: Materials in the Space Environment
CCE463: Engineering Aspects of CBRN Defence
CCE474: Molecular Mechanisms of Chemical and Biological Warfare Defence

These courses may be offered in French, English or not at all depending on the academic year.

Ammunition Technology Certificate

> **Note:** Applicants must first be selected by the CAF for the Ammunition Technical Officer Course before they can be admitted to the Ammunition Technology Certificate. This certificate is intended to provide a basic understanding in the sciences underlying the chemistry of ammunition and explosives, the principles of propulsion and ballistics, the metallurgy and principles of weapon systems, the design and functioning of sea and air launched munitions, and the ammunition life cycle and management within DND/CAF.

The equivalent of five one-credit courses along with mandatory seminar and industrial tour are required for completion of this certificate.

Mandatory Courses (5 credits):

- CCE371: Chemical Principles of Ammunition
- CCE372: Introduction to Ballistics
- (CCE470: Army Munitions and Weapon Systems **and** CCE471: Air and Naval Munitions) **or** (CCE477: Munitions and Weapon Systems **and** CCE478: Weapon Effects and Lethality)
- CCE472: Introduction to Ammunition Management

Seminar Course (0 credit):

- CCE468: Ammunition Seminar

Industrial Tour (0 credit):

- CCE469: Ammunition Industrial Tours

Certificate in Environmental Protection

Mandatory Courses (7 credits):

- CCE106: Basic Chemistry
- CCE204: Military Chemistry
- CCE285: Introduction to Environmental Impact Assessment
- CCE289: Environmental Sciences: Impact of Science and Technology on the Environment
- CCE306: Hazardous Materials Management
- CCE386: Introduction to Environmental Management Systems
- CCE476: Environmental and Bioprocess Design

Elective (1 credit):

- Any Arts or Science course related to the environment (subject to approval).

Guided Literature Review on current environmental issues (1 credit)

- CCE480: Guided Literature Review

Laboratories and Equipment

Departmental Laboratories

The departmental laboratories are located in the Sawyer Building, Modules 4 and 5. They are equipped for teaching and research in the areas of chemistry, materials science, environmental sciences, chemical and materials engineering, environmental engineering as well as nuclear engineering relevant to the course of study and to defence interests. More specifically, they include the following:

Materials Science and Engineering

Materials selection for engineering applications and determination of the chemical, physical and mechanical properties are the foci of study. High temperature furnaces are used in the preparation and treatment of metals, alloys and ceramics while an injection molder is among the tools employed in the area of polymer blends and with composites. Atomic absorption, IR, FTIR, and NMR spectrometers together with gas and liquid chromatography, gel permeation chromatography and viscometry are used in chemical analysis. X-ray diffraction, scanning electron microscopy, metallurgical and polarized-light microscopy, hardness, shear and tensile testing are used to determine physical properties. The various materials are also characterized by thermal gravimetry, by adiabatic and differential scanning calorimetry, and by differential thermal analyses.

Chemical Engineering

The chemical conversion of natural or synthetic materials into useful engineering products together with their management and maintenance are the foci of these studies. Various experiments, most of which are computer controlled, demonstrate typical operations involved in chemical engineering. Heat transfer is studied using a variety of heat exchangers commonly used in oil refineries. A packed bed adsorption unit demonstrates removal of obnoxious trace gases from a valuable product stream an application typical in pollution control. The design of chemical reactors is the objective of another experiment. A bench-scale heat pump provides a study in applied thermodynamics.

Nuclear Science and Engineering

The main tool for nuclear studies is the SLOWPOKE-2 research reactor, which is operated by this Department for the Department of National Defence. Experiments include neutron activation analysis, neutron radiography and isotope production applied to various military problems. Related experiments deal with health physics, radiation protection, liquid scintillations counting, reactor physics and thermal hydraulic studies. The SLOWPOKE-2 Facility serves professors, students, researchers and technical trainees, and provides other capabilities such as radiation detection and low-level counting.

Computer Resources

Computing infrastructure consists of 300+ networked personal computers, laptops and desktop computer modelling/programming workstations. The software available to these systems include:

- Choice of any Microsoft application or programming language product (due to our departmental site licence)
- National Instruments LabVIEW Professional Development System (department site licence)
- Honeywell UniSim - Process Modelling Software
- COMSUL - finite element analysis and solver software package
- MATHLAB - mathematical computation and visualization software
- Maple 10 - programming language for symbolic algebra and high-precision decimal integer and floating-point arithmetic.
- SigmaPlot - technical graphing software

Date modified:

2025-04-14

Undergraduate Chemistry and Chemical Engineering Courses

CCE101 Introductory Chemistry

CCE106 Basic Chemistry

CCE151 Introduction to Nuclear Science

CCE200 Contemporary Chemistry

CCE203 Chemical Engineering Processes

CCE204 Military Chemistry

CCE211 Analytical Chemistry

CCE217 Physical Chemistry: Analysis of Matter

CCE240 Molecular & Cellular Biology

CCE242 Biology of Organisms

CCE245 Biochemistry Lab

CCE246 Biology Lab

CCE247 Organic Chemistry I

CCE248 Organic Chemistry II

CCE253 Materials Science

CCE254 Concepts in Inorganic Chemistry

CCE274 Introductory Organic Chemistry for Chemical Warfare Agents

CCE281 Corrosion: Impact, Principles, and Practical Solutions

CCE285 Introduction to Environmental Impact Assessment

CCE289 Environmental Sciences: Impact of Science and Technology on the Environment

CCE300 Fluid Mechanics

CCE305 Heat Transfer

CCE306 Hazardous Materials Management

CCE309 Introduction to Quantum Chemistry and Spectroscopy

CCE315 Chemical and Materials Engineering Computations

CCE317 Kinetics and Surface Science

CCE318 Applied Thermodynamics I

CCE319 Applied Thermodynamics II

CCE325 Materials Engineering

CCE327 Physical Chemistry Laboratory

CCE329 Physical Chemistry of Reactions

CCE337 Seminar

CCE351 Nuclear Science and Engineering

CCE354 Chemistry of Transition Metals

CCE360 Environmental Sciences: Hazardous Materials

CCE362 Environmental Sciences: Energy

CCE366 Environmental Sciences: Impact of Technology on the Environment

CCE370 Combustion and Explosions

CCE371 Chemical Principles of Ammunition

CCE372 Introduction to Ballistics

CCE373 Chemical Warfare Agents: Physiological Toxicity and Protection

CCE374 Chemical Warfare Agents: Dispersion, Detection and Decontamination

CCE375 Radiological Devices and Nuclear Weapons

CCE376 Health Physics and Radiation Protection

CCE377 CBR Warfare Agents: Detection, Dispersion and Decontamination

CCE385 Biotechnology

CCE386 Introduction to Environmental Management Systems

CCE406 Mass Transfer

CCE407 Reaction Engineering

CCE409 Combustion and Explosives Engineering

CCE413 Systems Analysis: Modelling and Optimization

CCE415 Control Systems and Instrumentation

CCE416 Nanotechnology

CCE417 Design Project

CCE420 Chemistry Senior Project

CCE422 Applied Experimental Design and Data Analysis

CCE425 Polymers Engineering

CCE428 Electrochemistry

CCE429 Corrosion

CCE431 Unit Operations and Process Design

CCE433 Product Design

CCE437 Seminar

CCE440 Special Topics

CCE445 Materials in the Space Environment

CCE450 Advanced Topics in Organic Chemistry

CCE451 Topics in Physical Chemistry

CCE460 Biochemistry

CCE463 Engineering Aspects of CBRN Defence

CCE466 Environmental Chemistry

CCE468 Ammunition Seminar

CCE469 Ammunition Industrial Tours

CCE470 Army Munitions and Weapon Systems

CCE471 Air and Naval Munitions

CCE472 Introduction to Ammunitions Management

CCE473 Biological Agents

CCE474 Molecular Mechanisms of Chemical and Biological Warfare Defence

CCE475 Environmental and Bioprocess Engineering

CCE476 Environmental and Bioprocess Design

CCE477 Munitions and Weapon Systems

CCE478 Weapon Effects and Lethality

CCE480 Guided Literature Review

CCE483 Toxicology

Related links

Chemistry programme requirements

Chemical Engineering programme requirements

Course details guide

Courses 100-199

CCE101 Introductory Chemistry

The course is designed to present the fundamental principles of chemistry taught in the context of military science and engineering applications. The course begins with a review of stoichiometry and chemical theory of bonding (orbitals, Lewis structures, hybridization, and molecular orbital theory). The course continues with the study of gases (real and ideal), acid-base equilibria, colligative properties and solubility. Chemical kinetics and nuclear chemistry are studied next. They are followed by thermodynamics, including the First and Second Laws, energy, work, heat, enthalpies of reaction, entropy changes in simple physical and chemical processes, and Gibbs free energy. The final topics are electrochemistry (redox reactions, electrochemical cells and batteries) and organic chemistry (nomenclature, functional groups, and polymers). Laboratory periods in this course form an application of the topics covered by lecture material.

Note(s):
For students enrolled in Science and Engineering.
Laboratories taught in three (3) consecutive periods.

Prerequisite(s):
High School Leaving Chemistry or equivalent

Contact Hours:
3 - 3 - 6

Credit(s):
2

CCE106 Basic Chemistry

The course begins with the classification and physical properties of matter, measurement, errors and dimensional analysis. It then progresses to chemical nomenclature, chemical formulas, valence, chemical reactions, chemical equations and stoichiometry, followed by the properties of gases, liquids and solutions. Finally, the atomic theory of matter, introduction to electronic structure, the periodic table of the elements and an introduction to chemical bonding completes this course. A laboratory accompanies this course.

Note(s):

Also offered through Distance Education.
Laboratories taught in three (3) consecutive periods (***this applies to on-site course offerings only***).
For Arts students only (this course cannot be applied to a degree in Science or Engineering).

Exclusion:

CCE101

Semester:

Usually Offered in the Fall

Contact Hours:

3 - 2 - 5 (Distance Learning: 0 - 0 - 9)

Credit(s):

1

CCE151 Introduction to Nuclear Science

An introductory course for arts students with little or no previous background in nuclear or radiation science. This course will review the basic terminology and science of nuclear engineering. The current atomic structure models and the processes of radioactive decay are explained and discussed. Interaction of the various types of radiation with matter is covered, and this basis is used for the introduction of the subsequent subjects, including radiation detection, measurement, and shielding.

Note(s):

Also offered through Distance Education.

Prerequisite(s):

CCE106

Exclusion:

CCE351

Contact Hours:

3 - 0 - 6 (Distance Learning: 0 - 0 - 9)

Credit(s):

1

Courses 200-299

CCE200 Contemporary Chemistry

This course is designed to familiarize the student with a variety of current topics, which are primarily chemical in nature. Some basic chemistry will be introduced at the beginning of the course to enable the student to comprehend the chemical systems that will be examined. The main topics to be covered include the chemistry of water, water pollution, air pollution, modern energy sources, plastics and polymers and their environmental impact, food chemistry, agricultural chemistry, and pharmaceuticals and drugs.

Note(s):

This is a core curriculum course for Arts students.
An elective course for students of the Second Year taking Arts, and other students with the permission of the Department.
For Arts students only (this course cannot be applied to a degree in Science or Engineering).

Semester:

Usually Offered in the Fall

Contact Hours:

3 - 0 - 6

Credit(s):

1

CCE203 Chemical Engineering Processes

This course is designed to prepare students to formulate and solve material and energy balances on chemical process systems. It establishes the fundamentals of chemical engineering and lays the foundation for subsequent courses. It also introduces the engineering approach to solving process-related problems. This includes separating a process into its components, establishing the relations between known and unknown process variables and assembling the information needed to solve for the unknowns using a combination of experimentation, empiricism and the application of natural laws. The course is designed to be interactive in nature where students are guided through problem solutions in a lecture environment while given opportunity to practice their own problem solving capabilities through problem sessions and homework assignments. The use of computer-aided process simulation is also introduced.

Prerequisite(s):

CCE101

Semester:

Usually Offered in the Fall

Contact Hours:

3 - 1 - 4

Credit(s):

1

CCE204 Military Chemistry

Topics that will be covered, in a largely qualitative manner, include the nature, physiology and pathology, prophylaxis, detection and decontamination of classical chemical agents, such as nerve, vesicant, choking and blood agents and classical biological agents, such as viruses, bacteria, fungi and rickettsia. Radiological weapons will be discussed from the perspective of the variety of options and the biological hazard posed. Also covered will be the effects of nuclear weapons on vehicles, structures and personnel. Specific radiological and nuclear topics will include detection and dosimetry, and the distinct hazards posed by alpha, beta, and gamma and neutron radiation. Protective measures, both individual and collective, counter NBC agents, will also be discussed.

Note(s):

Also offered through Distance Education
An elective course for students of the Second, Third or Fourth Year taking Arts.
For Arts students only (this course cannot be applied to a degree in Science or Engineering).

Exclusion(s):

CCE304, CCE463, CCE474

Contact Hours:

3 - 0 - 6 (Distance Learning: 0 - 0 - 9)

Credit(s):

1

CCE211 Analytical Chemistry

This lecture course will be combined with a laboratory component. Topics include the process of chemical measurement from sampling through analysis to the interpretation of results with applications to chemistry and related disciplines. Experimental errors and statistics of measurements will be included. Topics also include wet analytical chemistry, spectrophotometry and instrumental chemical analysis – principles of gas and liquid chromatography, mass spectrometric detection, new separation methods, electrochemical analysis, and inductively coupled plasma-based elemental analysis. Sample preparation techniques for environmental and biological materials will also be included.

Note(s):

For students taking Honours Chemistry, or a Major in Chemistry.
An elective course for students taking other Science programmes.

Prerequisite(s):
CCE101

Semester:
Usually Offered in the Winter

Contact Hours:
Contact Hours: 3 - 3 - 7

Credit(s):
1.5

CCE217 Physical Chemistry: Analysis of Matter

This introductory course provides a survey of different characterization methods for different states of matter. This includes a brief introduction to structure determination using X-ray diffraction, optical spectroscopy (UV-Vis and Fluorescence), infrared spectroscopy (FT-IR and Raman), microscopy techniques (Scanning Electron microscopy), mass spectrometry, and thermogravimetric analysis and differential scanning calorimetry. The fundamental theory, basic instrument design, and practical applications of each technique will be discussed. The laboratory part of this course will demonstrate operation of various instruments and data interpretation.

Note(s):
For students taking Honours Chemistry or a Major in Chemistry.

Prerequisite(s):
CCE101

Exclusion(s):
CCE218

Contact Hours:
2 - 1 - 3

Credit(s):
1

CCE240 Molecular & Cellular Biology

This introductory course is focused on molecular and cellular biology. It will prepare students for the upper year courses, CCE385, CCE460 and CCE483. The course introduces the four primary biomolecules (proteins, lipids, carbohydrates, and nucleic acids), and discusses their properties, roles and importance in living organisms. Basic cellular biology (prokaryotes vs. eukaryotes) is also covered, including the metabolic requirements of cells, and processes of photosynthesis and respiration. The course also introduces genetics. Efforts are made to present unifying biological and chemical concepts with examples to encourage student understanding rather than memorization.

Note(s):
Also offered through Distance Education.
For students taking Chemical Engineering, Honours Chemistry or a Major in Chemistry.
An elective course for students taking other Science programmes.

Corequisite(s):
CCE101 or CCE106 (CCE101 can be taken as a corequisite)

Semester:
Usually Offered in the Fall

Contact Hours:
3 - 0 - 3 (Distance Learning: 0 - 0 - 9)

Credit(s):
1

CCE242 Biology of Organisms

This introductory course in general biology follows directly from CCE240. It moves beyond the basics of molecular and cellular biology, to focus on basic themes and concepts of biology spanning organizational levels from organisms to ecosystems. Specifically, this course will explore how multicellular organisms evolved to exploit different environments, and the diverse array of biochemical, physiological, and behavioural mechanisms promoting survival and reproduction. The first part of the course focuses on plant form and function, and the second on animal form and function. The course then studies how groups of species (both plants and animals) interact with the environment to form dynamic ecosystems. Effort will be made to present unifying biological and chemical concepts with examples to encourage student understanding rather than just memorization.

Prerequisite(s):

CCE240

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE245 Biochemistry Lab

This course is an introduction to basic methods and instrumentation in biology, emphasizing fundamental laboratory procedures. Topics studied will include enzyme catalysis and protein determination, anaerobic fermentation, photosynthesis, mitosis and meiosis, and other topics that complement CCE240.

Corequisite(s):

CCE240

Semester:

Usually Offered in the Fall

Contact Hours:

0 - 3 - 3

Credit(s):

0.5

CCE246 Biology Lab

This course is an introduction to basic methods and instrumentation in biology, emphasizing fundamental laboratory procedures. Topics studied will include control of microbes, invertebrate and vertebrate dissections, plant growth and other topics that complement CCE242.

Corequisite(s):

CCE242

Semester:

Usually Offered in the Winter

Contact Hours:

0 - 3 - 3

Credit(s):

0.5

CCE247 Organic Chemistry I

An introductory course in organic chemistry chiefly concerned with the structure, properties, reactions, and synthesis of mono-functional alkanes and alkenes. Stereochemistry and reaction mechanism theory are integral parts of the course. A brief study is also made of infrared and nuclear magnetic resonance spectroscopy, including the interpretation of spectra. Simple preparations are performed in the laboratory. Methods of characterization and identification of organic compounds, as well as spectroscopic methods of analysis, are included in laboratory assignments.

Note(s):

For students of the Second Year taking Chemical Engineering, Honours Chemistry or a Major in Chemistry.
An elective course for students taking other Science programmes.

Prerequisite(s):

CCE101

Exclusion:

CCE241

Contact Hours:

3 - 3 - 6

Credit(s):

1.5

CCE248 Organic Chemistry II

A continuation of CCE247, Organic Chemistry I. This course will focus on the structure, properties, reactions, and synthesis of aliphatic and aromatic compounds. The reactivity of several functional groups will be studied, including carboxylic acids and their derivatives, aldehydes, ketones, enols, and enolates. Organometallic reagents and the oxidation/reduction reactions of alcohols will also be covered. Reaction mechanisms and stereochemistry are integral parts of the course. A brief study is also made of mass spectroscopy, including the interpretation of spectra. Simple preparations are performed in the laboratory. Methods of characterization and identification of organic compounds, as well as spectroscopic methods of analysis, are included in laboratory assignments.

Note(s):

For students of the Second Year taking Chemical Engineering, Honours Chemistry or a Major in Chemistry.
An elective course for students taking other Science programmes.

Prerequisite(s):

CCE247

Exclusion:

CCE241

Contact Hours:

3 - 3 - 6

Credit(s):

1.5

CCE253 Materials Science

This introductory course in the chemical science and engineering of materials is focused on solids. The fundamentals of crystal structure and crystallography are introduced that include unit cells, and symmetry elements for metals, ionic and covalently bonded materials, which serve as the basis for the study of imperfections in solids that lead to dislocations, point and surface defects that ultimately can lead to materials failure. Diffusion mechanisms are examined based on Fick's First and Second Laws. Phase diagrams for two and more component systems are studied including those for steel and other engineering alloys. Ceramics are studied and phase diagrams used for applications to silicates and glasses. The properties and structures of polymers are introduced with their engineering applications. The electrical properties of materials, including semi-conductors, are also studied.

Note(s):

For students taking Engineering.

Prerequisite(s):

CCE101

Semester:

Usually Offered in the Fall

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE254 Concepts in Inorganic Chemistry

This course covers the principles and applications of inorganic chemistry, beginning with an overview of the periodic table and a detailed investigation of atomic structure and the modern bonding theories, emphasizing the periodicity of chemical and physical properties and molecular structure of main group compounds and briefly describing the structure and bonding of select inorganic solids. Concepts of acids-bases are developed, followed by a review of oxidation-reduction chemistry, with special emphasis on the diagrammatic representation of potential data. The laboratory portion of the course will emphasize the concepts developed in class, focusing on inorganic synthesis, characterization, and properties.

Note(s):

For students taking Honours Chemistry or a Major in Chemistry.

Prerequisite(s):

CCE101

Contact Hours:

3 - 3 - 6

Credit(s):

1.5

CCE274 Introductory Organic Chemistry for Chemical Warfare Agents

An introductory course in organic chemistry beginning with organic functional groups and nomenclature. The structure and properties of organic compounds, with emphasis on chemical warfare agents, are integral parts of the course. Select reactions pertaining to the synthesis and decomposition of chemical warfare agents will also be covered. This course will include a primarily qualitative discussion on the nature and identification of traditional chemical warfare agents including nerve, vesicant, choking, blood, psychochemical and incapacitating classifications. In addition, a brief introduction to energetic materials and their reactions will be discussed.

Note(s):

Also offered through Distance Education.
An elective course for students of the second, third or fourth year taking arts.

Prerequisite(s):

CCE106 or equivalent

Semester:

Offered on-site in the Fall or the Winter **(in a condensed block of two weeks).**

Contact Hours:

3 - 0 - 6 (Distance Learning: 0 - 0 - 9)

Credit(s):

1

CCE281 Corrosion: Impact, Principles, and Practical Solutions

Corrosion is responsible for the failure of many systems and structures. This course describes the importance of corrosion problems in relation to material cost, reduced performance, reliability, and impact on the environment. The course covers the basics of what makes environments corrosive, with an introduction to corrosion chemistry, to corrosion thermodynamics, and to the electrochemical theory that relates corrosion current with mass and thickness loss rates of various materials. Forms of corrosion are described in relation to environmental accidents and to methods commonly used to control corrosion. Examples of corrosion in water, soils, and in various atmospheres are also used to introduce these prevention techniques.

Note(s):

Only offered through Distance Education.

Contact Hours:

0 - 0 - 9

Credit(s):

1

CCE285 Introduction to Environmental Impact Assessment

This course prepares students to complete and review Environmental Impact Assessments. The origins, philosophies and approaches to environmental assessment are compared and discussed in detail. Different facets of the Canadian Environmental Assessment Act (CEAA) are also studied in depth, including its history, application, regulations, and process. Students are introduced to the assessment of social and economic as well as biophysical impacts; typical impacts from military operations are also discussed. Through assignments, students will apply the knowledge and skills in the application of environmental assessment at the screening level to typical projects or operations.

Note(s):

Only offered through Distance Education
No prerequisites, although completion of "CCE289: Impact of Science and Technology on the Environment" is recommended.
For Arts students only (this course cannot be applied to a degree in Science or Engineering).

Contact Hours:

0 - 0 - 9

Credit(s):

1

CCE289 Environmental Sciences: Impact of Science and Technology on the Environment

This course analyzes the relationship between human activity and the environment. It assesses the impact of technological development on the environment and introduces such concepts as biogeochemical cycles, atmospheric processes (ozone layer, greenhouse effect, acid rain), and ecosystem self-regulation. An overview of the international environmental challenges and of current federal environment agenda will help the student develop a personal perspective on global environmental protection.

Note(s):

Only offered through Distance Education.
For Arts students only (this course cannot be applied to a degree in Science or Engineering).

Contact Hours:

0 - 0 - 9

Credit(s):

1

Courses 300-399

CCE300 Fluid Mechanics

This course emphasizes the basic concepts of fluid mechanics and includes a study of the following: fluid and flow properties, fluid statics, fundamental equations of fluid motion, control volume concept applied to the continuity, momentum and energy equations; flow measuring devices; shear stress in laminar and turbulent flow, viscous and inviscid flow; introduction to the concepts of boundary layer and drag; engineering applications of flow in closed conduits. Special mathematical techniques, industrial and military applications are included.

Note(s):

Not offered every year.
Students taking Chemical Engineering substitute MEE311.

Prerequisite(s):

PHE104, MAE227 (or equivalent)

Semester:

Usually Offered in the Fall

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE305 Heat Transfer

The fundamental concepts and mechanisms of heat transfer processes are studied. The following topics in heat transfer are covered: differential equations of heat transfer, steady and unsteady state conduction in one and two dimensions using analytical and numerical; heat transfer with free and forced convection in laminar and turbulent flow; boiling and condensation heat transfer; heat transfer equipment; radiation heat transfer. The course includes laboratory work that illustrates and complements the lecture materials.

Note(s):

For students taking Chemical Engineering.

Prerequisite(s):

CCE319, MAE227

Corequisite(s):

MEE311

Semester:

Usually Offered in the Fall

Contact Hours:

3 - 1.5 - 4.5

Credit(s):

1

CCE306 Hazardous Materials Management

This course gives students the tools to understand the general nature of hazardous materials and their management, as well as the specifics of the hazards presented by, and the requirements for safe handling of, the various classes of hazardous materials. The course includes a review of chemistry, including nomenclature and reaction chemistry. In addition, the various classes of hazardous materials are discussed, covering the specific nature of the hazard and selected examples of representative materials, and proper handling, storage and disposal procedures. CAF/DND orders and directives and Canadian legislation relevant to hazardous materials are also examined.

Note(s):

Only offered through Distance Education.
For Arts students only (this course cannot be applied to a degree in Science or Engineering).

Prerequisite(s):

CCE289

Contact Hours:

0 - 0 - 9

Credit(s):

1

CCE309 Introduction to Quantum Chemistry and Spectroscopy

This course covers the following major topic areas: Schrodinger equation for the H-atom, hydrogen-like orbitals, energy levels and atomic transitions, multi-electron atoms, variational principle, Hund's Rule. Born-Oppenheimer approximation, vibrational and rotational states. Molecular orbital treatment of diatomic molecules, hybridization and polyatomic molecules. Absorption and emission of radiation in simple molecules, selection rules, fluorescence, phosphorescence and radiationless transitions. Infrared spectroscopy.

Note(s):

For students taking Honours Chemistry or a Major in Chemistry.
Offered in French or English in alternating years.

Prerequisite(s):

PHE225 or PHE226

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE315 Chemical and Materials Engineering Computations

This course develops the mathematical background required to formulate and solve ordinary and partial differential equations arising in chemical engineering. Topics include Fourier series and orthogonal functions, the method of Frobenius and Legendre equations, and Eigen functions expansions for the Sturm-Liouville problem. Solution of partial differential equations is done by analytical methods, including the use of Fourier and Laplace transforms methods. The course covers the numerical solutions of ordinary and partial differential equations. Probability and Statistics are covered as basis for application to the analysis of experimental results and in the design of experimental procedures and computer simulation results interpretation.

Note(s):

For students taking Chemical Engineering.

Prerequisite(s):

CSE101, CCE203, MAE315

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE317 Kinetics and Surface Science

This course develops the empirical treatment of the rate laws and orders of reaction, complex reactions, theories of reaction rates, the Arrhenius relationship and experimental methods. Introduction to kinetics of gases, Boltzmann distribution, collisions, combustion and explosions including chain reactions, free radicals, thermal and branched-chain explosions, delayed branching and degenerate explosions will also be introduced. The course is completed by a study of the nature and properties of surfaces of solids, physical absorption and chemisorption, the development of Langmuir - Hinshelwood equations, the linking of kinetics and chemisorption, and heterogeneous catalysis.

Note(s):

For students taking Chemical Engineering, Honours Chemistry or a Major in Chemistry.

Prerequisite(s):

CCE101

Semester:

Usually Offered in the Fall

Contact Hours:

3 - 1.5 - 4.5

Credit(s):

1

CCE318 Applied Thermodynamics I

The following topics are included in this course: the first law of thermodynamics, work and heat, internal energy and enthalpy, sensible heat, latent heat, standard heats, ideal PVT and introduction to compressibility factors, use of thermodynamic tables, steady state flow systems, unsteady state flow systems, the second law of thermodynamics, exergy or availability, power cycles, and refrigeration.

Note(s):

For students taking Chemical Engineering.

Prerequisite(s):

CCE101

Corequisite(s):
CCE203

Exclusion(s):
CCE218, CCE318

Semester:
Usually Offered in the Fall

Contact Hours:
3 - 1.5 - 4.5

Credit(s):
1

CCE319 Applied Thermodynamics II

The following topics are developed in this course: PVT, generalized correlations and corresponding states, virial equation of state, cubic equations of state and applications, thermodynamic properties and property relationships, equilibrium, vapour liquid equilibria, Clausius & Clausius Clapeyron equations, phase equilibria, fugacity and residual functions, mixing functions, activity and excess functions, phase equilibria calculations, chemical reaction equilibria, and van't Hoff`s equation. The course includes laboratory work that illustrates and complements the lecture materials.

Note(s):
For students taking Chemical Engineering.

Prerequisite(s):
CCE203, CCE318

Exclusion(s):
CCE328

Semester:
Usually Offered in the Winter

Contact Hours:
3 - 1.5 - 4.5

Credit(s):
1

CCE325 Materials Engineering

The following topics are included in this course: the fundamentals of crystal structure and crystallography, phase diagrams for two and more component systems, diffusion mechanisms, phase transformation in metals, applications and processing of metal alloys, applications and processing of ceramics, failure mechanisms, mechanical properties of materials, mechanical testing, non-destructive testing, corrosion and degradation of materials. The course includes laboratory work that illustrates and complements the lecture materials.

Note(s):
For students taking Chemical Engineering.
An elective course for students taking other science programmes.

Prerequisite(s):
CCE247 and CCE248

Semester:
Usually Offered in the Winter

Contact Hours:
3 - 1.5 - 4.5

Credit(s):
1

CCE327 Physical Chemistry Laboratory

The course will illustrate physicochemical principles presented in CCE218 and CCE328(C) with selected experiments. The concepts presented will include: phase transitions in binary systems; glass transition of polymers; physical adsorption and reversibility; nanoparticles; chromophores; solar cells; energetic materials; and reaction kinetics. Laboratory work includes an introduction to the practical application of: Scanning Electron Microscopy (SEM); Thermogravimetric Analysis (TGA); Brunauer-Emmett-Teller (BET) analysis; Differential Scanning Calorimetry (DSC); UV-Visible-IR and Fluorescence Spectroscopy; Dynamic Light Scattering (DLS); Bomb Calorimetry, and computational modeling. The synthesis of complimentary data from multiple sources into effective and rigorous scientific writing will be an important component of this course.

Note(s):

For students taking Honours Chemistry or a Major in Chemistry.

Semester:

Usually Offered in the Fall

Contact Hours:

0 - 3 - 3

Credit(s):

0.5

CCE329 Physical Chemistry of Reactions

In the first part of the course the following topics are investigated: First Law of Thermodynamics, internal energy, enthalpy, adiabatic changes; The Second Law of Thermodynamics, Carnot heat engine, The Clausius Inequality and the Mathematical Statement of the Second Law, conditions for spontaneity, statistical and thermodynamic definitions of entropy. The course will then look at the third Law of thermodynamics and absolute entropies, standard states and standard thermodynamic functions. Chemical potential and application of thermodynamics to phase equilibria in one and multi-component systems. The concepts presented will include: activities and thermodynamics of non-ideal systems, phase transitions in binary systems, physical adsorption and reversibility.

Note(s):

For students taking Honours Chemistry or a Major in Chemistry.

Prerequisite(s):

CCE101 and CCE218 or CCE318

Exclusion(s):

CCE319

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE337 Seminar

Technical, ethical, legal, environmental, and safety topics are covered by seminars given by staff and invited speakers. Topics will be chosen to encompass and extend the technical subjects of the other courses so as to be useful to the working graduate engineer in the military.

Note(s):

For students taking Chemical Engineering, Honours Chemistry or a Major in Chemistry.

Prerequisite(s):

CCE203

Semester:

Usually Offered in the Winter

Contact Hours:

0 - 0.5 - 0

Credit(s):

0

CCE351 Nuclear Science and Engineering

From a review of current atomic structure models, the several processes of radioactive decay are explained and discussed, followed by the various nuclear reactions, including the fission process. The interactions of the various types of radiation with matter are covered, and are used as the basis for covering subsequent subjects such as radiation detection and measurement, and shielding against radiation. The students then learn how radiation affects the living tissues, and the concepts of health physics are introduced, leading to defining the radiation dose concepts and units and to the subject of radiation protection and safety. Several examples of applications of radioisotopes and radiation are then presented in areas as diversified as nuclear medicine, research, analysis, food preservation, radiation processing in the chemical industry and smoke detectors. Emphasis is given to applications of interest to the Canadian Forces, such as the neutron-based anti-personal land mine detector. The course includes laboratory work that illustrates and complements the lecture materials.

Note(s):

For students taking Chemical Engineering.
An elective course for students taking Honours Science or a Major in Science.

Semester:

Usually Offered in the Fall

Contact Hours:

3 - 1.5 - 4.5

Credit(s):

1

CCE354 Transition Metal Chemistry

Aspects of the coordination chemistry of metal complexes are discussed with reference to structures and symmetry elements, ligand field theory, reaction mechanisms and kinetics, and magnetic and spectroscopic properties. Modern organometallic chemistry is introduced, including a discussion of metal-ligand bonding and selected catalytic applications of industrial importance. The laboratory portion of the course will emphasize the concepts developed in class, focusing on inorganic synthesis, characterization, and reaction mechanisms.

Note(s):

For students taking Honours Chemistry or a Major in Chemistry.
Offered in French or English in alternating years.

Prerequisite(s):

CCE254

Contact Hours:

3 - 3 - 6

Credit(s):

1.5

CCE360 Environmental Sciences: Hazardous Materials

The course is designed to assist the young officer in the role of Base Environmental Officer or Unit General Safety Officer, roles that the officer must fill regardless of Classification. Topics include the properties of flammable, corrosive, reactive, toxic and radioactive materials; handling and storage techniques; safe disposal methods of radioactive and non-radioactive wastes. The impact of various materials on living systems and the environment will be explored.

Note(s):

A core curriculum course.
An elective course for students of the Third or Fourth Year taking Arts.

Prerequisite(s):

CCE106 or CCE200

Semester:

Usually Offered in the Fall

Contact Hours:

3 - 0 - 6

Credit(s):

1

CCE362 Environmental Sciences: Energy

Traditional energy sources and the associated technology are reviewed including those of fossil resources, hydroelectric power, and nuclear fission. The required raw materials, their worldwide occurrence and distribution will be examined in a political, strategic and economic context. Methods to determine the Total Unit Energy Costs will be outlined and the various sources of energy compared economically. Novel energy sources including solar, wind, geothermal, hydrogen and fusion are studied. Various aspects of the hydrogen economy will be explored. The environmental risks and social impact of large-scale energy production are discussed.

Note(s):

A core curriculum course.
An elective course for students of the Third or Fourth Year taking Arts.

Prerequisite(s):

CCE106 or CCE200

Semester:

Usually Offered in the Fall

Contact Hours:

3 - 0 - 6

Credit(s):

1

CCE366 Environmental Sciences: Impact of Technology on the Environment

The concept of energy is introduced by discussing the definition, terms, units, use, resources, conversion and conservation. The laws of thermodynamics, temperature, heat transfer, heat engines and heat pumps are briefly covered. Conventional energy sources (fossil, hydroelectric, fission) are studied as well as alternate sources (solar, wind) and currencies (electricity, hydrogen). The environmental impact of these sources is included. Group seminars on specific topics, such as energy sources and uses of interest to DND, are presented.

Note(s):

A core curriculum course.
An elective course for students of the Third or Fourth Year taking Arts.

Prerequisite(s):

CCE106 or CCE200

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 0 - 6

Credit(s):

1

CCE370 Combustion and Explosions

The course will address the physical and chemical processes associated with combustion and explosion reactions, including the production processes, chemical properties and reactions of energetic materials, for primary and secondary explosives, propellants and pyrotechnic formulations used in military and common civilian applications. Additional topics include detection, disposal, safety in handling and transportation, as well as appropriate classifications and regulations, will also be discussed. Criteria for sensitivity, and techniques for predicting and measuring stability and thermal yields, are examined. The generation of blast and its effects on personnel and structures will also be addressed.

Note(s):

An elective course for students of the second, third or fourth year taking Arts.

Prerequisite(s):

Introductory-level Organic Chemistry or CCE247 and CCE248 or CCE274

Semester:

Usually offered in the Fall and or the Winter (**in a condensed block of two weeks).**

Contact Hours:

3 - 0 - 6

Credit(s):

1

CCE371 Chemical Principles of Ammunition

The course examines the historical development of propellants and explosives, their production, and military employment. After a basic review of heat and work, the basis of the adiabatic flame temperature and effects of an explosion in gaseous, liquid, and solid media are presented. The unique phenomena in detonation waves and real effects in an explosive are qualitatively described. Detonation and deflagration, sensitivity, and performance criteria are presented. Representative current propellants, primary explosives, secondary explosives, and pyrotechnic formulations are examined in detail. Limitations and potential areas of development for future materials are explored.

Note(s):

An elective course for students of the second, third or fourth year taking Arts.

Prerequisite(s):

CCE106 or CCE200, PHE134

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 0 - 6

Credit(s):

1

CCE372 Introduction to Ballistics

This course is an introduction to the field of ballistics. Emphasis is placed on achieving a fundamental understanding of principles through the solution of basic ballistics problems in areas of internal, intermediate, and external ballistics. The physical requirements and limitations to the design of specific ammunition, from small arms and grenades to guided weapons, are also explored.

Note(s):

An elective course for students of the second, third or fourth year taking Arts.

Prerequisite(s):

CCE106 or CCE200, PHE134

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 0 - 6

Credit(s):

1

CCE373 Chemical Warfare Agents: Physiological Toxicity and Protection

This course will include a primary qualitative discussion on the mechanism of action, toxicity and subsequent physiological effects for each of the traditional chemical warfare agents and an overview of dispersion methods, detection and decontamination. The issue of toxic industrial chemicals (TICs) will be addressed as they present a primary threat, particularly in the context of the asymmetric threat presented by terrorism. Chemical/biological protective measures, both individual and collective, will be covered, with an emphasis on the issues that are driving future research in this field. Current and future trends regarding the availability and usage of medical countermeasures (MCMs) will be examined.

Note(s):

An elective course for students of the second, third or fourth year taking Arts.

Prerequisite(s):

Introductory-level Organic Chemistry or CCE247 and CCE248 or CCE274

Semester:

Usually offered in the Fall and or the Winter (**in a condensed block of two weeks).**

Contact Hours:

3 - 0 - 6

Credit(s):

1

CCE374 Chemical Warfare Agents: Dispersion, Detection and Decontamination

This course will include a primarily qualitative discussion on the dissemination characteristics of chemical agents as well as their behaviour in the environment. Dispersion modeling techniques and software will be introduced and an overview of the basic reactions characteristic of the environmental degradation of CWAs discussed. The basics of current detection technologies, as well as an examination of future trends, are covered, with emphasis on equipment used by the first responder community. In addition, this course examines the factors that must be considered when determining the appropriate means to deal with the decontamination of personnel, equipment, infrastructure and the environment following an accidental or voluntary CWA release.

Note(s):

An elective course for students of the second, third or fourth year taking Arts.

Prerequisite(s):

Introductory-level Organic Chemistry or CCE247 and CCE248 or CCE274

Semester:

Usually offered in the Fall and or the Winter **(in a condensed block of two weeks).**

Contact Hours:

3 - 0 - 6

Credit(s):

1

CCE375 Radiological Devices and Nuclear Weapons

Several applications of radioisotopes and radiation are presented in this course. These include nuclear medicine, nuclear analysis, food preservation, and energy production. Special emphasis is given to applications of interest to the Canadian Forces and survey equipment / dosimeters employed by the CBRNE community. The principles and characteristics of nuclear weapons will also be discussed and related to the physical and nuclear radiation effects on humans, structures and equipment.

Note(s):

An elective course for students of the second, third or fourth year taking Arts.

Prerequisite(s):

Introductory-level Nuclear Science course or CCE151 or CCE351

Semester:

Usually offered in the Fall and or the Winter (**in a condensed block of two weeks).**

Contact Hours:

3 - 0 - 6

Credit(s):

1

CCE376 Health Physics and Radiation Protection

The interaction of the various types of radiation with matter is reviewed and the topics of radiation detection, measurement, shielding are discussed in greater detail. The students learn how radiation affects living tissues and the concepts of health physics are introduced. Particular attention is paid to distance-yield relationships leading to the definition of radiation dose and appropriate dosimetry units. The topics of radiation

protection, radiological pathology and dosimetry will be covered. Finally, radiological instruments used by the Canadian Forces will be reviewed and the science behind their operation discussed.

Note(s):

An elective course for students of the second, third or fourth year taking Arts.

Prerequisite(s):

Introductory-level Nuclear Science course or CCE151 or CCE351

Semester:

Usually offered in the Fall or the Winter (**in a condensed block of two weeks).**

Contact Hours:

3 - 0 - 6

Credit(s):

1

CCE377 CBR Warfare Agents: Detection, Dispersion and Decontamination

This course will include a primary qualitative discussion on the mechanism of action, toxicity and subsequent physiological effects of Chemical, Biological, Radiological (CBR) warfare agents, including Toxic Industrial Chemicals (TICs). Dissemination and dispersion characteristics of agents and TICs will be examine in relation to current Detection, Protection and Decontamination capabilities and design considerations. The range of physical and chemical CBR detection principles and capabilities will be covered extensively with an introduction into potential future technology. Current Individual and Collective Protective measures will be assessed with regards to Protection Factors (PFs) and hardening design strategies. Finally, this course will examine the factors that must be considered when determining the appropriate means to deal with the decontamination of personnel, equipment, infrastructure and the environment following an accidental or voluntary CBR Agent or TICs release.

Note(s):

An elective course for students of the second, third or fourth year taking Arts.

Prerequisite(s):

CCE151, CCE240, and CCE274

Semester:

Usually offered in the Fall and or the Winter **(in a condensed block of two weeks).**

Contact Hours:

3 - 0 - 6

Credit(s):

1

CCE385 Biotechnology

This course involves the basic principles of chemistry, biochemistry and microbiology applied to environmental systems and problems. The fundamentals and principles of biochemistry, including important biomolecules, bioenergetics and kinetics are discussed. A systematic and quantitative description is given for the necessary inorganic and organic reactions in aerobic and anaerobic media, biokinetics, medium formulation, growth rates and population dynamics, sterilization and genetic engineering. Applications include wastewater treatment, bioremediation, fermentation processes and vaccines.

Note(s):

For students taking Chemical Engineering or Honours Chemistry, or a Major in Chemistry.
An elective course for students taking other Science programmes.
Offered in French or English in alternating years.
Also offered through Distance Education.

Prerequisite(s):

CCE240, and either CCE274 or (CCE247 and CCE248)

Semester:

Usually Offered in the Fall

Contact Hours:

3 - 0 - 3 (Distance Learning: 0 - 0 - 9)

Credit(s):

1

CCE386 Introduction to Environmental Management Systems

This course provides an overview of the principles of environmental management. The ISO 14001, the Standard for Environmental Management Systems (EMS), is the International standard for environmental management adopted by industry and governments worldwide, and the Canadian federal government has adopted the principles of this standard for all federal departments and organizations. These key principles are the focus of this course, and discussions include how to implement EMS in an organization. A detailed examination of the definitions and requirements of ISO 14001, as well as of the concepts of environmental performance indicators, encourage students to think about environmental responsibility.

Note(s):

Only offered through Distance Education.
For Arts students only (this course cannot be applied to a Science or Engineering degree).

Contact Hours:

0 - 0 - 9

Credit(s):

1

Courses 400-499

CCE406 Mass Transfer

The following topics are included in this course: molecular diffusion in gases, liquids and solids, unsteady-state diffusion, equations of change and the boundary layer, convective mass transfer, interphase mass transfer. The course includes laboratory work that illustrates and complements the lecture materials.

Note(s):

For students taking Chemical Engineering.

Prerequisite(s):

CCE305, CCE319

Contact Hours:

3 - 1.5 - 4.5

Credit(s):

1

CCE407 Reaction Engineering

This course builds on the material of CCE317 and introduces students to the analysis and design of chemical reactors as employed in materials conversion and purification systems. Homogeneous and heterogeneous reactions in single ideal batch and flow reactors, and in reactor combinations, are studied. The analysis of real reactors is introduced. As part of the design function, optimization of reactor performance is introduced. The course includes laboratory work that illustrates and complements the lecture materials.

Note(s):

For students taking Chemical Engineering.

Prerequisite(s):

CCE319, CCE317

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 1.5 - 4.5

Credit(s):

1

CCE409 Combustion and Explosives Engineering

The study of the physical and chemical processes associated with applied combustion science that include concepts from thermodynamics, chemical kinetics, fluid mechanics, mass transfer and heat transfer. Also studied are pre-mixed and diffusion flames, combustion suppression and combustion pollutants. An introduction is given to energetic materials, explosions and gun propellants.

Note(s):

Elective for students taking Chemical Engineering.

Prerequisite(s):

CCE203, CCE318, CCE319, CCE317

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE413 Systems Analysis: Modelling and Optimization

The formulation of mathematical models from word statements of engineering problems and digital computer simulation are emphasized in this course. The students are introduced to the methods of computer simulation of engineering systems as used within the industry, for the prediction of the (steady-state) behaviour and performance of various processes and systems of contemporary and future significance to the Canadian Forces. Several modern optimization techniques are studied and applied to solve optimization problems by numerical methods on computers. Economic models are examined for process systems in terms of the relationships between physical and economic parameters.

Note(s):

For students taking Chemical Engineering.

Prerequisite(s):

CCE203, CCE300, CCE305, MAE315, CCE315, CCE351, CCE406

Corequisite(s):

CCE407.

Semester:

Not offered every year.

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE415 Control Systems and Instrumentation

This course emphasizes the basic concepts of control system analysis. Topics include: review of the Laplace transforms; transfer functions and responses of open-loop systems; measurement techniques; analysis of linear closed-loop systems including control system, closed-loop transfer functions, transient response and stability; frequency-response methods; direct digital control (DDC) covering the functions of digital computers for control of industrial processes, analysis of sampled data, response and stability of open and closed-loop sampled systems. Practical examples are selected from various courses in the programme.

Note(s):

For students taking Chemical Engineering.

Prerequisite(s):

MAE315

Semester:
Usually Offered in the Fall

Contact Hours:
3 - 1.5 - 4.5

Credit(s):
1

CCE416 Nanotechnology

This course presents the mains theoretical principles of nanotechnology, molecular interactions and recognition, self-assembly, and nanolithography. The concepts of layer-by-layer self-assembly, self-assembly of polymers and nanolithography are presented. The course will also present the synthesis and use of carbon nanotubes, their structure and electronic properties for high technology applications. A review of modern techniques for characterization at the nanometer level for ordered and disordered materials will be presented. The students will prepare a presentation on a subject of their choice related to the course and will present a literature review.

Note(s):
For students taking Chemistry

Prerequisite(s):
CCE328

Contact Hours:
3 - 0 - 4

Credit(s):
1

CCE417 Design Project

The purpose of this course is to permit each engineering student, normally working as one of a group, to participate in the engineering design of a process or system. Emphasis is placed on design techniques, on the integration of material taught in previous science and engineering courses, on design project organization and administration, and on economic evaluation of the system being designed. Ethical concerns such as safety, environmental and societal impact of engineered systems are also integral parts of the projects. The course includes two oral presentations as well as a written technical report that develop the student's skill in oral and written communication. When possible, students are encouraged to present their work at student conferences. Design projects are selected, where possible, based on current and foreseen engineering applications in the Canadian Forces, which fall within the scope of the programme, and may involve direct liaison with DND technical establishments and directorates.

Note(s):
For students taking Chemical Engineering.

Prerequisite(s):
CCE203, CCE305, CCE325, CCE406, CCE407

Corequisite(s):
CCE431

Contact Hours:
Fall Term: 0 - 4 - 4 Winter Term: 0-5-5

Credit(s):
2

CCE420 Chemistry Senior Project

The purpose of this course is to offer the possibility of doing an in-depth study of a scientific topic in which the student is particularly interested. The format is flexible and depends on the topic area. At one end of the spectrum, the student could be associated with a research team in the department focused in Chemistry, Biology or Environmental Sciences, and be given responsibility for part of a research project. At the other end, the student may choose a programme of independent study under the supervision of a member of the faculty. In all cases, the student's progress

would be regularly monitored and an interim report would be submitted by the student at the end of the Fall term. The final mark would be based on a combination of assessment by the faculty supervisor(s) and an oral presentation to the Honours Science students and a faculty assessment committee.

Note(s):

Mandatory for Chemistry (Honours) students.

Contact Hours:

0 - 0 - 5

Credit(s):

2

CCE422 Applied Experimental Design and Data Analysis

The methodology for developing efficient experimental plans for reduced experimentation and maximum informational output will be presented, and the use of analysis of variance (ANOVA) and multiple linear regression models for data analysis emphasized. Multivariate analysis methodologies including cluster analysis, use of correlation matrices, principle component analysis (PCA), and partial least squares (PLS) regression will be presented with a focus on applied data analysis and industrial process optimization. Data distributions including normality and homoscedasticity will be discussed in the context of analysis methodology assumptions and the use of transformations for data analysis covered. These methods will be applied in a context putting the emphasis on resolving chemistry-related problems.

Note(s):

For students taking Honours Chemistry or a Major in Chemistry.
An elective course for students taking other Science programmes.
Offered in French or English in alternating years.

Prerequisite(s):

CCE101

Semester:

Usually Offered in the Fall

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE425 Polymers Engineering

The following topics in polymer science and engineering are covered: chemistry and kinetics of polymerization, polymerization processes, physical and mechanical characterization, additive systems, reinforcements, fillers as well as polymeric part fabrication processes and composite formation and characteristics. The relationship between the polymer properties and their use in civilian and military applications is emphasized.

Note(s):

For students taking Chemical Engineering.
An elective course for students taking other Science programmes.

Prerequisite(s):

CCE247 and CCE248

Semester:

Usually Offered in the Fall

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE428 Electrochemistry

The course covers the following topics: definition, coulometry, current efficiency, typical electrochemical cells and electrical energy storage/utilization: primary cell (MnO2-Zn), secondary cell (Pb-acid), fuel cell (SOFC), plating (Watts Ni), winning (Zn-acid) and refining cells (Cu-acid); electrolytic conductance: strong and weak electrolytes, ionic mobility, transference number, ionic diffusivity, limiting current, anode blocking; Throwing power of electroplating systems; Electrolytic conductance in molten salts and oxides; Thermodynamics of cells, Nernst equation; Thermal exchange accompanying electrolysis; Concentration cells and electrometric probes, Electrochemical conventions for ions in aqueous solution, reference electrodes, standard electrode potential, ionic activity and Debye-Huckel equation; Thermodynamic properties of ions in aqueous electrolytes; Electrode overvoltage and its measurement; Significance of hydrogen overvoltage in aqueous electrochemistry; Butler-Volmer equation and simplified forms; Exchange current density concept; Concentration overpotential; Passivity and overvoltage; Multiple reactions at one electrode; Implications on current efficiency, energy consumption and cell operation; Modelling the performance of an electrochemical cell. The course ends with a discussion of power cells and fuel cells in relation to electrochemical concepts developed in course.

Note(s):

For students taking Chemical Engineering.
An elective course for students taking other Science programmes

Prerequisite(s):

CCE253, CCE325

Semester:

Usually Offered in the Fall

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE429 Corrosion

The principles of corrosion are applied to solving modern technological problems. The course covers the following topics: units and forms of corrosion; economic implications; materials in relation to environments; electrochemical concept of corrosion; corrosion current density; aqueous versus dry (high temperature) corrosion; Redox potential-pH (Pourbaix) diagrams; their use in active, passive and immune classification concept; development from electrochemical and thermochemical data; limitations and circumvention thereof; extension to systems involving complexing ions and alloys; mixed potential (Evans) diagrams; concept of corrosion potential and rate controlling reaction; effects of galvanic coupling; flow assisted corrosion; differential aeration; passivation; development of mixed potential diagrams for polarization studies; corrosion control; sacrificial systems; impressed current cathodic and anodic protection, inhibitors and non-metallic coatings; corrosion monitoring and testing techniques emphasizing electrochemical methods. The course concludes on the topic of high temperature corrosion: calculation of predominance diagrams and their use, scale adhesion and growth, internal oxidation of alloys and environmental modifications.

Note(s):

An elective course for students taking Chemical Engineering or other Science Programmes.

Prerequisite(s):

CCE253, CCE325

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE431 Unit Operations and Process Design

This course is a semester-long case study that illustrates the complete process design sequence and teaches unit operations through application. Course topics includes: flow sheeting and block diagrams, practical design of heat exchangers, practical design of selected unit operations, siting and environmental assessment, use of process modelling software, process optimization.

Note(s):

For students taking Chemical Engineering

Prerequisite(s):
CCE203, CCE406, CCE407

Semester:
Usually Offered in the Fall

Contact Hours:
3 - 1.5 - 4.5

Credit(s):
1

CCE433 Product Design

In this course students learn to develop new products. Steps in the product-development process are studied starting with determining the customer needs and ending with a detailed design. Students are taught how to find materials having desired properties and performance, and how to evaluate information from different sources. Optimization of the design and incorporation of novel technologies are also explored.

Note(s):
For students taking Chemical Engineering

Prerequisite(s):
CCE203, CCE305, CCE325, CCE406, CCE407, GEE231

Semester:
Usually Offered in the Winter

Contact Hours:
2 - 2 - 4

Credit(s):
1

CCE437 Seminar

Technical, ethical, legal, environmental and safety topics are covered by seminars given by staff and invited speakers. Topics will be chosen to encompass and extend the technical subjects of the other courses so as to be useful to the working graduate engineer in the military.

Note(s):
For students taking Chemical Engineering, Honours Chemistry or a Major in Chemistry.

Semester:
Usually Offered in the Winter

Contact Hours:
0 - 0.5 - 0

Credit(s):
0

CCE440 Special Topics

This course will consist of topics selected from the subject areas of inorganic materials, polymeric materials, organometallic chemistry, molecular spectroscopy, electrochemistry and corrosion, adsorption among others.

Note(s):
An elective for students taking Honours Chemistry or a Major in Chemistry.

Contact Hours:
3 - 0 - 6

Credit(s):
2

CCE445 Materials in the Space Environment

The effects of the space environment on properties of various materials are studied. The impact of the space environment on metals, ceramics, polymers and composites is considered to include an examination of the design and performance requirements. Comparisons of the effectiveness of the various materials in space are reviewed.

Note(s):

For students of the taking Space Science.
An elective for students taking Honours Science or a Major in Science.

Prerequisite(s):

CCE218 or CCE253

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE450 Advanced Topics in Organic Chemistry

This course will examine the application of structural elucidation and synthetic methods to organic chemistry and the fundamental mechanistic concepts of organic reactions. The functions of enolate chemistry, functional group interconversions and pericyclic reactions in multi-step synthetic schemes will be introduced, as well as, the effects of the physical and electronic properties of the reactants and the solvent on reaction mechanisms. Case studies involving detailed studies of organic reactions and processes of industrial and economic importance will be used throughout this course. All of the concepts that are introduced in this course have been selected for students with prior knowledge of the structure and reactivity of organic compounds.

Note(s):

For students taking Chemistry

Prerequisite(s):

CCE247 and CCE248

Contact Hours:

3 - 0 - 4

Credit(s):

1

CCE451 Topics in Physical Chemistry

Kinetic theory: Maxwell distribution, collision theory, introduction to transport processes; Chemical kinetics: mechanisms, rate laws, temperature dependence, transition state theory; Surface chemistry: physisorption, chemisorption, adsorption isotherms, catalysis, surfactants, colloids, modern experimental methods; Polymers: structures, types, properties, polymerization mechanisms.

Note(s):

For students taking Honours Chemistry or a Major in Chemistry.

Prerequisite(s):

CCE309, CCE328

Semester:

Usually Offered in the Fall

Contact Hours:

3 - 0 - 4

Credit(s):

1

CCE460 Biochemistry

This course is an introduction to the chemistry of biological compounds. A systematic study of carbohydrates, lipids, amino acids, proteins, nucleic acids, and their components is presented. Emphasis is placed on the broad understanding of chemical events in living systems in terms of metabolism and structure-function relationships of these biologically important molecules. Metabolism of these biological compounds is studied in terms of the generation and storage of metabolic energy. Principles of regulatory mechanisms involving these biological compounds are introduced.

Note(s):

For students taking Honours Chemistry or a Major in Chemistry.
Offered in French or English in alternating years.

Prerequisite(s):

CCE101, CCE240

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 0 - 4

Credit(s):

1

CCE463 Engineering Aspects of CBRN Defence

The course will include an examination of the composition and biological action of classical nerve, blood, choking and blister agents, as well as detection and decontamination methods and antidotes available. Individual and collective protection measures will also be covered. Such biological agents as bacteria, viruses, fingi and rickettsia, as well as mid-spectrum agents to include toxins, venoms and bioregulators, will be addressed. Radiological weapons will be discussed in terms of variety and biological threat. The principles and characteristics of nuclear weapons will be introduced and related to the physical (thermal, blast) and nuclear radiation (initial, residual, TREE, EMP) effects on humans, structures and equipment. Particular attention will be paid to distance-yield relationships, the distribution of fallout, the characteristics and pathology of acute whole-body radiation, physical and biological dosimetry and radiological survey. In addition to the above topics, aspects of engineering design will also include issues of Chemical Weapons Convention verification, detection technologies and industrial-level chemical agent destruction.

Note(s):

An elective course for students taking Chemical Engineering.

Prerequisite(s):

CCE203 CCE351

Exclusion(s):

ATWOP, LFTSP, CCE474

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE466 Environmental Chemistry

The objective of this course is to understand contemporary environmental issues and the chemistry and underlying scientific principles behind these issues. Sources and effects of air and water pollution, in addition to soil contamination will be covered in detail. The most common contaminant types will be presented and their properties and environmental fate discussed. Basic toxicology and risk assessment will be covered giving an understanding of policy development and current research efforts in the field. Green chemistry will be introduced and described via several examples. The concept of sustainability will be introduced and used to tie course concepts together under a single unifying theme.

Note(s):

An elective course for students taking Chemistry, Honours Science, or a Major in Science.
Offered in French or English in alternating years.

Prerequisite(s):

CCE101

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE468 Ammunition Seminar

Technical, ethical, legal, environmental, management and safety topics related to ammunition are covered by seminars given by staff and invited speakers. Topics will be chosen to encompass and extend the technical subjects of the other courses so as to be useful to the working graduate ATO students in the military.

Note(s):

For students taking the Ammunition Technical Officer programme.

Semester:

Usually Offered in the Fall

Contact Hours:

0 - 1 - 0

Credit(s):

0

CCE469 Ammunition Industrial Tours

The course objective is to expose students to practical application related to ammunition within private industry, the Canadian Forces and governmental and non-governmental agencies.

Note(s):

For students taking the Ammunition Technical Officer Programme.

Semester:

Usually Offered in the Fall.

Contact Hours:

0 - 1 - 0

Credit(s):

0

CCE470 Army Munitions and Weapon Systems

The theory of gun systems and ammunition for the attack of various targets is described. The focus is on the fundamental physical relationships guiding the design and use of guns and ammunition. The mounts, recoil systems, recuperators, breeches, manual and auto loading systems and sighting and fire control systems for a modern gun are described. The principles for the desired ballistic effect in the attack of targets are described, along with rules of thumb for successful attack. Other weapons, such as fragmenting munitions, demolition charges, and pyrotechnic devices are also reviewed. Unique packaging requirements are described.

Note(s):

An elective course for students of the third or fourth year taking Arts

Prerequisite(s):

CCE106 or CCE200

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE471 Air and Naval Munitions

The description of ships and aircraft as a target is reviewed, with a focus on the requirement for terminal effect of the weapon system. The design requirements for the attack of aircraft by guns and missiles, the attack of surface and subsurface vessels by torpedoes, depth charges, missiles and guns, and the attack of ground targets from the air are derived from basic principles. Fuzes and possible energy sources for initiation are described in some detail. The hazards of operation in an electromagnetic environment and the principles of mitigation are presented.

Note(s):

An elective course for students of the third or fourth year taking Arts

Prerequisite(s):

CCE106 or CCE200

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE472 Introduction to Ammunitions Management

This course provides an introduction to the chemistry of energetic materials from which concepts of ammunition management such as long-term degradation, environmental and human exposure can be explored. Statistical concepts are examined in the context of lot acceptance, the analysis of proof firings, decision analysis, and the Canadian defence procurement and life cycle management. A project focuses on ammunition management topics such as range operation and clearance, and the impact of emerging technologies on doctrine and ammunition management.

Note(s):

Mandatory for Ammunition Technology Certificate
For students taking Chemical Engineering
An elective course for students of the third or fourth year taking Arts

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE473 Biological Agents

The purpose of this course is to introduce students to bioterrorism and biological warfare agents including bacteria, viruses and rickettsiae, as well as other disease-causing biological agents (e.g. toxins, venoms and bioregulators). History of use, targeting against humans, plants and animals, and specifics of clinical disease forms induced by exposure to the agents will be studied. Prophylaxis and treatment for the resulting diseases and the primary routes of dissemination of the agents will also be covered.

Note(s):

An elective course for students of the third or fourth year taking Arts.

Prerequisite(s):

CCE385 or equivalent

Semester:

Offered in the Fall or Winter (**in a condensed block of two weeks**).

Contact Hours:

3 - 0 - 6

Credit(s):

1

CCE474 Molecular Mechanisms of Chemical and Biological Warfare Defence

This course will provide an in-depth examination of the science and engineering principles that are involved with the use of Chemical and Biological Warfare agents and the equipment utilized to support operations in these specific threat environments. Topics that will be covered in this class include synthesis and fabrication of CB agents, the physiological effect of each class of warfare agent, medical countermeasures and principles of decontamination and routes of dissemination and detection technologies. Students must have the necessary preparation in biochemistry and physical and organic chemistry as reflected in the prerequisites.

Note(s):

For students taking Honours Chemistry or a Major in Chemistry.

Prerequisite(s):

CCE218, CCE240, CCE247 and CCE248

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE475 Environmental and Bioprocess Engineering

The objective of this course is to examine the sources, properties, fate and treatment of solid, liquid and gaseous wastes while understanding the basis of bioprocess engineering and how it relates to both industrial scale processing and environmental biotechnology. Water and wastewater treatment, solid waste disposal -including radioactive waste- and air pollution will be investigated. Contaminated site investigation procedures, environmental regulations and guidelines, and site remediation methods will be reviewed as will environmental management systems. Case studies and material from the current technical literature will be used to illustrate key points and applications. Basic microbiology concepts will be introduced to understand a range of bioprocesses including fermentation and pharmaceutical production. Bioprocess concepts will also be discussed in the context of environmental biotechnology.

Note(s):

For students taking Chemistry or Chemical Engineering.

Prerequisite(s):

CCE101

Prerequisite(s):

CCE476

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 1 - 4

Credit(s):

1

CCE476 Environmental and Bioprocess Design

The objective of this course is to examine the sources, properties, fate and treatment of solid, liquid and gaseous wastes while understanding the basis of bioprocess engineering and how it relates to both industrial scale processing and environmental biotechnology. Water and wastewater treatment, solid waste disposal -including radioactive waste- and air pollution will be investigated. Contaminated site investigation procedures, environmental regulations and guidelines, and site remediation methods will be reviewed, as will environmental management systems. Case

studies and material from the current technical literature will be used to illustrate key points and applications. Basic microbiology concepts will be introduced to understand a range of bioprocesses including fermentation and pharmaceutical production. Bioprocess concepts will also be discussed in the context of environmental biotechnology.

Note(s):

Only offered through Distance Education.
For Arts students only (this course cannot be applied to a Science or Engineering degree).

Prerequisite(s):

CCE240

Exclusion(s):

CCE575

Contact Hours:

0 - 0 - 9

Credit(s):

1

CCE477 Munitions and Weapon Systems

This course will present the design considerations for platform-specific mounting of gun, missile, and unmanned systems. The focus is on the fundamental physical relationships guiding the design and selection of a weapon system based on the platform and the expected targets. The fundamentals of missile design will be introduced (sizing for range and payload, guidance, propulsion). Simplified treatment of gun mechanisms will be presented (recoil buffering, recuperation, breech design, gun tube design, loading). An introduction to sensors (including radar) and guidance will be provided. Design architecture of modern fuzzes will be shown. Application and use of unmanned systems in various battlespaces will be introduced.

Note(s):

Mandatory for Ammunition Technology Certificate starting 2023.
An elective course for students of the third or fourth year taking Arts

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE478 Weapon Effects and Lethality

This course will examine the physical phenomena that govern the interaction of munitions with targets: blast, fragmentation, and ballistic penetration. An overview of warhead design techniques and requirements to attack various military targets will be presented. This course will examine the mechanics and dynamics of ballistic penetration by bullets/fragments, long rod penetrators, and shaped charges. Seminal models for blast, and projectile injury/lethality will be described. Wound ballistics will be described qualitatively.

Note(s):

Mandatory for Ammunition Technology Certificate starting 2023.
An elective course for students of the third or fourth year taking Arts.

Contact Hours:

3 - 0 - 3

Credit(s):

1

CCE480 Guided Literature Review

The ability to effectively summarize previous work is an important aspect of environmental protection, usually accomplished through a review of existing literature and past projects. The course affords each student the opportunity to choose a research topic and review the published literature by accredited scholars and researchers. The student would then produce a well-organized and carefully written discussion paper written in the format of a technical review including research gaps, errors, unknowns, future needs, etc. The topic selected by each student, must be approved by the course instructor.

Note(s):

Only offered through Distance Education.
For Arts students only (this course cannot be applied to a Science or Engineering degree).

Prerequisite(s):

CCE106

Contact Hours:

0 - 0 - 9

Credit(s):

1

CCE483 Toxicology

Interactions among chemical exposure (e.g., pesticides, pharmaceuticals, personal care products, organic and inorganic pollutants) and organisms can lead to sub-lethal and lethal consequences. This course will explore the mechanisms of action of chemicals and the complexities of physiological responses in biota. Recent advances will be presented among selected topics: mutagenesis, genetic toxicology testing, DNA repair and recombination, genetic disease and cancers, endocrine disruption chemicals, bioaccumulation, oxidative stress, pharmacokinetics and/or developmental & reproductive toxicology.

Note(s):

Elective for other Chemistry students or students taking another Science programme.(Offered in French or English in alternating years.)

Prerequisite(s):

CCE101, CCE240 (or equivalent)

Contact Hours:

3 - 0 - 4

Credit(s):

1

Date modified:

2025-04-14

Mathematics and Computer Science Undergraduate Programmes

Related links

Mathematics and Computer Science undergraduate courses

Undergraduate science programmes

Department of Mathematics and Computer Science

Admissions

⚠ Important Notice:

New enrollments into Mathematics (Honours)and Mathematics, for September 2025, have been paused, noting that current students in Mathematics (Honours) and Mathematics will continue, as will the remainder of Mathematics programmes. Determination on the future status of these paused programmes for Academic Year 2026-2027 is ongoing.

General Information

The Department of Mathematics and Computer Science offers the following programmes leading to undergraduate degrees:

- B.Sc. (Honours) Mathematics
- B.Sc. (Honours) Computer Science
- B.Sc. Mathematics
- B.Sc. Computer Science

Double Majors with other sciences are possible. Please consult one of the department's undergraduate advisors for details.

Athletic and Second Language Requirements

⚠ **Important:** The athletic requirement and the second language requirement apply to all RMC degree programmes except the 30-credit general degree programmes.

LCF: Based on the result of a placement test, students will be registered in LCF courses at the 100, 200, 300, or 400-level. Students will automatically be exempt from applicable lower level LCF courses once placed in the appropriate course. Students who attain a Second Official Language (SOL) proficiency level of at least BBB or higher on the Public Service Commission (PSC) Second Language Evaluation (SLE) will be exempt from LCF courses at RMC.

- ATE101: Foundations of Fitness, Health and Sports
- ATE301: Unarmed Combatives, Military Skills and Individual Sports
- LCF100 : Compétence de base – partie I
- LCF200 : Compétence de base – partie II
- LCF301 : Compétence intermédiaire – partie I
- LCF302 : Compétence intermédiaire – partie II
- LCF400 : Compétence intermédiaire - partie III

Note: The PSC SLE is the only SOL certification-testing instrument currently accredited and used by the CAF to assess the SOL proficiency level. *(DAOD 5039-8, Canadian Armed Forces Second Official Language Certification Testing)*

Mathematics Programme Requirements

B.Sc. (Honours) Mathematics

Note: To earn a Bachelor of Science (Honours) a student must meet the requirements of Academic Regulation 3.2.

Completion of a 42-credit programme, including the core courses for Science. This also includes a minimum of 20 credits in Mathematics, approved by the department.

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ENE121 PSE103 PHE104 CCE101 [1] MAE101 CSE101 ATE101 LCF	ENE122 (cont'd) PHE104 (cont'd) CCE101 (cont'd) MAE101 (cont'd) MAE129 ATE101 LCF	HIE207 MAE226 MAE229 MAE231 **Elective** 1 credit ATE101 LCF	HIE203 POE205 MAE209 MAE227 **Elective** 1 credit ATE101 LCF
Semester total	**6 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	PSE301 MAE325 MAE340 **Senior Computer Science** 1 credit **Optional** [2] 1 credit **Elective** 1 credit ATE301 LCF	HIE271 MAE330 MAE336 MAE337 **Optional** [2] 1 credit ATE301 LCF	POE116 MAE420 MAE406 **Optional** [2] 1 credit **Elective** 1 credit ATE301 LCF	PSE401 MAE420 (cont'd) **One of** MAE407 MAE430 MAE452 **Elective** 2 credits ATE301 LCF
Semester total	**6 credits**	**5 credits**	**5 credits**	**5 credits**

B.Sc. Mathematics

Completion of a 42-credit programme, including the core courses for Science. This also includes a minimum of 16 credits in Mathematics, approved by the department.

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ENE121 PSE103 PHE104 CCE101 [1] MAE101 CSE101 ATE101 LCF	ENE122 (cont'd) PHE104 (cont'd) CCE101 (cont'd) MAE101 (cont'd) MAE129 ATE101 LCF	HIE207 MAE226 MAE229 MAE231 **Elective** 1 credit ATE101 LCF	HIE203 POE205 MAE209 MAE227 **Elective** 1 credit ATE101 LCF
Semester total	**6 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	PSE301 MAE325 **Elective** 3 credits ATE301 LCF	HIE271 MAE336 MAE337 MAE330 **Elective** 2 credits ATE301 LCF	POE116 **Optional** [2] 2 credits **Elective** 2 credits ATE301 LCF	PSE401 **Optional** [2] 1 credit **Elective** 3 credits ATE301 LCF
Semester total	**5 credits**	**6 credits**	**5 credits**	**5 credits**

1 CCE101 may be replaced by CCE240 + credit for one-half of CCE101.

2 A minimum of 3 optional courses selected from MAE234, MAE236, MAE310, MAE333, MAE334, MAE352, MAE354, MAE374, MAE413, MAE430, MAE451, MAE456 are required for the B.Sc. (Honours) Mathematics and the B.Sc. Mathematics.

Computer Science Programme Requirements

B.Sc. (Honours) Computer Science

> **Note:** To earn a Bachelor of Science (Honours) a student must meet the requirements of Academic Regulation 3.2.

Completion of a 42-credit programme, including the core courses for Science. This also includes a minimum of 20 credits in Computer Science, approved by the department.

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ENE121 PSE103 PHE104 CCE101 [3] MAE101 CSE101 ATE101 LCF	ENE122 (cont'd) PHE104 (cont'd) CCE101 (cont'd) MAE101 (cont'd) MAE129 ATE101 LCF	HIE207 EEE243 EEE250 MAE226 MAE229 [4] **Elective** 1 credits ATE101 LCF	HIE203 POE205 CSE250 MAE209 MAE227 [4] MAE233 ATE101 LCF
Semester total	**6 credits**	**5 credits**	**5/6 credits**	**5/6 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	PSE301 CSE321 EEE320 EEE351 **Elective** 1 credit ATE301 LCF	HIE271 CSE341 EEE330 EEE335 **Elective** 1 credit ATE301 LCF	POE116 CSE420 EEE466 **Elective** 2 credits ATE301 LCF	PSE401 CSE420 (cont'd) CSE362 CSE472 **Elective** 1 credit ATE301 LCF
Semester total	**5 credits**	**5 credits**	**5 credits**	**5 credits**

B.Sc. Computer Science

Completion of a 42-credit programme, including the core courses for Science. This also includes a minimum of 16 credits in Computer Science, approved by the department.

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ENE121 PSE103 PHE104 CCE101 [3] MAE101 CSE101 ATE101 LCF	ENE122 (cont'd) PHE104 (cont'd) CCE101 (cont'd) MAE101 (cont'd) MAE129 ATE101 LCF	HIE207 EEE243 EEE250 **Optional** [5] 1 credit **Elective** 1 credit ATE101 LCF	HIE203 POE205 MAE233 CSE250 **Elective** 1 credit ATE101 LCF
Semester total	**6 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	PSE301 CSE321 EEE320 EEE351 **Elective** 1 credit ATE301 LCF	HIE271 CSE341 EEE330 **Optional** [5] 1 credit **Elective** 2 credits ATE301 LCF	POE116 **Optional** [5] 1 credit **Elective** 3 credits ATE301 LCF	PSE401 **Elective** 4 credits ATE301 LCF
Semester total	**5 credits**	**6 credits**	**5 credits**	**5 credits**

3 CCE101 may be replaced by CCE240 + credit for one-half of CCE101.

4 Only one of MAE227 and MAE229 is required for B.Sc. (Honours) Computer Science.

5 A minimum of 3 optional courses, selected from the following, are required for the B.Sc. Computer Science. They must include a minimum of two courses from; (CSE362, CSE472, EEE335, EEE466, and MAE209). The remaining can come from the previous list, any 300-400 level computer science courses and the following: EEE307, EEE340, EEE350, EEE400, EEE401, EEE469, EEE499, MAE234, and MAE334.

Double Majors

B.Sc. Mathematics and Computer Science

The courses required for the Double Major in Mathematics and Computer Science are the courses required for the Major in Mathematics and the Major in Computer Science with the exception of MAE233.

Double Majors with other Sciences

- B.Sc. Mathematics and Physics
- B.Sc. Mathematics and Space Science
- B.Sc. Mathematics and Chemistry
- B.Sc. Computer Science and Physics
- B.Sc. Computer Science and Space Science
- B.Sc. Computer Science and Chemistry

Course requirements for a Major in both disciplines must be met. See one of the department's undergraduate advisors for details.

Minors

Minor in Mathematics

A minor in Mathematics is 8 credits including:

- MAE101: Introductory Calculus (2 credits)
- MAE129: Introduction to Algebra (1 credit)
- MAE229: Linear Algebra (1 credit)
- at least 3 credits from 300 or 400 level Mathematics courses (except: "MAE315: Differential Equations and Fourier Series" and "MAE328: Differential Equations, Boundary Value Problems and Complex Variables")
- one additional credit in Mathematics

Minor in Computer Science

A minor in Computer Science requires 8 credits from the list of courses acceptable for B.Sc. (Honours) Computer Science or B.Sc. Computer Science which have a CSE or EEE prefix.

> **Note:** At least 5 of these credits must come from courses with the CSE prefix.

Minor in Data Analytics

The minor in Data Analytics is an 8 credit minor, with courses from both Mathematics and Computer Science. If a student from Mathematics or Computer Science takes the minor they will focus on the other discipline for their courses.

Prerequisite(s)

The following 4 courses must be taken to qualify to take the minor and will count as 1 credit toward the minor.

- CSE250 Data Structures, EEE243 Applied Computer Programming, MAE209 Probability and Statistics, and MAE226 Multivariable and Vector Calculus

The remaining 7 credits will come from a combination of the mandatory and optional courses.

Mandatory courses (4 credits)

- CSE368 Data Science
- CSE407 Modern Machine Learning **or** CSE472 Foundations of Artificial Intelligence
- MAE366 Data Analytics I
- MAE367 Data Analytics II

Optional courses (3 credits)

3 credits from the following:

> **Important** Students enrolled in a BSc in Mathematics must choose from the Computer Science (CSE) courses and students enrolled in a BSc in Computer Science must choose from the Mathematics (MAE) courses.

- CSE301 Scientific Computing
- CSE341 Databases
- CSE408 Internet of Things Communications and Networks
- CSE453 Modelling and Simulation
- CSE407 Modern Machine Learning **or** CSE472 Foundations of Artificial Intelligence ***(whichever was not taken as a part of the mandatory courses)***
- MAE236 Introduction to Game Theory
- MAE310 Statistics
- MAE384 Analytics and the Operational Planning Process
- MAE441 Special Topics in Probability and Statistics
- MAE442 Special Topics in Optimization

Canadian Operational Society Diploma (CORS Diploma)

Together with their RMC diploma, students can obtain the Canadian Operational Research Society Diploma.

Successfully complete the following 8 credits:

- BAE344: Operations Management
- BAE364: Decision Analysis
- CSE101: Introduction to Algorithms and Computing
- CSE341: Introduction to Database Systems

- CSE453: Modeling and Simulation
- CSE472: Foundations of Artificial Intelligence **or** BAE410: Information Systems
- MAE209: Probability and Statistics **or** BAE242: Quantitative Methods I
- MAE310: Statistics

And:

- Complete a project that involves the use of an Operational Research technique.

> **Note:** Students must obtain an overall average of B- or better for these 8 courses and the project.

One can obtain more information about this diploma at the Mathematics and Computer Science Department, at the Business Administration Department and at the Internet site: Canadian Operational Research Society.

Date modified:

2025-04-01

Undergraduate Mathematics and Computer Science Courses

Mathematics Courses

MAE010 Review of College Algebra

MAE101 Introduction to Differential Calculus and Integration

MAE102 Introduction to Probability and Statistics

MAE107 Mathematics Fundamentals for the Arts and Social Sciences

MAE108 Probability and Statistics for the Arts and Social Sciences

MAE109 Defence Models and Applications for the Arts and Social Sciences

MAE119 Linear Algebra for Engineers

MAE129 Introduction to Algebra

MAE131 Introductory Differential Calculus

MAE133 Introductory Integral Calculus

MAE209 Probability and Statistics

MAE226 Multivariable and Vector Calculus

MAE227 Differential Equations and Infinite Series

MAE229 Linear Algebra

MAE231 Introduction to Sets and Logic

MAE233 Discrete Mathematics for Computer Science

MAE234 Introduction to Cryptography

MAE236 Introduction to Game Theory

MAE310 Statistics

MAE315 Differential Equations and Fourier Series

MAE325 Laplace Transforms, Fourier Analysis and Differential Equations

MAE326 Partial Differential Equations and Complex Analysis

MAE328 Differential Equations, Boundary Value Problems and Complex Variables

MAE330 Modern Cryptography and Algebra

MAE331 Mathematics and Signal Processing

MAE333 Introduction to Discrete Mathematics

MAE334 Graph Theory

MAE336 Ordinary and Partial Differential Equations, Special Functions, Boundary-Value Problems

MAE337 Complex Analysis

MAE340 Foundations of Probability

MAE352 Non-Linear Optimization

MAE354 Non-linear Dynamical Systems, Chaos and Fractals

MAE366 Data Analytics I

MAE367 Data Analytics II

MAE374 Conflict Analysis

MAE384 Analytics and the Operational Planning Process

MAE386 Ideation, Thought Media, and Mathematics

MAE406 Advanced Mathematical Analysis, Part I

MAE407 Advanced Mathematical Analysis, Part II

MAE408 Numerical Analysis

MAE413 Mathematical Physics

MAE420 Senior Project

MAE430 Modern Cryptography and Number Theory

MAE440 Special Topics in Algebra

MAE441 Special Topics in Probability and Statistics

MAE442 Special Topics in Optimization

MAE443 Special Topics in Analysis

MAE451 Topics in Mathematics

MAE452 Probabilistic Operations Research Models

MAE454 Analytics and Operations Research Modeling

MAE456 Mathematical Modelling

Computer Science Courses

CSE101 Introduction to Algorithms and Computing

CSE244 Programming Development Fundamentals

CSE250 Data Structures and Algorithms

CSE260 Introduction to Computer Concepts

CSE301 Scientific Computing

CSE321 Algorithm Analysis

CSE323 Formal Languages and Automata

CSE341 Introduction to Database Systems

CSE362 Software Development and Professional Practice

CSE368 Data Science

CSE390 Multiprocessing, User Interfaces, Graphics Systems and E-commerce

CSE407 Modern Machine Learning

CSE408 Internet of Things Communications and Networks

CSE410 Semantic Web and Databases

CSE411 Advanced Database Concepts and Applications

CSE420 Senior Project

CSE444 Advanced Programming

CSE446 Information System Security

CSE451 Topics in Computer Science

CSE453 Modeling and Simulation

CSE472 Foundations of Artificial Intelligence

CSE490 Computer Graphics

Related links

Mathematics programme requirements

Computer Science programme requirements

Course details guide

Courses 100-199

MAE010 Review of College Algebra

Topics in algebra include number systems, algebraic operations on simple expressions, exponents, roots and radicals, factoring of simple expressions, solution of first-degree equations and inequalities, solution of linear systems in two variables. Topics in elementary geometry include graph of a straight line, slope and intercept of a line and equations of lines in different forms.

Note(s):
Primarily intended for students in the Indigenous Leadership Opportunity Year Programme (ILOY).

Contact Hours:
3 - 0 - 3

Credit(s):
0

MAE101 Introduction to Differential Calculus and Integration

This is a one-year course. The course comprises three modules : fundamentals, differential calculus, and integral calculus.
Module 1: Fundamentals - The first module covers Integer and Rational Exponents; Polynomials; Rational Expressions; Linear Equations; Linear Inequalities. Absolute Value ; Quadratics ; Coordinate Geometry and Lines. Functions : algebraic, exponential and trigonometric functions and their inverses. Limits and Continuity, Intermediate Value Theorem and limits at infinity.
Module 2: Differentiation - Derivatives. Rules for differentiation, Implicit and logarithmic differentiation. L'Hôpital's rule. Main theorems of the differential calculus and applications of derivatives.
Module 3: Integration - Antidifferentiation: all basic methods. Definition of the integral, Riemann sums and Fundamental Theorem of Calculus. Improper integrals. Applications of integration, areas, volumes, averages of functions and arc length of a curve.

Note(s):

For First Year Students taking Science or Engineering.

> **Important:** This course is normally conducted over three micro-terms that are contained within the Fall & Winter terms. A failure in any module will require a fourth micro-term, (Math Camp), normally conducted in May. Students failing “Module 2 – Differentials” twice will not be eligible to undertake a Supplemental Evaluation, nor will they be eligible for Math Camp. In addition to the normal eligibility requirements for a Supplemental Evaluation, in MAE101, a Supplementary Evaluation will only be offered to those who were eligible for Math Camp and who have earned a grade between 40-49%. The Supplementary Evaluation will normally be held in August before the start of the Fall Term. For Science and Engineering students, any failure in the course or failure on the Supplementary Evaluation will result in the student being required to repeat the entire course.

This course will appear as "Introductory Calculus" on student transcripts for those who registered in A/Y 2024-2025. The revised title will appear on future transcripts, starting with those registering in A/Y 2025-2026.

Contact Hours:

2 - 2 - 5

Credit(s):

2

MAE102 Introduction to Probability and Statistics

This course provides a non-calculus treatment of topics in Probability and Statistics. Lessons include a brief review of set operations, definitions and examples of sample space and probability of events, random variables, various discrete and continuous distributions, mean, variance and general expectations, sampling, tests of hypothesis for mean and variance, and power of tests.

Note(s):

Only offered through Distance Education.
This course is intended for students who have not completed a course in data analysis. It (or its equivalent) serves as a prerequisite for MAE108 and may not be used to fulfill a core requirement of the BMASc and BA programmes
For Arts students only. This course cannot be applied to a degree in Science or Engineering.

Contact Hours:

0 - 0 - 9

Credit(s):

1

MAE107 Mathematics Fundamentals for the Arts and Social Sciences

Mathematics for the Arts and Social Sciences emphasizes core concepts across five key themes: Numeracy; Models; Reasoning; Probability and Statistics and; Applications. This first course will focus on topics in Numeracy and Models, with topics in Reasoning, and Probability & Statistics briefly introduced in the latter part of the course. Applications will be defence and programme related. Concepts covered include but are not necessarily limited to: Numeracy - arithmetic, basic algebra, ratios & rates; Models - linear, polynomial, exponential, logarithmic, including a treatment of generalized rates of change; Reasoning - deductive reasoning; Probability & Statistics - sample statistics & visualizations.

Note(s):

This course cannot be applied to a degree in Science or Engineering.

Exclusion(s):

MAE103

Contact Hours:

3 - 2 - 5

Credit(s):

1

MAE108 Probability and Statistics for the Arts and Social Sciences

Mathematics for the Arts and Social Sciences emphasizes core concepts across five key themes: Numeracy, Models; Reasoning; Probability & Statistics and; Applications. This second course will focus on Probability & Statistics, and Reasoning, with Numeracy and Models briefly revisited throughout to reinforce previously learned skills and concepts. Applications will be defence and programme related. Concepts covered include but are not necessarily limited to: Reasoning - continuation of deductive reasoning, inductive reasoning; Probability and Statistics - event probabilities, distributions (binomial, uniform, normal), sampling distributions, and selected topics in statistical inference.

Note(s):

This course cannot be applied to a degree in Science or Engineering.

Prerequisite(s):

MAE107

Exclusion(s):

MAE106

Contact Hours:

3 - 2 - 5

Credit(s):

1

MAE109 Defence Models and Applications for the Arts and Social Sciences

Mathematics for the Arts and Social Sciences emphasizes core concepts across five key themes: Numeracy; Models; Reasoning; Probability & Statistics and; Applications. This third course will focus on defence-related Applications. Reasoning, Probability & Statistics, Numeracy and Models are briefly reviewed throughout to preserve learned concepts. Concepts covered include but are not necessarily limited to: Reasoning - continuation of deductive and inductive reasoning fallacies; Probability and Statistics - continuation of statistical inference; Applications - to include as many defence-related applications as possible.

Note(s):

This course cannot be applied to a degree in Science or Engineering.

Prerequisite(s):

MAE107 and MAE108

Exclusion(s):

MAE113

Contact Hours:

3 - 2 - 5

Credit(s):

1

MAE119 Linear Algebra for Engineers

Vectors in 2 and 3 dimensions. Dot products, orthogonality. Lines and planes in three-space. Introduction to complex numbers. Systems of linear equations. Matrix algebra. Determinants. Finite-dimensional real vector spaces, subspaces, bases and dimension. Eigenvalues, eigenvectors, diagonalization of matrices.

Note(s):

For Students taking Engineering.

Semester:

Usually Offered in the Winter

Contact Hours:

4 - 1 - 4

Credit(s):

1

MAE129 Introduction to Algebra

Introduction to sets. Vectors in 2, 3 and higher dimensions; operations on vectors; geometric applications. Equations of lines, planes and hyperplanes. Linear systems of equations, solution using row reduction. Matrices: matrix algebra, inverses and determinants. Solution of matrix equations. Introduction to eigenvalues and eigenvectors. Complex numbers, arithmetic, powers and roots. Fundamental theorem of algebra, solution of polynomial equations, factorization of polynomials.

Note(s):

For First Year Students taking Science or Engineering.

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 1 - 4

Credit(s):

1

MAE131 Introductory Differential Calculus

Introduction to the real numbers. Functions: algebraic, exponential and trigonometric and their inverses. Limits, continuity and derivative. Rules for differentiation. Main theorems of the differential calculus. L'Hospital rule. Applications of derivatives.

Note(s):

Only offered through Distance Education.

Contact Hours:

0 - 0 - 9

Credit(s):

1

MAE133 Introductory Integral Calculus

Antidifferentiation: techniques of integration. Riemann sums definition of the integral and fundamental theorem of Calculus. Improper integrals. Applications of integration. Polar coordinates. First and second order linear differential equations.

Note(s):

Only offered through Distance Education.

Prerequisite:

MAE131 or equivalent

Exclusion(s):

MAE101(2)

Contact Hours:

0 - 0 - 9

Credit(s):

1

CSE101 Introduction to Algorithms and Computing

The subject of this course is the design and implementation in a high-level language of computational solutions to simple problems. The course includes basic algorithms useful in problem solving and introduces the student to computational thinking. Basic computational tools such as sequence, selection and iteration are covered as well as algorithms for tasks such as searching, sorting and pattern matching. The use of assemblers, compilers, and interpreters will be discussed as well as low-level concepts that support the execution of programs on modern computers, such as representation of data, the structure of the Von Neumann machine, and their impact on correct program execution. The student will also be introduced to software testing and program documentation.

Note(s):

For First Year students taking Engineering and Science.

Semester:
Offered in the Fall session.

Contact Hours:
2 - 2 - 4 (Distance Learning: 0 - 0 - 9)

Credit(s):
1

Courses 200-299

MAE209 Probability and Statistics

Foundations of Probability and Statistics. Brief review of set operations. Definitions and examples of sample space and probability space. Random variables, various discrete and continuous distributions. Mean, variance and general expectations. Sampling, tests of hypothesis for mean and variance, power of tests.

Prerequisite(s):
MAE226

Semester:
Offered in the Winter

Contact Hours:
3 - 0 - 4

Credit(s):
1

MAE226 Multivariable and Vector Calculus

Vector-valued functions: curves, particle kinematics, polar coordinates and basis. Functions of several variables: partial derivatives, extreme values. Scalar and vector fields: gradient, divergence, curl. Double integrals in rectangular and polar coordinates; triple integrals in rectangular, cylindrical and spherical coordinates. Line and surface integrals. Green’s, Ostrogradski’s and Stokes’ theorems

Prerequisite(s):
MAE101 and (MAE119 or MAE129)

Semester:
Usually Offered in the Fall

Contact Hours:
4 - 1 - 5

Credit(s):
1

MAE227 Differential Equations and Infinite Series

Ordinary differential equations: theory, methods of solution and applications of first order and higher order linear. Limit of sequences. Infinite series: definition of convergence, tests, power series, Taylor polynomials and remainder, Taylor series and applications.

Prerequisite(s):
MAE101

Semester:
Usually Offered in the Winter

Contact Hours:
3 - 1 - 4

Credit(s):
1

MAE229 Linear Algebra

Introduction to vector spaces. Subspaces, bases and dimension. Linear transformations and matrix representations. Eigenvalues, eigenvectors and diagonalization of matrices. Inner products; Gram-Schmidt process. An introduction to mathematical proofs and propositional logic is given throughout the course.

Note(s):

Mandatory in Mathematics programmes and for the Honours BSc in Computer Science.

Prerequisite(s):

MAE119 or MAE129

Semester:

Offered in the Fall

Contact Hours:

3 - 1 - 4

Credit(s):

1

MAE231 Introduction to Sets and Logic

This course is a general introduction to sets, logic and methods of proof. It is aimed at students of mathematics, computer science as well as anyone interested in the study of logic for formal reasoning. The topics include: introduction to set theory, infinite sets and cardinality, propositional logic, predicate logic and quantifiers, common methods of proof, mathematical induction, structure of integer, rational and real number systems.

Prerequisite(s):

MAE101 and (MAE119 or MAE129)

Exclusion(s):

MAE233

Semester:

Usually offered in the Fall

Contact Hours:

3 - 1 - 4

Credit(s):

1

MAE233 Discrete Mathematics for Computer Science

This course covers the mathematical foundations required in computer science. The topics included are: An introduction to sets, relations, and functions. An introduction to propositional and predicate logic, normal forms and quantifiers. Basic methods of proofs (notion of implication, equivalence, contraposition, direct proof, counterexample, proof by contradiction, weak and strong induction). Basics of counting (including arithmetic and geometric progression, permutations and combinations, the binomial theorem and the principle of inclusion-exclusion). Recurrence relations and modular arithmetic.

Note(s):

Mandatory in the Computer Science programmes, it should be taken in the 2nd year.

Prerequisite(s):

CSE101

Exclusion(s):

MAE231

Semester:

Usually Offered in the Winter session.

Contact Hours:

3 - 1 - 4

Credit(s):

1

MAE234 Introduction to Cryptography

This course will be an introduction to cryptography including its military, political and mathematical aspects. The course will survey both historical cryptography (antiquity to 1967) and modern (post 1967) cryptography. Students succeeding in this course will understand the workings of important modern techniques including public key cryptography, key exchange protocols and elliptic curve cryptography; both modern encryption and cryptoanalysis will be covered. More specifically, the following topics will be covered: Historical techniques such as: Alphabetic Ciphers, Frequency Analysis, Vigenere Ciphers, Kaisiski's Method, One Time Pads; The mathematical basis behind modern encryption and decryption: Basic group theory and basic properties of the integers; Modern encryption techniques such as: Public Key Cryptography, RSA, Diffie-Helman Key Exchange, Rabin Encryption, El Gamal, Discrete Log, Elliptic Curves. Modern decryption techniques such as: Birthday Attacks, Quadratic Sieve, Known Plaintext attacks, Man-in-the-middle attacks.

Semester:

Usually Offered in the Fall

Contact Hours:

3 - 0 - 3

Credit(s):

1

MAE236 Introduction to Game Theory

This course is an introduction to two types of mathematical models of games: those introduced by von Neumann and Morgenstern, which have many applications in economics, and combinatorial games. Topics from classical game theory include: two-person zero-sum games, dominant and mixed strategies, solution techniques for small games, Minimax theorem; non-zero-sum games, Nash equilibrium, pure and mixed strategy equilibria. Impartial combinatorial games such as take-away games and Nim are studied, along with the Sprague-Grundy theorem and some of its applications.

Semester:

Offered in the Winter

Contact Hours:

3 - 0 - 3

Credit(s):

1

CSE244 Programming Development Fundamentals

This course covers an introduction to fundamentals of programming design techniques, such as Programming Concepts (object oriented programming, event-driven and reactive programming); Fundamental Data Structures (arrays, strings, strategies for choosing the appropriate data structure); Fundamental Algorithms (simple numerical algorithms, approximation and mathematical analysis, sequential search, simple sorting algorithms, simple string processing); Development Methods (program correctness, specification, defensive programming, testing fundamentals, pre/post-conditions, modern environments, debugging strategies, documentation, and program style).

Prerequisite(s):

CSE101

Semester:

Offered in the Fall session

Contact Hours:

3 - 2 - 5

Credit(s):

1

CSE250 Data Structures and Algorithms

Use of recursion and abstract data types. Introduction to computational complexity, big- *O* notation, and analysis of simple algorithms. Fundamental data structures (stacks, queues, hash tables, trees and graphs) and their implementations. Fundamental algorithms: quicksort and other $O(n \log n)$ sorting algorithms, hashing and collision-avoidance, binary search, operations on binary trees. Introduction to graphs and finding shortest-paths.

Note(s):

Mandatory in the Computer Science programmes, it should be taken in the 2nd year.

Prerequisite(s):

EEE243

Semester:

Offered in the Winter session

Contact Hours:

3 - 2 - 5

Credit(s):

1

CSE260 Introduction to Computer Concepts

Course intended for students in Arts. This course is part of the core curriculum. This course gives an introduction to information technology and its applications. Topics include an overview of computer hardware and system software, algorithm design, programming in a high-level language, use of spreadsheets and data base systems, computer networks and the internet, and security considerations.

Note(s):

For Arts students only. This course cannot be applied to a degree in Science or Engineering.

Semester:

Usually Offered in the Winter session.

Contact Hours:

3 - 0 - 6

Credit(s):

1

Courses 300-399

MAE310 Statistics

Sampling distributions; estimation of population parameters - point and interval estimators; hypothesis testing for one or two groups; test for goodness of fit, contingency tables; quality control and simple linear regression; time series.

Prerequisite(s):

MAE209

Semester:

Usually Offered in the Fall or Winter

Contact Hours:

3 - 1 - 4

Credit(s):

1

MAE315 Differential Equations and Fourier Series

Laplace transforms and application to solution of initial-value problems. Fourier series and integrals. Solution of linear differential equations using power series and Frobenius method. Bessel equation and functions.

Note(s):
For Third Year students taking Chemical Engineering.

Prerequisite(s):
MAE226, MAE227

Semester:
Usually Offered in the Fall

Contact Hours:
3 - 1 - 4

Credit(s):
1

MAE325 Laplace Transforms, Fourier Analysis and Differential Equations

Laplace transforms and initial value problems. Fourier series, integrals and transforms. Power series and Frobenius methods for linear differential equations. Bessel's equation and functions.

Note(s):
Mandatory for students taking Electrical and Computer Engineering, or Mathematics

Prerequisite(s):
MAE226, MAE227

Contact Hours:
3 - 1 - 4

Credit(s):
1

MAE326 Partial Differential Equations and Complex Analysis

Partial differential equations and solution of boundary value problems using method of separation of variables. Functions of a complex variable: analytic functions, Taylor and Laurent series, complex integration, residue theorem.

Note(s):
For students taking Electrical Engineering or Science

Prerequisite(s):
MAE325

Contact Hours:
3 - 1 - 4

Credit(s):
1

MAE328 Differential Equations, Boundary Value Problems and Complex Variables

Laplace transforms and the solution of ordinary differential equations. Fourier series. Partial differential equations and the method of separation of variables. Boundary value problems. Functions of a complex variable. Practical examples applied to problems in Mechanical and Aeronautical Engineering.

Note(s):
For Third Year students taking Mechanical Engineering.

Prerequisite(s):
MAE226, MAE227

Semester:
Offered in the Fall

Contact Hours:

3 - 2 - 5

Credit(s):

1

MAE330 Modern Cryptography and Algebra

Secure communications are vital in today's digital world. Modern cryptography relies on ideas from Number Theory, Group Theory, Affine and Projective Geometry, and Computer Science. This course presents and develops the basic tools and algorithms required by modern cryptographers.

Note(s):

Mandatory in Mathematics programmes.

Prerequisite(s):

(MAE231 or MAE234) or permission of the instructor

Contact Hours:

3 - 1 - 4

Credit(s):

1

MAE331 Mathematics of Signal Processing

Distributions, Dirac's delta function and convolutions. Correlation and autocorrelation. Linear time-invariant systems. Continuous and discrete signals. Impulse and step responses. Transfer function and frequency response. Applications of the Laplace transform, Z-transform and solutions of finite difference equations. Applications of the Fourier Transform. Nyquist rate and Shannon's signal reconstruction formula, discrete Fourier transform, wavelet analysis.

Prerequisite(s):

MAE325

Semester:

Usually Offered in the Winter

Contact Hours:

3 - 0 - 4

Credit(s):

1

MAE333 Introduction to Discrete Mathematics

Brief review of permutations and combinations. Fundamentals of logic. Properties of the integers including induction, recursion, primes and modular arithmetic. Enumeration including the pigeonhole principle, inclusion/exclusion, generating functions and recurrence relations.

Semester:

Usually Offered in the Fall or Winter session.

Contact Hours:

3 - 1 - 4

Credit(s):

1

MAE334 Graph Theory

Graphs and sub-graphs, trees, connectivity, Euler tours and Hamiltonian cycles, matchings, independent sets and networks. Graph theoretic algorithms for finding spanning trees, shortest paths in weighted graphs and maximal flows in networks. Selected applications will cover timetabling, travelling salesman and tournament scheduling type problems.

Prerequisite(s):

CSE101 and (MAE119 or MAE129)

Semester:
Usually Offered in the Fall and Winter

Contact Hours:
3 - 1 - 4

Credit(s):
1

MAE336 Ordinary and Partial Differential Equations, Special Functions, Boundary-Value Problems

Sturm-Liouville theory and problems; study of the associated special functions. Sturm separation and comparison theorems. Introduction to partial differential equations. Separation of variables method for solving boundary-value problems. Solution of problems involving the Laplace, wave, diffusion and Schrodinger equations. Introduction to calculus of variations.

Note(s):
Required for students in Mathematics degree programmes

Prerequisite(s):
MAE325

Semester:
Offered in the Winter

Contact Hours:
3 - 1 - 4

Credit(s):
1

MAE337 Complex Analysis

The study of complex analysis is the study of functions of a complex variable and is very useful in many areas including number theory and applied mathematics. The subjects covered include: Complex numbers, Complex functions (limit and derivative). Analytic functions: Cauchy-Riemann conditions. Elementary complex functions. Cauchy theorem. Cauchy Integral & Formula. Fundamental theorem of algebra. Types of singularities. Taylor and Laurent series. Residue Calculus. Conformal Mapping.

Prerequisite(s):
(MAE231 or MAE233) or permission of the instructor

Semester:
Usually Offered in the Winter

Contact Hours:
3 - 1 - 4

Credit(s):
1

MAE340 Foundations of Probability

Probability; random variables and distributions; joint distributions; functions of random variables; conditional expectations; sequences of random variables; stochastic processes.

Prerequisite(s):
MAE209, MAE226, MAE227

Semester:
Usually Offered in the Fall and Winter

Contact Hours:
3 - 1 - 4

Credit(s):

1

MAE352 Non-Linear Optimization

Nonlinear Optimization deals with the problem of optimizing i.e. minimizing or maximizing an objective function in the presence or in the absence of equality and inequality constraints. Nonlinear Optimization has many applications in Engineering, Sciences, Economics and in several domains of military activities. In this course will be presented the main mathematical concepts, optimality conditions and numerical methods considered now in Nonlinear Optimization. Short introductions to Optimal Control Theory and Global Optimization will be also presented.

The main subjects of this course are the following. Convex Analysis. Geometrical Optimality Conditions. Optimality Conditions and Duality. Lagrangian Duality and Saddle Point Optimality Conditions. Numerical Algorithms and their convergence. Introduction to optimal Control Theory. Introduction to the Global Optimization.

Several examples and applications will be given.

Prerequisite(s):

MAE226, MAE227

Semester:

Usually Offered in the Fall and Winter

Contact Hours:

3 - 0 - 4

Credit(s):

1

MAE354 Non-linear Dynamical Systems, Chaos and Fractals

Some non-linear systems exhibit unexpected behaviours that require novel methods of explanation. Such are the chaotic systems, the evolution of which is unusually sensitive to small variations in the initial conditions. Chaos in the heavens; asteroids and comets and on Earth; simple iterated functions. Fractals; objects of fractional dimensions. MAPLE will be used to illustrate the effects studied.

Key subjects are: periodicity, orbits, bifurcations, non-linear maps (Hénon), Julia set, Mandelbrot set, pendulum motion, Lorenz butterfly and strange attractor.

Prerequisite(s):

Having done two years at RMC or the equivalent in Mathematics and Computer Science.

Semester:

Usually Offered in the Fall and Winter

Contact Hours:

3 - 0 - 4

Credit(s):

1

MAE366 Data Analytics I

Introduction to modelling, introduction to linear programming, solving linear programs with the simplex method, the dual problem, network models, combinatorial models with general overview of solution techniques (branch and bound, dynamic programming), complexity of combinatorial problems, non-linear continuous models, solution methods, and Kuhn Tucker conditions.

Note(s):

A required course for students taking the Data Analytics minor.

Prerequisite(s):

CSE101, MAE119, MAE226

Contact Hours:

3 - 2 - 5

Credit(s):

1

MAE367 Data Analytics II

Model formulation particularly defence model formulation, solution methods including the use of optimization software, applications of probability and statistics to defence problems (with emphasis on hypothesis testing, Monte Carlo simulation, game theory, and war gaming models).

Note(s):

A required course for students taking the Data Analytics minor.

Prerequisite(s):

CSE101, MAE119, MAE226

Contact Hours:

3 - 2 - 5

Credit(s):

1

MAE374 Conflict Analysis

The ability to understand and resolve conflicts is a required skill for decision makers in every domain. The purpose of this course is to present the part of Game Theory and its techniques designed to solve real world problems. The material presented includes models and analysis methods from Stability Analysis, Hypergame Analysis, Two and N-Player Games Analysis, Equilibrium Analysis (such as Nash's equilibrium), as well as Dynamic Modelling.

This course is of great value to future analysts of both civil and military issues. It provides them with the tools to disentangle complex real economical or geopolitical issues in order to determine the cause(s) and assist in the selection of a rational solution.

The main subjects of this course are the following. Types of conflicts; Simple conflict analysis, Garrison conflict. Hypergames; Cuban Missile Crises, Normandy Invasion. Metagames; Mathematical description, Analysis, Characterization theorem. Conflict analysis methods; Two and N-Player games, Nuclear conflict. Theory and implications of conflict analysis; Foundations, Equilibriums and solution concepts, Classical Game Theory. Solution procedures for non-cooperative games; Stability, Existence with examples, Special classes of games. Dynamic modeling; Supergames, Nuclear conflict, Time transition matrices.

Prerequisite(s):

MAE226, MAE227, MAE229

Semester:

Usually Offered in the Fall and Winter

Contact Hours:

3 - 0 - 4

Credit(s):

1

MAE384 Analytics and the Operational Planning Process

A fundamental planning process for all militaries is the Operational Planning Process (OPP), wherein commanders and their staff think through an initial operational plan. These generally rely on mathematical models for various components of the process including models of force level requirements and sustainment, models of attrition, models of logistical supply including ammunition supply. In addition, we examine the applicability of more general analytics tools including decision analysis, multi-criteria decision analysis, the theory of teams, and game theory.

Contact Hours:

3 - 0 - 4

Credit(s):

1

MAE386 Ideation, Thought Media, and Mathematics

Ideation is the process of generating and developing new ideas. A thought medium is any object or thing external to the mind which helps a thinker (or thinkers) generate or develop a new idea. This course first explores the significant role of thought media in general ideation. It then examines the nature of ideation in mathematics. After examining the texts of Poincaré, Hadamard, and Kline, a modern synthesis is developed.

This synthesis is motivated with a study of the following topics: the development of number systems, the invention of algebra, the discovery of analytic geometry and the calculus, some ideas in geometry including the problem of squaring the circle, Fermat's Last Theorem, Gödel's Impossibility Theorems, and general modeling. Students do not require a significant background in mathematics to take this course.

Prerequisite(s):

Any university mathematics course

Contact Hours:

3 - 0 - 4

Credit(s):

1

CSE301 Scientific Computing

Sources of error in numerical computation. Stable and unstable algorithms, computational pitfalls. Topics in numerical analysis including the solution of linear and non-linear equations, numerical integration and differentiation, polynomial and spline interpolation, discrete least squares approximation, numerical solution of ordinary differential equations.

Prerequisite(s):

CSE101, MAE129, MAE226

Semester:

Usually Offered in the Fall and Winter

Contact Hours:

3 - 1 - 4

Credit(s):

1

CSE321 Algorithm Analysis

Analysis of algorithms and computational complexity, complexity measures and standard complexity classes, use of recurrence relations to analyze recursive algorithms. Fundamental algorithmic strategies: brute-force, greedy, divide and conquer, recursive backtracking. Strings and pattern-matching algorithms. Graph and tree traversals, algorithms for shortest-path, transitive closure, minimum spanning tree. Implementations of graphs and trees. Introduction to computability, Turing machines, algorithmically unsolvable problems, halting problem.

Note(s):

Mandatory in the Computer Science programmes.

Prerequisite(s):

CS250 and (MAE231 or MAE233)

Semester:

Usually Offered in the Fall session.

Contact Hours:

3 - 1 - 5

Credit(s):

1

CSE323 Formal Languages and Automata

Introduction to the theory of automata and formal languages with application to the theory of computation. Deterministic finite automata, regular languages, pushdown automata, context free grammars, Turing machines (TM), unsolvable problems about TM and grammars, P and NP classes, NP completeness.

Prerequisite(s):

CSE250 or permission of the department

Semester:

Usually Offered in the Fall and Winter

Contact Hours:

3 - 2 - 4

Credit(s):

1

CSE341 Introduction to Database Systems

Database system concepts; Primary file organization and index structures; Data modeling using entity-relationship model and enhanced entity-relationship model; Relational model, Normalization; relational algebra and relational calculus; SQL, Embedded SQL and JDBC; query optimization, transaction processing; security and database integrity.

Note(s):

Mandatory in the Computer Science programmes.

Prerequisite(s):

CSE250 and (MAE231 or MAE233), or permission of the department

Semester:

Usually Offered in the Winter session.

Contact Hours:

3 - 2 - 5

Credit(s):

1

CSE362 Software Development and Professional Practice

This course starts with a description of human-computer interaction issues in software design. The course then covers a range of topics integral to the design, implementation, and testing of a medium-scale software system with the practical experience of implementing such a project as a member of a programmer team. Finally, the course includes material on the social context of computing as well as professionalism and ethical responsibilities in software development.

Note(s):

Mandatory for the Honours BSc in Computer Science.

Prerequisite(s):

CSE250

Semester:

Usually Offered in the Fall and Winter

Contact Hours:

3 - 2 - 5

Credit(s):

1

CSE368 Data Science

In today's rapidly evolving world, the success of organizations, both civilian and military, depends on their ability to convert vast amounts of data into actionable insights quickly and efficiently. Data science, the art and science of extracting insights from data, has become an integral part of achieving this goal. This course is designed to give students a comprehensive understanding of the data science pipeline. Topics include exploratory data analysis, data visualization, data wrangling, classification, regression, and clustering. By engaging in hands-on labs, students will gain practical experience in solving real-world data-driven problems and applying machine-learning algorithms to draw well-supported conclusions.

Prerequisite(s):

CSE101, MAE119, MAE226

Contact Hours:

3 - 2 - 5

Credit(s):

1

CSE390 Multiprocessing, user interfaces, graphics systems and e-commerce

The course starts by covering aspects of conventional computer architecture such as memory systems and functional organization. Then, multiprocessing and alternative architectures beyond the classical von Neumann model are studied. The second portion of the course will teach fundamental issues in human-computer interaction, event-driven programming and effective graphical user interface (GUI) design, with practical experience building a GUI. The third part of the course is concerned with graphics software and video. The fundamental techniques involved in the design of graphic systems are studied using a graphics API and more advanced topics such as geometric modeling and graphics rendering algorithms are also included. Finally, in the course fourth and last part, e-commerce is covered.

Note(s):

Mandatory for the Honours BSc in Computer Science.

Prerequisite(s):

CSE250

Semester:

Usually Offered in the Fall and Winter

Contact Hours:

3 - 2 - 5

Credit(s):

1

Courses 400-499

MAE406 Advanced Mathematical Analysis - Part I

The main goal of this course is to present the first part of some fundamental notions and results of modern mathematical analysis, necessary for applied analysis. This course is necessary for anyone who intends to follow advanced courses in fields such as Optimization, Game Theory, Dynamical Systems, Partial Differential Equations, Integral Equations, etc... The content of this course forms a good background for many courses in Masters and PhD programs. The topics presented include: necessary notions related to real numbers, topological spaces, metric spaces, Lebesgue integral, and convex analysis.

Prerequisite(s):

(MAE231 or MAE233) or permission of the instructor

Contact Hours:

3 - 1 - 4

Credit(s):

1

MAE407 Advanced Mathematical Analysis - Part II

The main goal of this course is to present the second part of some fundamental notions and results of modern mathematical analysis, necessary for applied analysis. Part I of this course is a prerequisite. This course is necessary for anyone who intends to follow advanced courses in fields such as Optimization, Game Theory, Dynamical Systems, Partial Differential Equations, Integral Equations, etc. The content of this course forms a good background for many courses in Masters and PhD programs. The material presented is as follows: Banach and Hilbert Spaces, Linear operators between Hilbert Spaces, Fixed Point theorems, and Variational Inequalities.

Prerequisite(s):

MAE406

Contact Hours:

3 - 1 - 4

Credit(s):

1

MAE408 Numerical Analysis

Solutions of partial differential equations using implicit difference methods for parabolic, elliptic and hyperbolic equations, and methods for gradient boundary conditions; introduction to finite element methods; root finding and optimization; modern simulation techniques including Monte Carlo, pseudo-random number generation, and simplex applications; other advanced topics as appropriate.

Prerequisite(s):

MAE226, MAE227, CSE301

Semester:

Usually Offered in the Fall and Winter

Contact Hours:

3 - 0 - 3

Credit(s):

1

MAE413 Mathematical Physics

Integral representation of functions. Green's functions in one and higher dimensions. Solutions of integral equations. Additional topics in mathematical physics as time permits. Software packages for symbolic and numerical computation will be used wherever possible.

Prerequisite(s):

MAE325, MAE326

Semester:

Usually Offered in the Fall and Winter

Contact Hours:

3 - 0 - 3

Credit(s):

1

MAE420 Senior Project

The purpose of this course is to offer the possibility of doing an in-depth study of a scientific topic in which the student is particularly interested. The format is flexible and depends on the topic area. At one end of the spectrum, the student could be associated with a research group in Mathematics and be given responsibility for part of a research project. At the other end, the student may choose a programme of independent study under the supervision of a member of the faculty. In all cases, the student's progress would be regularly monitored and an interim report would be submitted by the student at the end of the Fall term. The final mark would be based on a combination of assessment by the faculty supervisor(s) and an oral presentation to the Honours Science students and a faculty assessment committee.

Note(s):

Mandatory for Honours Mathematics students.

Contact Hours:

0 - 0 - 4

Credit(s):

2

MAE430 Modern Cryptography and Number Theory

The study of the properties of the integers is one of the highlights of Mathematics. Originally viewed as one of the purest fields in pure mathematics, it is now the basis for essentially all of modern cryptography. This course explores these topics and their applications in cryptography and post-quantum cryptography. These topics include elliptic curves, finite fields, quadratic reciprocity, and lattices.

Prerequisite(s):

MAE330

Contact Hours:

3 - 1 - 4

Credit(s):

1

MAE440 Special Topics in Algebra

The objective of this course is to allow members of the department to share their expertise with students in areas of algebra not covered in other courses. Students will present seminars, or write reports, or write exams, as appropriate.

Prerequisite(s):

(MAE329 or MAE231) and permission of the instructor

Semester

Usually Offered in the Fall or Winter

Contact Hours:

0 - 3 - 3

Credit(s):

1

MAE441 Special Topics in Probability and Statistics

The objective of this course is to allow members of the department to share their expertise with students in areas of probability and statistics not covered in other courses. Students will present seminars, or write reports, or write exams, as appropriate.

Prerequisite(s):

(MAE310 or MAE340) and permission of the instructor

Semester

Usually Offered in the Fall or Winter

Contact Hours:

0 - 3 - 3

Credit(s):

1

MAE442 Special Topics in Optimization

The objective of this course is to allow members of the department to share their expertise with students in areas of optimization not covered in other courses. Students will present seminars, or write reports, or write exams, as appropriate.

Prerequisite(s):

MAE101, one of MAE119 or MAE129, and permission of the instructor

Semester

Usually Offered in the Fall or Winter

Contact Hours:

0 - 3 - 3

Credit(s):

1

MAE443 Special Topics in Analysis

The objective of this course is to allow members of the department to share their expertise with students in areas of analysis not covered in other courses.

Prerequisite(s):

MAE231 and permission of the instructor

Semester

Usually Offered in the Fall or Winter

Contact Hours:

0 - 3 - 3

Credit(s):

1

MAE451 Topics in Mathematics

The objective of this course is to allow members of the department to share their expertise with students in areas of mathematics not covered in other courses. Students will present seminars and written reports, as appropriate.

Prerequisite(s):

Permission of the instructor

Semester:

Usually Offered in the Fall and Winter

Contact Hours:

0 - 3 - 3

Credit(s):

1

MAE452 Probabilistic Operations Research Models

Conditional distributions; probability generating functions; Poisson processes; the role of exponential and Poisson distributions in applications. Introduction to stochastic processes; birth-and-death processes; renewal processes. Markov chains and their properties. Use of computer software programs to solve problems in various stochastic processes.

Prerequisite(s):

MAE340, MAE325

Semester:

Usually Offered in the Fall and Winter

Contact Hours:

3 - 1 - 4

Credit(s):

1

MAE454 Analytics and Operations Research Modeling

This course covers the basics of analytics and operations research modeling. Topics include linear programming models, integer and binary programming models, network models, scheduling models, production planning models, inventory models, defence applications, multi-criteria decision models, game theoretic models, neural nets and deep learning, simulation models, and sports models. The emphasis will be on the real-world application of these models and not on the underlying algorithms to solve them. We also include a treatment of the natural history of modeling which focuses on the developments of language, writing, number systems, and algebra.

Prerequisite(s):

MAE101 and MAE209

Contact Hours:

3 - 0 - 6

Credit(s):

1

MAE456 Mathematical Modelling

This course involves a study of the principles of mathematical modelling. Continuous models based on ordinary differential equations, systems of ordinary differential equations, partial differential equations and integral equations. Models based on optimization and variational calculus. Each model type will be illustrated by concrete examples and numerical methods appropriate to these equations will be investigated. The latter part of the course will be dedicated to a qualitative study of mathematical models. Mathematical models for military problems will be considered.

Prerequisite(s):
MAE325, MAE326

Semester:
Usually Offered in the Fall and Winter

Contact Hours:
3 - 0 - 4

Credit(s):
1

CSE407 Modern Machine Learning

This course gives a comprehensive introduction to the foundations of Modern Machine Learning. At the end of this course, the student will have a good understanding of deep learning, including backpropagation, maximum likelihood and cross-entropy, regularization techniques, and several modern architectures such as convolutional neural networks attention networks, and generative networks, to name a few. Some applications will also be covered. At the end of the course, the student will be able to choose and train a neural network for a specific problem and to evaluate its performance. The student will also be introduced to scientific publications.

Prerequisite(s):
MAE209, MAE226 and (CSE250 or CSE368)

Contact Hours:
3 - 0 - 5

Credit(s):
1

CSE408 Internet of Things Communications and Networks

This course provides a comprehensive understanding of emerging Internet of Things (IoT) systems by emphasising methodological and applied aspects and by incorporating both lecture-based and laboratory-based activities. The course presents the main concepts of the IoT ranging from the physical layer to the applications and standards/protocols. Students will learn IoT device programming (Arduino and Raspberry Pi), sensing technologies, Sensor Integration, IoT Protocol stacks, IoT Architecture, IoT Standards, IoT Networking, IoT Security Enforcement and Standards, Cloud and Fog computing for IoT, Data Analytics for IoT. The course will also highlight some real-world applications include: Biomedical IoT, Smart Cities, Military Applications, Security and Safety, Intelligent Transportation Systems. Students will be guided through laboratory tasks designed to provide real-world experience.

Note(s):
Open to Science and Engineering

Prerequisite(s):
CSE250 or CSE330

Contact Hours:
3 - 2 - 5

Credit(s):
1

CSE410 Semantic Web and Databases

The course Semantic Web and databases aims at familiarizing students with the basic principles of the Semantic Web and presents its current state of development and challenges. Another goal of the course is to compare Semantic Web triple stores and query language (SPARQL) with relational databases and to explain the main differences and similarities between both areas. The course also explores the various technologies, tools and languages currently used in the Semantic Web. In particular, we detail Semantic Web languages, ontology engineering methods, linked data, queries and semantic search tools and finally inference engines used with ontologies.

Note(s):
The lectures take various forms: 1) discussions on various readings (conferences, journals), 2) formal lectures, and 3) Presentations by students. Students must also complete a Semantic Web project in a given application domain using Java and Semantic Web Technologies.

Prerequisite(s):

CSE250

Contact Hours:

3 - 0 - 5

Credit(s):

1

CSE411 Advanced Database Concepts and Applications

Concurrency and recovery. Decision support . Object databases. Distributed databases and client-server architecture. Active databases and temporal databases. Deductive databases. Data warehousing and data mining. Study of applications such as GIS, genome database, bioinformatics, digital library and multimedia databases.

Prerequisite(s):

CSE341

Semester:

Usually Offered in the Fall and Winter

Contact Hours:

3 - 2 - 5

Credit(s):

1

CSE420 Senior Project

The purpose of this course is to offer the possibility of doing an in-depth study of a scientific topic in which the student is particularly interested. The format is flexible and depends on the topic area. At one end of the spectrum, the student could be associated with a research group in Computer Science and be given responsibility for part of a research project. At the other end, the student may choose a programme of independent study under the supervision of a member of the faculty. In all cases, the student's progress would be regularly monitored and an interim report would be submitted by the student at the end of the Fall term. The final mark would be based on a combination of assessment by the faculty supervisor(s) and an oral presentation to the Honours Science students and a faculty assessment committee.

Note(s):

Mandatory for Honours Computer Science students

Contact Hours:

0 - 0 - 4

Credit(s):

2

CSE444 Advanced Programming

Laboratory exercises designed to introduce the students to the basic concepts of multiprocessing, multithreading, interprocess communication, distributed programming, parallel computing, socket connection, client/server model, networking, UDP and TCP protocols, routing information protocols, web security, fundamentals of cryptography, firewalls.

Note(s):

Each student must develop a project.

Prerequisite(s):

CSE250

Semester:

Usually Offered in the Fall and Winter

Contact Hours:

0 - 2 - 4

Credit(s):

1

CSE446 Information System Security

Information systems (ISs) consist of hardware (computers, networks, and handheld devices), data, and services; and these are the assets to be protected for both military and civilian organizations. The aims of this course are two folds: introducing offensive techniques, and defensive concerns of information system security. The course will first focus on attacking surfaces of various assets of IS; students will learn common attack techniques. The countermeasures for each attack surface will also be studied. There are seven hands-on labs and one project on various attacking tasks. Then, the course will discuss the defensive concerns of IS, the topics will cover the basic principles to secure IS environment, secure software development, intrusion detection systems, incident response, digital forensics, and legal issues, ethics and privacy. The midterm and final examinations will be used to examine the depth of students' understanding of the course contents.

Note(s):
Offered in the winter term of 4th year

Prerequisite(s):
CSE444

Semester:
Usually Offered in the Winter

Contact Hours:
3 - 2 - 5

Credit(s):
1

CSE451 Topics in Computer Science

The objective of this course is to allow members of the department to share their expertise with students in areas of computer science not covered in other courses. Students may be expected to work on software projects, and will present seminars and written reports as appropriate.

Prerequisite(s):
Permission of the instructor

Semester:
Usually Offered in the Fall and Winter

Contact Hours:
0 - 3 - 3

Credit(s):
1

CSE453 Modeling and Simulation

After the course, students will be able to solve problems using computer simulations. More specifically, students will be able to describe the procedures involved in modeling and simulation; they will know how to structure and then verify models for complex systems, how to conduct designs of experiment on models, i.e., simulation, and how to measure and evaluate these experiments (simulation analysis). Advanced applications will be shown and students will be able to solve problems by using various skills of modeling and simulation. Finally, they will be able to apply their knowledge of modeling and simulation to solve defence related applications.

Prerequisite(s):
CSE101

Semester:
Usually Offered in the Fall and Winter

Contact Hours:
3 - 2 - 4

Credit(s):
1

CSE472 Foundations of Artificial Intelligence

This course gives a comprehensive introduction to the foundations of Artificial Intelligence (AI). It starts with an introduction to intelligent agents. Secondly, it reviews the methods of solving problems by searching and game playing. Then, it explores knowledge, knowledge representations and reasoning with the help of propositional and first order logics. Furthermore, AI programming languages such as Prolog/Clips/JESS and their usages in building expert systems are studied. Afterwards, knowledge and reasoning with uncertainty are discussed. It also explains some concepts of machine learning from the aspects of statistics and mathematics. In addition, computer vision, dealing with sound, and robotics are introduced. Finally, it highlights major applications of AI for military defence.

Note(s):

Mandatory for the Honours BSc in Computer Science.

Prerequisite(s):

CSE250 or CSE321

Semester:

Usually Offered in the Fall and Winter

Contact Hours:

3 - 2 - 3

Credit(s):

1

CSE490 Computer Graphics

This course introduces the fundamentals of modern 3D computer graphics. The students will learn about the standard graphic card pipeline and to how program it. Using OpenGL, they will learn to send data to the graphic card memory, to do basic rendering, and to program the GPU vertex and fragment shaders. The students will also learn about 3D projections, transformations, frames of reference, and homogeneous coordinates system. Other topics covered include mesh triangulation, lightning, shading, and texturing. At the end of the semester, the students will have a good idea how modern 3D computer graphics are working and will have written some 3D graphic software of their own.

Note(s):

Limited to 10 students.

Prerequisite(s):

MAE119 or MAE129, CSE390 (EEE243 recommended)

Semester:

Usually Offered in the Fall

Contact Hours:

2 - 2 - 4

Credit(s):

1

Date modified:

2024-12-23

Physics and Space Science Undergraduate Programmes

Related links

Undergraduate Physics and Space Science Courses

Undergraduate Science Programmes

Department of Physics and Space Science

Admissions

General Information

The Department of Physics and Space Science offers the following programmes of study:

- B.Sc. (Honours) Physics;
- B.Sc. (Honours) Space Science;
- B.Sc. Physics; B.Sc. Space Science and;
- B.Sc. Physics and Space Science.
- Other double majors are possible, for details see the undergraduate advisor in the department.

The requirements for both the B.Sc. (Honours) Physics and B.Sc. Physics or B.Sc. (Honours) Space Science and B.Sc. Space Science is listed in the tables along with optional courses which are selectively timetabled.

Physical Conditioning and Second Language Courses

⚠ **Important:** The physical conditioning courses and the second language courses are part of the four-pillar degree and apply to all RMC degree programmes except the 30-credit general degree programmes.

ℹ **LCF:** Based on the result of a placement test, students will be registered in LCF courses at the 100, 200, 300, or 400-level. Students will automatically be exempt from applicable lower level LCF courses once placed in the appropriate course. Students who attain a Second Official Language (SOL) proficiency level of at least BBB or higher on the Public Service Commission (PSC) Second Language Evaluation (SLE) will be exempt from LCF courses at RMC.

- ATE101: Foundations of Fitness, Health and Sports (UTPNCM & non-ROTP take ATE102)
- ATE301: Unarmed Combatives, Military Skills and Individual Sports (UTPNCM & non-ROTP take ATE302)

- LCF100 : Compétence de base – partie I
- LCF200 : Compétence de base – partie II
- LCF301 : Compétence intermédiaire – partie I
- LCF302 : Compétence intermédiaire – partie II
- LCF400 : Compétence intermédiaire - partie III

Note: The PSC SLE is the only SOL certification-testing instrument currently accredited and used by the CAF to assess the SOL proficiency level. *(DAOD 5039-8, Canadian Armed Forces Second Official Language Certification Testing)*

Physics Programmes

B.Sc. (Honours) Physics

Important: To earn an Bachelor of Science (Honours) a student must meet the requirements of Academic Regulation 3.2.

Completion of a 42 credit programme, including the core courses for Science. This includes a minimum of 20 credits in Physics and Space Science, approved by the department.

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	CCE101 CSE101 ENE121 MAE101 PHE104 PSE103 ATE LCF	CCE101 (cont'd) ENE122 MAE101 (cont'd) MAE129 PHE104 (cont'd) ATE LCF	HIE207 MAE226 PHE205 (w\lab) PHE225 (w\lab) **Physics or Space Science** [1] 1 credit ATE LCF	HIE203 MAE227 PHE217 (w\lab) POE205 **Physics or Space Science** [1] 1 credit ATE LCF
Semester total	**6 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	MAE325 PHE302 PHE304 PSE301 **Senior Physics or Space Science** [1] 2 credits ATE LCF	HIE271 PHE305 PHE307 PHE460 PHE462 ATE LCF	PHE420 POE116 **Senior Physics or Space Science** [1] 2 credits **Elective** [4] 1 credit ATE LCF	PHE420 (cont'd) PSE401 **Senior Physics or Space Science** [1] 1 credit **Optional** [2] 1 credit **Elective** [4] 1 credit ATE LCF
Semester total	**6 credits**	**5 credits**	**5 credits**	**5 credits**

B.Sc. Physics

Completion of a 42 credit programme, including the core courses for Science. This includes a minimum of 16 credits in Physics and Space Science, approved by the department.

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	CCE101 CSE101 ENE121 MAE101 PHE104 PSE103 ATE LCF	CCE101 (cont'd) ENE122 MAE101 (cont'd) MAE129 PHE104 (cont'd) ATE LCF	HIE207 MAE226 PHE205 (w\lab) PHE225 (w\lab) **Physics or Space Science** [1] 1 credit ATE LCF	HIE203 MAE227 PHE217 (w\lab) POE205 **Physics or Space Science** [1] 1 credit ATE LCF
Semester total	**6 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	MAE325 PHE302 PHE304 PSE301 **Senior Physics or Space Science** [1] 2 credits ATE LCF	HIE271 PHE305 PHE307 PHE460 PHE462 ATE LCF	POE116 **Elective** [4] 4 credits ATE LCF	PSE401 **Optional** [2] 1 credit **Elective** [4] 3 credits ATE LCF
Semester total	**6 credits**	**5 credits**	**5 credits**	**5 credits**

Space Science Programmes

B.Sc. (Honours) Space Science

> ⚠ **Important:** To earn an Bachelor of Science (Honours) a student must meet the requirements of Academic Regulation 3.2.

Completion of a 42 credit programme, including the core courses for Science. This includes a minimum of 20 credits in Physics and Space Science, approved by the department.

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	CCE101 CSE101 ENE121 MAE101 PHE104 PSE103 ATE LCF	CCE101 (cont'd) ENE122 MAE101 (cont'd) MAE129 PHE104 (cont'd) ATE LCF	HIE207 MAE226 PHE205 (w\lab) PHE225 (w\lab) PHE255 ATE LCF	HIE203 MAE227 PHE217 (w\lab) POE205 **Physics or Space Science** [1] 1 credit ATE LCF
Semester total	**6 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	MAE325 PHE302 PHE350 PSE301 **Senior Physics or Space Science** [1] 2 credits ATE LCF	HIE271 PHE307 PHE355 PHE460 PHE462 ATE LCF	PHE448 PHE445 PHE450 POE116 **Elective** [4] 1 credit ATE LCF	PHE448 (cont'd) PHE452 PSE401 **Senior Physics or Space Science** [1] 1 credit **Elective** [4] 1 credit ATE LCF
Semester total	**6 credits**	**5 credits**	**5 credits**	**5 credits**

B.Sc. Space Science

Completion of a 42 credit programme, including the core courses for Science. This includes a minimum of 16 credits in Physics and Space Science, approved by the department.

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	CCE101 CSE101 ENE121 MAE101 PHE104 PSE103 ATE LCF	CCE101 (cont'd) ENE122 MAE101 (cont'd) MAE129 PHE104 (cont'd) ATE LCF	HIE207 MAE226 PHE205 (w\lab) PHE225 (w\lab) PHE255 ATE LCF	HIE203 MAE227 PHE217 (w\lab) POE205 **Physics or Space Science** [1] 1 credit ATE LCF
Semester total	**6 credits**	**5 credits**	**5 credits**	**5 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	MAE325 PHE302 PHE350 PSE301 **Senior Physics or Space Science** [1] 2 credits ATE LCF	HIE271 PHE307 PHE355 PHE460 PHE462 ATE LCF	POE116 **Elective** [4] 4 credits ATE LCF	PSE401 **Optional** [3] 1 credit **Elective** [4] 3 credits ATE LCF
Semester total	**6 credits**	**5 credits**	**5 credits**	**5 credits**

1 Other Faculty of Science or Engineering courses may be substituted with departmental approval.

2 Students must take one of PHE403, PHE412, PHE415, PHE442 or PHE470.

3 Students must take either PHE445, PHE450 or PHE452.

4 Elective credits, as required, to meet the total programme credits **(normally 50% from science or engineering, subject to department approval)**.

Double or Combined Major

Double Majors may be available in:

- Physics and Space Science
- Physics and Computer Science
- Physics and Chemistry
- Physics and Mathematics
- Space Science and Mathematics
- Space Science and Computer Science
- Space Science and Chemistry

Combined Major may be available in:

- Space Science and Military and Strategic Studies

> **Note:** Before registering in a double or a combined major both departments concerned should be consulted for details.

Minors

Minor in Physics

Mandatory Courses

- PHE104: General Physics
- PHE205: Mechanics
- PHE217: Electromagnetism
- PHE225: Modern Physics **or** PHE226: Modern Physics

3 of the following:

- CCE309: Introduction to Quantum Chemistry and Spectroscopy
- PHE302: Electromagnetic Waves
- PHE304: Quantum Mechanics
- PHE305: Classical Mechanics
- PHE307: Optics
- PHE332: Instrumentation I

Minor in Space Science

Mandatory Courses:

- PHE104: General Physics
- PHE205: Mechanics
- PHE217: Electromagnetism
- PHE225: Modern Physics
- PHE255: Space Operations
- PHE355: Space Systems

Optional:

- 1 Physics credit at the 300 or 400-level.

Table of Co-Requisites / Prerequisites

Course	Co-Requisites	Prerequisites
PHE102 Elementary Physics		for students in Arts who have not taken senior High School physics credit
PHE104 General Physics	MAE101	
PHE205 Mechanics		PHE101 and MAE101
PHE217 Electromagnetism		PHE104 and MAE226
PHE225 Modern Physics	MAE226	PHE104
PHE226 Modern Physics	MAE226	PHE104
PHE228 Electromagnetism (for electrical and computer engineering students)		PHE104 and MAE226
PHE255 Space Operations		MAE103 or High School Leaving Physics
PHE302 Electromagnetic Waves	MAE325	PHE217 or PHE228
PHE304 Quantum Mechanics	MAE325	PHE225
PHE305 Classical Mechanics	MAE325	PHE205
PHE307 Optics		PHE302
PHE332 Instrumentation I		PHE217
PHE333 Instrumentation II		PHE332
PHE350 Orbital Mechanics		PHE104 and MAE101
PHE352 Astronomy	PHE104 and MAE101	
PHE355 Space Systems		PHE255
PHE364 Physics Laboratory		(PHE205 and PHE225) or PHE217
PHE370 Oceanography		PHE104
PHE403 Solid State Physics	MAE325	PHE304
PHE412 Advanced Electromagnetic Theory	MAE325	PHE302
PHE413 Nuclear Physics	MAE325	PHE304
PHE415 Advanced Quantum Mechanics	MAE325	PHE304
PHE420 Senior project		Honours Physics, permission of Department
PHE442 Introduction to Astrophysics		PHE225 and PHE352
PHE445 Physics of the Space Environment		PHE217 and PHE225
PHE448 Space Mission Analysis and Design		Honours Space Science, permission of Department
PHE450 Space Communication and Navigation		PHE217
PHE451 Senior Physics Laboratory		(PHE205 and PHE225) or PHE217
PHE452 Remote Sensing	MAE325	PHE217
PHE460 Computational Physics		PHE302
PHE462 Statistical and Thermo Physics		PHE225
PHE470 Physical Oceanography		PHE104, MAE226, ans MAE227

Date modified:

2025-08-20

Undergraduate Physics and Space Science Courses

PHE102 Elementary Physics

PHE104 General Physics

PHE110 Elements of Electro-Optics

PHE131 Mechanics

PHE134 Elements of Physics

PHE135 Experimental Physics (Mechanics and Optics Laboratory)

PHE136 Optics and Electricity

PHE203 Introduction to Astronomy

PHE205 Mechanics

PHE217 Electromagnetism

PHE225 Modern Physics

PHE226 Modern Physics

PHE252 Marine Remote Sensing

PHE255 Space Operations

PHE260 Astronomy and the Evolving Universe

PHE270 Introduction to Oceanography

PHE280 Physics of Armaments

PHE290 The Physics of Music

PHE302 Electromagnetic Waves

PHE304 Quantum Mechanics

PHE305 Classical Mechanics

PHE307 Optics

PHE332 Instrumentation I

PHE333 Instrumentation II

PHE350 Orbital Mechanics

PHE352 Astronomy

PHE355 Space Systems

PHE362 Ideas and Concepts of Modern Physics

PHE364 Physics Laboratory

PHE370 Oceanography

PHE403 Solid State Physics

PHE412 Advanced Electromagnetic Theory

PHE413 Nuclear Physics

PHE415 Advanced Quantum Mechanics

PHE420 Senior Project

PHE440 Selected Topics in Physics

PHE442 Introduction to Astrophysics

PHE445 The Physics of the Space Environment

PHE448 Spacecraft Mission Analysis and Design

PHE450 Space Communications and Navigation

PHE451 Senior Physics Laboratory

PHE452 Remote Sensing

PHE460 Computational Physics

PHE462 Statistical and Thermal Physics

PHE470 Physical Oceanography

Related links

Physics and Space Science programmes requirements

Course details guide

Courses 100-199

PHE102 Elementary Physics

Topics in this introductory physics course will include: Newtonian mechanics including projectile motion, work and energy, acoustic, speed of sound, sound intensity, optics, lasers, mirrors, lenses, interference and diffraction.

Note(s):
For Arts students only. This course cannot be applied to a degree in Science or Engineering.

Exclusion(s):
PHE134

Contact Hours:
3 - 0 - 6

Credit(s):
1

PHE104 General Physics

Introduction to the principles of physics involved in Optics and Electricity, Mechanics.

First Semester, PHE104(1)

Optics: geometrical optics, reflection and refraction, images from mirrors and lenses, optical instruments. Wave nature, Huygens principle, interference and diffraction, phenomena in diffraction gratings and thin films and for analyzing the resolution of optical instruments.

Electricity: Coulomb's law, electric field and electric potential, motion of a charged particle, emf source, capacitance, current and resistance in electric circuits. Direct current circuits, Ohm's law and Kirchhoff's rules.

There is a lab associated with this course. The lab covers the basic principles of experimental investigation. In particular, the following topics are considered: the nature of measurement and associated errors, experiment planning and execution, the analysis of data errors, and the writing of scientific reports.

PHE104(1) and PHE136 are equivalent courses. A student cannot receive credit for both PHE104(1) and PHE136.

Second semester, PHE104(2)

Mechanics: kinematics, displacement, velocity, acceleration, motion in one and two dimensions, Newton's laws of motion, free-body diagrams, circular motion, friction, kinetic and potential energy, work, momentum, conserved quantities, rigid bodies, rotational motion, moment of inertia gravitation.

PHE104(2) and PHE131 are equivalent courses. A student cannot receive credit for both PHE104(2) and PHE131.

The first year physics lab (which is taken as part of PHE104) and PHE135 are equivalent academic activities. A student cannot receive credit for both the "First year physics lab" and PHE135.

Note(s):
For all students in the First Year of Science and Engineering.

Corequisite(s):
MAE101

Contact Hours:
3 - 4 - 6

Credit(s):
2

PHE110 Elements of Electro-optics

Introduction to the nature of light, reflection and refraction, lenses and spherical mirrors, optical instruments, Huygen's principle, interference of light and diffraction, polarization, the photoelectric effect, lasers and holography, condensed matter, band theory of solids, and semiconductor junctions and devices.

Note(s) :
Only offered through Distance Education

Contact Hours:
0 - 0 - 9

Credit(s):
1

PHE131 Mechanics

Intended for students who wish to proceed in science or engineering. The content consists of an introduction to the principles of physics through the study of mechanics. The course covers the following material: vectors, kinematics, motion in one and two dimensions, displacement, velocity, acceleration, curvilinear motion, relative velocities, Newton's laws of motion, free-body diagrams, friction, circular motion, work done by a force, kinetic energy, conservative and non-conservative forces, potential energy, work-energy theorem, conservation of energy, linear momentum and collisions in one and two dimensions, rotational motion of rigid bodies, angular velocity, angular acceleration, rotational kinetic energy, moments of inertia, torque, angular momentum, rolling motion, and the law of universal gravitation.

Note(s):
Only offered through Distance Education

Exclusion(s):
PHE104(2)

Contact Hours:
0 - 0 - 9

Credit(s):

1

PHE134 Elements of Physics

The concepts of energy and its conservation are used as a vehicle to explore a number of areas in modern physics. The course is designed for students with a non-technical background. Topics include: motion and Newton's laws, work, energy, and the laws of energy conservation. Mechanical waves and sound, electromagnetic waves and light, atomic structure, states of matter, and the nucleus and nuclear energy.

Note(s):

Only offered through Distance Education
Offered in English Only.
For Arts students only. This course cannot be applied to a degree in Science or Engineering.

Exclusion(s):

PHE102

Contact Hours:

0 - 0 - 9

Credit(s):

1

PHE135 Experimental Physics

Basic principles of experimental investigation, in particular: the nature of measurement and associated errors, experiment planning and execution, analysis of data errors, and writing of a scientific report.

Note(s):

Only offered through Distance Education
Course only offered on-site in a two-week time block. Contact RMC Online for details.

Exclusion(s):

PHE104 (Lab portion)

Contact Hours:

0 - 2 - 0

Credit(s):

0.5

PHE136 Optics and Electricity

Introduction to the principles of physics through the study of optics and electricity. The course will include the following topics:

Optics: geometrical optics, reflection and refraction, images from mirrors and lenses, optical instruments, wave nature, Huygen's principle, interference and diffraction, phenomena in diffraction grating and thin films, and analyzing the resolution of optical instruments.

Electricity: Coulomb's law, electric field and electric potential, motion of a charged particle, power source, capacitance, current and resistance in electric circuits, direct current circuits, Ohm's law, and Kirchhoff's rules.

Note(s):

Only offered through the Distance Education

Exclusion(s):

PHE104(1)

Note(s):

Intended for students who wish to proceed in Science or Engineering.

Contact Hours:

0 - 0 - 9

Credit(s):

1

Courses 200-299

PHE203 Introduction to Astronomy

This course provides a broad overview of modern astronomy, from the Earth and the Solar System to the limits of the Universe. The course consists of four study units: 1) Fundamentals of Astronomy; 2) Galaxies and Cosmology; 3) The Stars; and 4) The Solar System. The course is presented in online delivery mode with multimedia elements. It has both a descriptive and quantitative component. The descriptive component is visually based, with extensive use of the recent astronomical imagery. The quantitative component involves a series of problem-solving modules. These modules permit the student to carry out elementary calculations relevant to our interpretation of astronomical phenomena.

Note(s):
Only offered through Distance Education
For Arts students only. This course cannot be applied to a degree in Science or Engineering.

Exclusion(s):
PHE260

Contact Hours:
0 - 0 - 9

Credit(s):
1

PHE205 Mechanics

Oscillatory motion is studied including: undamped and damped harmonic motion, forced harmonic motion and resonance, damped forced oscillations, standing and progressive waves, conditions for static equilibrium in two and three dimensions, and introduction to fluid statics and fluid dynamics.

Note(s):
There is a lab associated with this course.

Prerequisite(s):
PHE104 and MAE101

Contact Hours:
3 - 4 - 4

Credit(s):
1

PHE217 Electromagnetism

Course in intermediate electricity and magnetism beginning with concepts of electric and magnetic field and leading to Maxwell's equations in differential and integral form. The following topics are discussed: Alternating current circuits, complex impedance, RLC circuits, electric field, electric flux density, Gauss's law, electric potential, electric polarization, dielectrics and electric boundary conditions, magnetic field, magnetic flux density, magnetic vector potential, Biot-Savart law, Ampere's law, magnetic dipole, magnetization and magnetic boundary conditions, Faraday's law, displacement current, and Maxwell's equations in their final integral and differential forms. There is a lab associated with this course.

Prerequisite(s):
PHE104 and MAE226

Contact Hours:
3 - 4 - 4

Credit(s):
1

PHE225 Modern Physics

Concepts in physics developed from 1900 are discussed including: relativistic kinematics and dynamics, space and time, Doppler effect, momentum and energy, particle aspects of electromagnetic radiation, wave aspects of particles, Rutherford and Bohr models of the atom, development of the Schrodinger equation, application of the Schrodinger equation to a particle in a box and finite potential wells, and tunnelling.

Models of the single and many electron atoms, molecules, nuclear structure and energetics of reactions. Radioactivity: alpha and beta decay, gamma emission.

Note(s):
There is a Lab associated with this course.

Prerequisite(s):
PHE104

Corequisite:
MAE226

Contact Hours:
3 - 4 - 4

Credit(s):
1

PHE226 Modern Physics

This course is identical to PHE225 except students do not take the experimental physics lab.

Prerequisite(s):
PHE104

Corequisite(s):
MAE226

Contact Hours:
3 - 1 - 4

Credit(s):
1

PHE252 Marine Remote Sensing

A survey of the satellite remote sensing of the ocean in the visible, thermal infrared and microwave regions of the electromagnetic spectrum. The source will focus on the underlying physics of the imaging process, the sensors and satellites used to exploit these processes, the derivation of basic geophysical and biophysical properties from the satellite data and imagery, and the integration of these properties into products useful for both strategic and tactical operations in oceanic regions of interest to the Canadian Forces. The course contains computer laboratory exercises in basic satellite image processing using both commercial scientific software, and software packages specific to maritime operations in the CAF.

Note(s):
2 week intensive short course: 3 or 4 lecture hours, 2 lab hours per day for 10 days.

Prerequisite(s):
Permission of the Department

Contact Hours:
36 - 20 - 0

Credit(s):
1

PHE255 Space Operations

This course will discuss the fundamentals of space science as well as their application to civil and military space operations. The history of space exploration and exploitation will be reviewed, followed by an introduction to the space laws, policy and organizations that make up the space sector, both civilian and military. Students will then be introduced to the different physics principles that govern space operations: space environment, orbital mechanics, satellite design, command and control, etc. Several civil and military space applications will be studied: communications, remote sensing, navigation, search and rescue, meteorology, space surveillance, missile warning among others, etc.

Note(s):

Open to all students enrolled in arts, science or engineering programs. This course can be applied to a degree in science or count as a physics credit for a degree in arts.

Prerequisite(s):

MAE103 (or equivalent) or High School leaving Physics

Contact Hours:

3 - 0 - 6

Credit(s):

1

PHE260 Astronomy and the Evolving Universe

The course will discuss an understanding of our place in the Universe. Topics to be covered will include: solar system and its constituents, basic properties and evolution of stars and star systems, past, present and future structure of the Universe and topics of current interest.

Note(s):

For Arts students only. This course cannot be applied to a degree in Science or Engineering.

Exclusion(s):

PHE203

Contact Hours:

3 - 0 - 6

Credit(s):

1

PHE270 Introduction to Oceanography

Broad overview of ocean climate at a level suitable for the non-physics student. Course begins with an introduction to plate tectonics and ocean topography, followed by an examination of how the unique properties of seawater and their controlling budgets lead to the formation of distinct water masses, drive the global surface and deep-water circulation, and control the characteristics of sea ice, and ice climatology. Discussions focus on periodic phenomena (waves and tides) and coastal waters, including a regional description of the tides and currents, water masses and, where applicable, ice climatology specific to the Pacific, Arctic, and Atlantic Coasts of Canada.

Note(s):

Only offered through Distance Education

Contact Hours:

0 - 0 - 9

Credit(s):

1

PHE280 Physics of Armaments

A brief history of the role of Physics in the development of weapons: ancient times, modern wars, and nuclear times. Will receive special emphasis: ballistics, detonation, missiles, laser, radar, nuclear weapons receive special treatment, including nuclear principles, and the destructive and radiation effects of nuclear bombs. Certain aspects, such as ballistics and missiles, will be treated with the help of simulation computer programs.

Note(s):

For Arts students only. This course cannot be applied to a degree in Science or Engineering.

Contact Hours:

3 - 0 - 6

Credit(s):

1

PHE290 The Physics of Music

Introduction to the physics of music including: physical principles of vibrating systems, waves and resonance, physics of perception and measurement of musical sounds, hearing, intensity, loudness levels, tone quality, frequency and pitch, combination tones and harmony. Physical acoustics of musical instruments; string, brass, woodwind, percussion and keyboard instruments. Musical scales and temperament, auditorium and room acoustics.

Contact Hours:

3 - 0 - 6

Credit(s):

1

Courses 300-399

PHE302 Electromagnetic Waves

This course develops Maxwell's equations in differential form, and proceeds directly to the Helmholtz equation, describing the wave propagation of electromagnetic fields. Electromagnetic waves are studied in free space, lossy media, conductors, and dielectrics, with particular attention to power transfer (Poynting vector), and the reflection and transmission of waves at interfaces (Fresnel equations). Propagation along waveguides and transmission lines are studied in detail. The modes of propagation in rectangular waveguides (transverse electric and transverse magnetic) are analyzed in terms of field amplitudes, phases, and attenuation. The guiding of waves along a transmission line is analyzed in terms of the propagation constant, characteristic impedance, input impedance, standing wave ratio, and power. Various applications of transmission lines are examined.

Prerequisite(s):

PHE217 or PHE228

Corequisite(s):

MAE325

Contact Hours:

3 - 1 - 3

Credit(s):

1

PHE304 Quantum Mechanics

Postulates of quantum mechanics, the Schrédinger equation, operators, eigenfunctions and eigenvalues, superposition and stationary states, the one-dimensional square well, time independent perturbation theory, hydrogen atom, energy levels, angular momentum, magnetic moment, Stark effect, Zeeman effect, He, electron spin, Hartree-Fock approximation, Slater determinants, many electron atoms, LS coupling, jj coupling, spectroscopic notation, electronic structure and Hund's rule, and periodic table.

Prerequisite(s):

PHE225

Corequisite(s):

MAE325

Contact Hours:

3 - 0 - 3

Credit(s):

1

PHE305 Classical Mechanics

Newton's laws, applications, calculus of variations, Lagrangian and Hamiltonian formulation, central force motion, Kepler's laws, collisions, Rutherford scattering, rotating coordinate systems, Coriolis force, rigid body motion, inertia tensor, and Euler's equations.

Prerequisite(s):

PHE205

Corequisite(s):

MAE325

Contact Hours:

3 - 0 - 3

Credit(s):

1

PHE307 Optics

Propagation of light rays in an optical system using ray matrices, light as an electromagnetic wave, polarization, linear, circular, and elliptical. Superposition, interference, thin films, Michelson interferometer, coherence: spatial and temporal, diffraction, Huygens approximation, Fraunhofer diffraction, Fourier optics, and applications. These concepts are rendered tangible by a relevant choice of laboratory experiments.

Prerequisite(s):

PHE302

Contact Hours:

2 - 2 - 3

Credit(s):

1

PHE332 Instrumentation I

Transfer functions, Bode Plots, passive filters, periodic signals, Fourier Transforms, A/D conversion, sampling and Nyquist Theorems, ultrasonic waves and imaging.

Laboratory:

Use of common laboratory instruments, amplitude and phase measurements, passive filter construction, ultrasonic wave measurement, and synthetic aperture image production.

Prerequisite(s):

PHE217

Contact Hours:

2 - 2 - 3

Credit(s):

1

PHE333 Instrumentation II

Operational amplifiers, active filters, op-amp circuits for computation, signal conditioning, convolution, sensor physics, light and temperature sensors, and instrument design.

Laboratory:

Introduction to Electronics Workbench, investigation of operational amplifiers and their applications, time and frequency domain filtering, properties of light and temperature sensors, design and construction of automated measurement systems.

Prerequisite(s):

PHE332

Contact Hours:

2 - 2 - 3

Credit(s):

1

PHE350 Orbital Mechanics

Newton's laws, two-body problem in a central force field, orbit calculations, motion of an artificial satellite, orbit insertion, orbit transfers, and perturbations.

Prerequisite(s):
PHE104 and MAE101

Contact Hours:
3 - 0 - 4

Credit(s):
1

PHE352 Astronomy

Introduction to fundamental concepts of astronomy and the application of astronomical techniques to space operations. Electromagnetic spectrum, measurements and distances. Earth, moon, solar system, stellar structure and evolution, and galactic structure.

Corequisite(s):
MAE101 and PHE104

Contact Hours:
3 - 0 - 3

Credit(s):
1

PHE355 Space Systems

Students will be introduced to astrodynamics and space mission design. The course is centered around a semester-long project that will allow students to design a space mission in groups or individually. STK software will be used to learn and reinforce knowledge of the concepts and applications of orbital mechanics (orbits, instantaneous field of view, ground station visibility, link time) and mission geometry. Space elements and systems will be studied: payloads, power supply, thermal control, communications, navigation, propulsion, attitude determination and control, ground stations, and operation among others.

Prerequisite(s):
PHE255

Contact Hours:
2 - 2 - 6

Credit(s):
1

PHE362 Ideas and Concepts of Modern Physics

Introduction to the conceptual structure of modern physics and will include the following topics: concept of fields as introduced in electromagnetism, evolution of the statistical description of matter, ideas of relativity, introduction of the quantum hypothesis and its development, quantum interpretation of matter and the impact of the new concepts on contemporary thought.

Prerequisite(s):
PHE102 or equivalent

Contact Hours:
3 - 0 - 6

Credit(s):
1

PHE364 Physics Laboratory

This laboratory course is designed to increase the familiarity of the students with physical experimentation. Students are expected to perform a variety of different experiments in solid state physics, optics, and space physics.

Prerequisite(s):
PHE205 and PHE225 or PHE217

Contact Hours:
0 - 4 - 1

Credit(s):
1

PHE370 Oceanography

General introduction to the oceans. The principal topics are: the physical properties of sea water; ocean waves and currents; oceanographic instruments and measurement techniques; the sonar equations; marine ecology and population dynamics.

Prerequisite(s):
PHE104

Exclusion(s):
PHE270

Contact Hours:
3 - 0 - 6

Credit(s):
1

Courses 400-499

PHE403 Solid State Physics

Crystal structure, Bragg scattering and reciprocal space, bonding in solids, lattice vibrations and the specific heat of solids, energy bands, electrical and thermal conduction in solids, semiconductors, dielectric and optical properties of solids, and magnetic properties of solids.

Prerequisite(s):
PHE304

Corequisite(s):
MAE325

Contact Hours:
3 - 0 - 3

Credit(s):
1

PHE412 Advanced Electromagnetic Theory

Various topics in electromagnetic theory are investigated in detail. Electrostatic fields are studied with attention to continuous charge distributions, the electric dipole, electric potential, polarization and boundary conditions. Magnetic fields, magnetic dipoles, and the magnetization of materials are described in terms of the magnetic vector potential. Further topics in magnetism include magnetic torque, magnetic moment, and magnetic boundary conditions. Time varying fields are shown to lead a "displacement current" in Ampere's Law, yielding the final form of Maxwell's equations. Antenna theory is developed for simple geometries, including those of the Hertzian dipole, the half-wave dipole, the quarter-wave monopole, and the small antenna loop. Other topics in antenna theory include: antenna characteristics, arrays, effective area, and radar.

Prerequisite(s):
PHE302

Corequisite(s):
MAE325

Contact Hours:
3 - 0 - 3

Credit(s):
1

PHE413 Nuclear Physics

Nuclear constituents and Rutherford scattering, evidence of the nuclear force, deuteron, binding energy and the semi-empirical mass formula, nuclear stability, single-particle shell model, beta and alpha decay, gamma ray emission, fission and fusion, qualitative aspects of particle physics and quark and lepton nomenclature.

Prerequisite(s):
PHE304

Corequisite(s):
MAE325

Contact Hours:
3 - 0 - 3

Credit(s):
1

PHE415 Advanced Quantum Mechanics

The three-dimensional square well, harmonic oscillator, zero point energy, Hermite polynomials, creation and annihilation operators, time-dependent Schrédinger equation, time evolution of states and operators, Ehrenfests's principle, time-dependent perturbation theory, transitions, selection rules, Fermi's golden rule, and scattering.

Prerequisite(s):
PHE304

Corequisite(s):
MAE325

Contact Hours:
3 - 0 - 3

Credit(s):
1

PHE420 Senior Project

The object of this course is to provide students with an opportunity to be involved in a project which requires them to assimilate knowledge gained from a variety of sources and apply it to a specific, well-defined problem. A formal report is required for presentation in the Winter Term, along with a prototype apparatus, if appropriate. Students are encouraged to seek out projects from any of the Science or Engineering Departments.

Prerequisite(s):
Honours Physics or permission of department

Contact Hours:
0 - 4 - 6

Credit(s):
2

PHE440 Selected Topics in Physics

This course will consist of two topics selected annually by the class from among the following: the physics of plasmas, statistical physics, low temperature physics, applied acoustics, introductory astrophysics, optical properties of solids, and other topics.

Note(s):
Permission of the department required.

Contact Hours:

3 - 0 - 3

Credit(s):
1

PHE442 Introduction to Astrophysics

The object of this course is to apply our knowledge of physics to obtain an understanding of astrophysical phenomena. The topics to be covered would be selected from: Observational Astronomy, Stars and Stellar Evolution, Galaxy Formation and Evolution, Observational Cosmology, Theory and Chronology of Big Bang, and Model of the Universe.

Prerequisite(s):
PHE225 and PHE352

3 - 0 - 4

Credit(s):
1

PHE445 The Physics of the Space Environment

Comprehensive introduction to the physical phenomena that result from the interaction between the sun and the earth. Examination of the basic processes of plasma physics and how it relates to the earth's neutral atmosphere and ionosphere. Detailed study of the relevant transport equations and related coefficients, wave and chemical processes, energy deposition and transfer mechanisms.

Prerequisite(s):
PHE217 and PHE225

Contact Hours:
3 - 0 - 3

Credit(s):
1

PHE448 Spacecraft Mission Analysis and Design

Lectures and research assignments in the first term, and spacecraft design for a proposed space mission in the second term by the students working in teams. The teams are to submit a detailed report covering all aspects of the spacecraft design. This course fulfils the thesis requirement for an Honours degree. The proposed space mission is normally varied each year.

The lectures and research assignments will cover various aspects of a typical spacecraft mission such as: system design; orbital mechanics and propulsion; spacecraft subsystems - power, thermal, communications, attitude; risk management and reliability.

Note(s):
This course satisfies the Honours degree thesis requirement.

Prerequisite(s):
PHE355. Honours Space Science or permission of instructor.

Contact Hours:
0 - 4 - 6

Credit(s):
2

PHE450 Space Communications and Navigation

Introduction to communication between spacecraft and ground stations. Students are introduced to antenna theory: dipole antenna, antenna gain, antenna patterns, directivity and signal strength.

The theory is then applied to modulation, transmission, propagation, reception and demodulation of signals between the ground and a satellite. Fundamentals of ionospheric effects, frequency bands, communication link equations and telemetry are covered.

Space based navigation systems are examined. Topics include positioning using RF Doppler and GPS positioning. Precision navigation and surveying, personal communication systems as well as search and rescue systems are also examined. Satellite tracking is discussed.

Prerequisite(s):
PHE217

Contact Hours:
3 - 0 - 3

Credit(s):
1

PHE451 Senior Physics Laboratory

A continuation of PHE364B including experiments in magnetism, Mössbauer spectroscopy, applied optics and nuclear science.

Prerequisite(s):
PHE205 and PHE225 or PHE217

Contact Hours:
0 - 4 - 2

Credit(s):
1

PHE452 Remote Sensing

This course provides a foundation for the theory and applications of remote sensing of the earth's surface from space. Optical, infrared and passive and active microwave sensing systems are examined from basic electromagnetic principles, through expected surface responses and atmospheric effects, to modern satellite systems utilizing these systems. Techniques of digital image processing are developed in the context of satellite imagery. Applications of remote sensing technology to terrestrial and marine environments are discussed, highlighting topics of interest to the Canadian Forces.

Lecture material is supplemented with weekly computer laboratory exercises in image processing and in the examination of different types of satellite imagery.

Prerequisite(s):
PHE217

Corequisite(s):
MAE325

Contact Hours:
3 - 2 - 4

Credit(s):
1

PHE460 Computational Physics

Introduction to the solution of problems in Space Science and Physics using computational techniques. Topics will be selected from dynamics (numerical integration), data modelling and analysis (interpolation, regression), boundary value solutions, and other relevant areas.

Prerequisite(s):
PHE302

Contact Hours:
3 - 0 - 3

Credit(s):
1

PHE462 Statistical and Thermal Physics

Introduction to classical and quantum statistical ensembles. Boltzmann, Fermi and Bose distributions: ideal gases, statistical fluctuations. Principles of thermodynamics. First, second and third laws of thermodynamics, equilibrium, entropy with applications to space plasmas and solid state physics.

Prerequisite(s):

PHE225

Contact Hours:

3 - 0 - 3

Credit(s):

1

PHE470 Physical Oceanography

The physics of the circulation of the world ocean is investigated. The principal topics covered include: the primitive equations of motion, geostrophy, baroclinic and barotropic flows, wind-driven currents (Ekman spiral), vorticity, western intensification and the thermohaline circulation. Familiarity with differential equations is recommended.

Prerequisite(s):

PHE104, MAE226 and MAE227

Contact Hours:

3 - 0 - 3

Credit(s):

1

Date modified:

2025-04-14

Undergraduate Engineering Programmes

Related links

Department of Chemistry and Chemical Engineering

Department of Civil Engineering

Department of Electrical and Computer Engineering

Department of Mechanical and Aerospace Engineering

Faculty List by Department

Undergraduate Admissions

The Royal Military College of Canada offers degree programmes and in both English and French. The subjects in the curriculum are selected for their value to future officers in the Canadian Armed Forces.

The six engineering programmes listed below have a high proportion of time devoted to the Arts. The Faculty of Engineering is responsible for the education of future officers for professional careers as engineers and leaders in the Canadian Armed Forces. The primary focus is the development of professional competence in areas applicable to the military and to society at large.

- All engineering programmes are based on a common first year, with specialization commencing in the second year of study.
- All programmes are also accredited by the Canadian Engineering Accreditation Board.
- The curriculum is a mixture of discipline-specific engineering courses, rounded out by knowledge broadening courses in the sciences and humanities. The successful solution to any engineering problem will inevitably involve the interaction of several subject areas. Hence, the fourth year programme includes a realistic engineering design project for which students must define the problem and find the solution.

Undergraduate Engineering Programmes

⚠ Important Notice:

New enrollments into the following programmes, **for September 2025**, have been paused, noting that current students in these programmes will continue, as will the remainder of the undergraduate engineering programmes. Determination on the future status of these paused programmes for Academic Year 2026-2027 is ongoing.

- Electrical Engineering

The links below will connect you to web pages containing the requirements and the course descriptions for the undergraduate programmes leading to a Bachelor of Engineering.

Aeronautical Engineering

Chemical Engineering

Civil Engineering

Computer Engineering

Electrical Engineering

Mechanical Engineering

Note: The Faculty of Engineering is also responsible for the Department of Applied Military Science

Date modified:
2025-04-01

Mechanical and Aeronautical Engineering Undergraduate Programmes

Related links

Mechanical Engineering Undergraduate Courses

Aeronautical Engineering Undergraduate Courses

General Engineering and Service Courses

Undergraduate Engineering Programmes

Department of Mechanical and Aerospace Engineering

Admissions

General Information

The tables below represent a typical course pattern when completing the B.Eng. Mechanical Engineering or the B.Eng. Aeronautical Engineering programme in a 4-year period.

The department has a number of modern, well-equipped laboratories that permit students to supplement their theoretical knowledge with practical experience. These include major installations for the study of Heat Engines, Fluid Mechanics, Materials Science, and Engineering Computer-Aided Drawing, Computer-Aided Design and Manufacture, Rapid Prototyping, Dynamics, Heat Transfer, Robotics and Control Systems, Biomechanics, and Jet Propulsion. The department operates a large teaching and research machine shop.

In addition, research facilities are available for faculty and graduate student study in the areas of combustion processes, turbomachinery, aerodynamics, fluid mechanics, aeroelasticity, structural dynamics, reciprocating engine performance, alternative fuels, composite materials, fatigue and fracture mechanics, tribology, structures, anemometry and robotics.

Note: The baccalaureate degree programmes in Mechanical Engineering and Aeronautical Engineering are accredited by the Canadian Engineering Accreditation Board (CEAB) of the Canadian Council of Professional Engineers.

Physical Conditioning and Second Language Courses Requirements

Important: The physical conditioning courses and the second language courses are part of the four-pillar degree and apply to all RMC degree programmes except the 30-credit general degree programmes.

LCF: Based on the result of a placement test, students will be registered in LCF courses at the 100, 200, 300, or 400-level. Students will automatically be exempt from applicable lower level LCF courses once placed in the appropriate course. Students who attain a Second

> Official Language (SOL) proficiency level of at least BBB or higher on the Public Service Commission (PSC) Second Language Evaluation (SLE) will be exempt from LCF courses at RMC.

- ATE101: Foundations of Fitness, Health and Sports
- ATE301: Unarmed Combatives, Military Skills and Individual Sports
- LCF100 : Compétence de base – partie I
- LCF200 : Compétence de base – partie II
- LCF301 : Compétence intermédiaire – partie I
- LCF302 : Compétence intermédiaire – partie II
- LCF400 : Compétence intermédiaire - partie III

> **Note:** The PSC SLE is the only SOL certification-testing instrument currently accredited and used by the CAF to assess the SOL proficiency level. *(DAOD 5039-8, Canadian Armed Forces Second Official Language Certification Testing)*

B.Eng. Mechanical Engineering

This is a 48-credit programme, including the core courses for Engineering.

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ENE121 PSE103 CSE101 CCE101 MAE101 PHE104 ATE101 LCF	ENE122 MAE129 GEE167 CCE101 (cont'd) MAE101 (cont'd) PHE104 (cont'd) ATE101 LCF	HIE207 MAE226 PHE205 MEE233 GEE241 GEE293 ATE101 LCF	HIE203 POE205 MAE209 MAE227 MEE231 MEE245 GEE291 ATE101 LCF
Semester total	**6 credits**	**6 credits**	**6 credits**	**6 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	PSE301 MAE328 MEE311 MEE331 MEE333 MEE351 ATE301 LCF	HIE271 MEE301 MEE303 MEE313 MEE346 MEE353 GEE393 ATE301 LCF	HIE289 [1] MEE471 [2] MEE407 MEE421 MEE431 MEE443 MEE482 ATE301 LCF	PSE401 MEE471 (cont'd) **Optional** [3] 4 credits ATE301 LCF
Semester total	**6 credits**	**6 credits**	**6.5 credits**	**5.5 credits**

B.Eng. Aeronautical Engineering

This is a 49-credit programme, including the core courses for Engineering.

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ENE121 PSE103 CSE101 CCE101 MAE101 PHE104 ATE101 LCF	ENE122 (cont'd) MAE129 GEE167 CCE101 (cont'd) MAE101 (cont'd) PHE104 (cont'd) ATE101 LCF	HIE207 MAE226 PHE205 MEE233 GEE241 GEE293 ATE101 LCF	HIE203 POE205 MAE209 MAE227 MEE231 MEE245 AEE261 GEE291 ATE101 LCF
Semester total	**6 credits**	**6 credits**	**6 credits**	**7 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	PSE301 MAE328 MEE311 MEE331 MEE333 MEE351 ATE301 LCF	HIE271 AEE301 AEE333 MEE313 MEE346 MEE353 GEE393 ATE301 LCF	HIE289 [1] AEE471 [2] AEE431 AEE433 AEE465 MEE421 MEE443 ATE301 LCF	PSE401 AEE471 (cont'd) AEE461 **Optional** [3] 3 credits ATE301 LCF
Semester total	**6 credits**	**6 credits**	**6.5 credits**	**5.5 credits**

1 POE372 can replace HIE289.

2 MEE471 and AAE471 are projects worth 1.5 credits. These credits are counted as follows: 1 in the total of "Fall (year 4)" and 0.5 in the total of "Winter (year 4)".

3 **Mechanical Engineering:** Four (4) optional credits in the winter semester selected from the following list:

Aeronautical Engineering: Two (3) optional credits in the winter semester selected from the following list:

MEE401: Machine Design II
MEE404: Computer-Aided Design and Manufacturing
MEE417: Introduction to Biomechanics
MEE423: Applied Heat Transfer
MEE425: Renewable Energy
MEE435: Experimental Techniques in Materials Engineering
MEE436: Mechatronics
MEE437: Robot Dynamics and Control
MEE446: Introduction to Micro-and Nano-Engineering
MEE451: Combustion Engines
MEE469: Marine Systems Engineering
AEE435: Aerodynamics of Aircraft Designed for Supersonic Flight
AEE461: Aeronautical and Space Propulsion ***(available as an optional credit for Mechanical Engineering students only)***
AEE463: Aeroelasticity
AEE467: Rotary Wing Aircraft
AEE491: Maintenance Management

These courses will only be offered in one of the two official languages.

Date modified:

Undergraduate Aeronautical Engineering Courses

Related links

Aeronautical engineering programme requirements

Mechanical engineering programme requirements

Course details guide

Courses 200-299

AEE261 Aircraft Performance

This course will introduce students to the fundamentals of conventional aircraft flight. This is followed by an introduction to propulsion methods, the standard atmosphere and simplifications necessary for performance estimation. The analysis and methods used in the evaluation of aircraft flight performance parameters follow for flight. Students will be able to determine flight ceiling, range and endurance, climbing and maneuvering flight, take-off and landing parameters for jet-powered aircraft. Students will be able to prepare aircraft level flight and maneuver envelopes. The classroom lectures will be supplemented by homework questions, one laboratory and a case study.

Prerequisite(s):
MAE101 and PHE104

Contact Hours:
3 - 2 - 5

Credit(s):
1

Courses 300-399

AEE301 Design of Aircraft Components

The System Engineering Process and its application to aircraft design are presented; highlighting the conceptual design phase. The first iteration sizing of the wing, empennage and fuselage based on a given set of customer requirements is learned. The concepts of aircraft loads, V-n diagram, aircraft weight and c.g. location and their importance are emphasized. Understanding of the sizing process and the development of the constraints diagram are presented. Multiple projects conducted in small teams serves to highlight the complex interactions between multiple design disciplines.

Prerequisite(s):
AAE261

Semester:
Usually offered in the Winter Term

Contact Hours:
3 - 1.5 - 4.5

Credit(s):
1

AEE333 Aerospace Materials

This course covers the nomenclature, properties and processing of engineering materials used in airframes, landing gear, and gas turbine engines. Materials examined will include structural aluminum alloys, titanium alloys, stainless steels, nickel based super alloys, high strength heat-treated steels, fibre composites, honeycomb sandwich panels and layered composites, such as GLARE (Glass Laminate Aluminum Reinforced Epoxy). Manufacturing processes including chemical milling, forging, extrusion and composite lay-up are also discussed. The role of non-destructive inspection and airworthiness are presented along with the effects of long service exposure on mechanical properties of structural alloys. Lectures are supplemented with laboratory exercises and demonstrations.

Prerequisite(s):
MEE331, MEE333

Semester:
Usually offered in the Winter Term

Contact Hours:
3 - 1.5 - 4.5

Credit(s):
1

Course 400-499

AEE431 Aerospace Structural Design and Stress Analysis

Topics covered include aircraft structural layout, historical aspects, principles of structural design and the stress analysis of its main components such as the wing and the fuselage. The following subjects will be studied in more detail: the basic principles of the theory of elasticity in three dimensions, followed by direct applications related to the stress analysis of various aircraft structural components. They include the stress analysis of non-circular bars and thin-walled open and closed (single and multiple cell) sections due to torsion, the stress analysis of monocoque and semi-monocoque (open and closed cell) structures due to non-symmetric bending and direct shear, including the resulting shear flow distribution in the panels and the stringers of the torsion box. Location of the shear center. Energy methods applied to the deflection and the structural/stress analysis of statically determinate and indeterminate aircraft structures including the wing and the fuselage. Failure criteria. Macro-mechanical analysis of composite material plates, aspects of their manufacturing and non-destructive testing.

Prerequisite(s):
AEE301, MEE331

Semester:
Usually offered in the Fall Term

Contact Hours:
3 - 1.5 - 4.5

Credit(s):
1

AEE433 Aerodynamics

This course builds on fundamental fluid dynamics and thermodynamics concepts covered in previous courses, and applies them to the study of airflow over 2D airfoils and 3D wings. The material is divided according to the two most important canonical non-dimensional numbers that dictate the behaviour of flows, namely Reynolds number (Re) for viscous effects and Mach number (M) for compressibility effects. Some of the major topics covered are classical thin airfoil theory, low Re and high angle of attack aerodynamics, Prandtl's classical lifting-line theory, subsonic compressible flow over airfoils, oblique shockwaves and linearized supersonic aerodynamics. At the end of the course, the students should possess a good understanding of lift and drag forces, and aerodynamic moment, for various flow conditions and geometric configurations. The lectures are supplemented with assignments and laboratory experiments.

Prerequisite(s):
MEE313, MEE353

Semester:
Usually offered in the Winter Term

Contact Hours:
3 - 1.5 - 4.5

Credit(s):
1

AEE435 Aerodynamics of Aircraft Designed for Supersonic Flight

This course builds on the material developed in the study of compressible flow to analyze high-speed flight. The topics covered include applications such as supersonic intakes and nozzles, oblique shock waves and their reflections, airfoil and fuselage designs for transonic flight. The course emphasizes applications of the principles of compressible flow to high-speed aircraft design. The course also covers some aspects of hypersonic flight. The lectures are supplemented by assigned problems and projects.

Prerequisite(s):
MEE313, MEE353

Contact Hours:
3 - 1 - 4

Credit(s):
1

AEE461 Aeronautical and Space Propulsion

This course illustrates the application of the fundamental principles of fluid mechanics and thermodynamics to the analysis of present-day and proposed propulsion systems. Students will be able to model and analyze propellers, turbojets, turbofans, turboprops and their associated components including compressors and turbines. Furthermore, they will understand ramjets and propulsion fundamentals of rockets are also discussed. The lectures are supplemented by assigned exercises and laboratory problems in related areas.

Prerequisite(s):
MEE311, MEE353

Semester:
Usually offered in the Winter Term

Contact Hours:
3 - 1 - 4

Credit(s):
1

AEE463 Aeroelasticity

Aeroelasticity is the discipline that deals with the interaction of elastic structures and aerodynamic loads. The main objective of this course is to provide the student with the knowledge of basic principles in aeroelasticity, while some typical applications are also studied. Three archetypes of aeroelastic stability problems are then discussed in detail, namely divergence, classical or coupled flutter and stall flutter. As part of these discussions, unsteady aerodynamics and few nonlinear dynamics concepts are covered. In the last part of the course the aeroelastic response to gust and atmospheric turbulence is presented. Finally, aspects of vortex-induced vibrations are discussed. The understanding of the material is strengthened via the application by the students of a balanced mix of analytical work, numerical simulations and wind tunnel testing.

Prerequisite(s):
MEE313, MEE346

Contact Hours:
3 - 1 - 4

Credit(s):
1

AEE465 Introduction to Aircraft Stability and Control

This course applies aerodynamics to the stability and control of fixed wing aircraft. Static stability and trim concepts are explored in the longitudinal, and lateral/directional senses. The contribution of the propulsion system, fuselage, ancillary surfaces and components of the aircraft are analyzed. Classic flight control design and employment are accompanied by the introduction of aerodynamic stability derivatives and their role in aircraft control and stabilization. Dynamic response to control inputs are introduced, together with aircraft flying and handling qualities. Flight Test Techniques are introduced, and overall emphasis is placed on the implications of aircraft design features to stability and control of the flying vehicle.

Prerequisite(s):
AEE261, MEE311

Corequisite(s):
MEE443

Semester:
Usually offered in the Fall Term

Contact Hours:
3 - 1.5 - 4.5

Credit(s):
1

AEE467 Rotary Wing Aircraft

This course examines attributes and characteristics of rotary wing aircraft which are capable of vertical takeoff and landing and which utilize the rotor to produce forward thrust. Topics include hovering, horizontal and vertical flight, actuator disc and blade element theories of rotor performance, flow patterns (including ground effect) in various flight regimes, rotor dynamics and control, autorotation, tail rotor aerodynamics and gyroscopic effects, single rotor helicopter performance. Other topics include methods for evaluation of power requirements and fuel consumption, and analysis of simple missions.

Prerequisite(s):

MEE311, MEE346

Contact Hours:

3 - 1 - 4

Credit(s):

1

AEE471 Capstone Aeronautical Engineering Design Project

This course requires the students to prepare a conceptual aircraft design over the course of their fourth year in a team environment. A unique and operationally relevant and realistic aircraft role is defined each year. The overall design is conducted in teams working in sub-groups such as aerodynamics, aircraft structures, and propulsion. Leadership within the design teams is emphasized. Individual work includes the preparation of design reports, and the formal review of the design reports of other team members. The design study culminates with a thorough final report and a public presentation incorporating components from the subgroups, both of which are evaluated.

Prerequisite(s):

AEE301 and 7 Credits at the 300-level from Mechanical and/or Aeronautical Engineering

Contact Hours:

0 - 3 - 3 (Fall Term)

Contact Hours:

0 - 4 - 4 (Winter Term)

Credit(s):

1.5

AEE491 Maintenance Management

This course investigates the requirements, design and implementation of effective aircraft maintenance programs. Topics include the objectives of a maintenance plan in meeting the requirements of operational and technical airworthiness; various elements of maintenance plan development; and considerations for effective implementation of preventive maintenance programs. Detailed reviews of component lifting methodologies, preventive maintenance concepts such as failure analysis, condition-centered and reliability centered maintenance, logic driven maintenance scheduling, and level of repair analysis methodologies are supplemented by case study assignments.

Prerequisite(s):

MAE209, AEE301 or MEE301

Contact Hours:

3 - 1 - 4

Credit(s):

1

Date modified:

2024-01-19

Mechanical Engineering Undergraduate Courses

GEE167 Engineering Graphics I

MEE231 Structural Analysis - Statics

MEE233 Introduction to Manufacturing Processes

MEE245 Applied Mechanics

MEE301 Machine Design

MEE303 Principles of Engineering Design

MEE311 Fluid Mechanics I

MEE313 Fluid Mechanics II

MEE315 Fluid Dynamics

MEE321 Heat Engines Laboratory

MEE331 Strength of Materials

MEE333 Metallurgy and Engineering Materials

MEE346 Modeling and Simulation of Dynamic Systems

MEE351 Thermodynamics I

MEE353 Thermodynamics II

MEE401 Machine Design II

MEE404 Computer-Aided Design and Manufacturing

MEE406 Reverse Engineering

MEE407 Finite Element Methods

MEE417 Introduction to Biomechanics

MEE421 Heat Transfer

MEE423 Applied Heat Transfer

MEE425 Renewable Energy

MEE431 Stress Analysis

MEE435 Experimental Techniques in Materials Engineering

MEE436 Mechatronics

MEE437 Robot Dynamics and Control

MEE443 Feedback Control of Electro-mechanical Systems

MEE446 Introduction to Micro-and Nano-Engineering

MEE451 Combustion Engines

MEE469 Marine Systems Engineering

MEE471 Engineering Project

MEE482 Instrumentation

Related links

Mechanical engineering programme requirements

Aeronautical engineering programme requirements

Course details guide

Courses 100-199

GEE167 Engineering Graphics I

The course introduces the students to the use of engineering graphics in the engineering design process. Graphical communication and visualization are emphasized by both paper sketching and computer-aided methods. The student is introduced to computer-aided drafting and design techniques using SolidWorks 3D CAD software. Topics studied are sketching, applied geometry, solid modeling, multi-view and pictorial projection, sectional views, auxiliary views and dimensioning.

Semester:

Usually offered in the Winter Term

Contact Hours:

1 - 2 - 3

Credit(s):

1

Courses 200-299

MEE231 Structural Analysis - Statics

This course exposes students to various types of supports and external forces acting on an elastic body and to the static equilibrium equations for 2-D and 3-D structures. Calculation of reactions for structural members subjected to external forces and moments is presented. Engineering statics is further emphasized with many examples of calculations of internal forces and the concept of free body, axial, torsion, shear force and bending moment diagrams. Students acquire the ability to visualize associated deflected shapes and to perform the structural analysis of mechanisms, statically determinate and statically indeterminate struts and shafts. Properties of cross-sections are presented, including the location of the centroid, the center of gravity, the first moment of area, and the moments of inertia. Laws of dry friction as well as the method of virtual work are also presented.

Note(s):

For students taking Mechanical and Aeronautical Engineering.

Semester:

Usually offered in the Fall Term

Contact Hours:

3 - 2 - 4

Credit(s):

1

MEE233 Introduction to Manufacturing Processes

This course presents an introduction to a wide variety of fabrication processes used in modern manufacturing such as casting, forging, composite construction, joining and rapid prototyping. Emphasis is placed on understanding the strengths and limitations of each approach. Other topics include manufacturing standards, such as fits and tolerances, geometric dimensioning and tolerancing (GD&T), engineering drawings, intellectual property and safety.

Prerequisite(s):

GEE167

Semester:

Usually offered in the Winter Term

Contact Hours:

3 - 2 - 3

Credit(s):

1

MEE245 Applied Mechanics

This course is based on the bases established in the course PHE104. Principles of particle kinetics and kinematics are revised. Planar and 3D kinematics of rigid bodies are presented. Newton's second law, work and energy, as well as linear and angular momentum and momentum are applied to planar and 3D kinematics of rigid bodies. Practical engineering applications are used as examples to illustrate theory and as problems to be solved.

Prerequisite(s):

MAE129, MAE226, MEE231

Semester:

Usually offered in the Winter Term

Contact Hours:

3 - 1.5 - 4.5

Credit(s):

1

Courses 300-399

MEE301 Machine Design

Previous work in mechanics, stress analysis, and metallurgy, as well as new knowledge regarding safety factors, failure criteria, stress concentration factors and fatigue, is applied to the practical design of machinery. The course is oriented towards the specific design of various machine elements such as shafts, welds, cables, bolts, journal bearings, gears, gear trains, belt drives, brakes, etc..

Prerequisite(s):

MEE331, MEE333

Semester:

Usually offered in the Winter Term

Contact Hour(s):

3 - 1.5 - 4.5

Credit(s):

1

MEE303 Engineering Design

This course presents the processes of problem solving and engineering design. The design and/or redesign of sub-systems/components are examined in isolation. At the component level, the tasks of establishing a design specification, considering alternative principles of operation and arrangements of functional elements, selecting potential solutions and utilizing computer aided design software to assess the design are applied

with respect to societal and technical needs. Alternative solutions are assessed based on achievement of the component specification. The course utilizes integrated lectures and mini-projects to develop and understand the design process for a simple technical system. Written technical reports will be submitted by students about the devices they design to satisfy a given set of requirements.

Prerequisite(s):

MEE233

Semester:

Usually offered in the Winter Term

Contact Hour(s):

3 - 1.5 - 4.5

Credit(s):

1

MEE311 Fluid Mechanics I

This course emphasizes the basic concepts of fluid dynamics. The course includes a study of the following: fluid properties, fluid statics, fundamental equations of fluid motion, control volume concept applied to the continuity, momentum, and energy equations, the Euler and Bernoulli equations, flow measuring devices, similitude and dimensional analysis, incompressible flow in conduits, introduction to the concepts of boundary layer in laminar and turbulent flows, external flows, and hydraulic turbo machines. The lectures are supplemented by problem assignments and experiments conducted in the laboratory, including forces on submerged surfaces, velocity measurements in internal flows, and pumps.

Prerequisite(s):

PHE205, MAE226

Semester:

Usually offered in the Winter Term

Contact Hour(s):

3 - 1.5 - 4.5

Credit(s):

1

MEE313 Fluid Mechanics II

This course extends the study of Fluid Dynamics initiated in MEE311. The following topics are covered: dynamics of inviscid flows; potential flow theory and methods of solution based on superposition of potential flows; viscous flow theory (Navier-Stokes equations); boundary layer and external flows. An introduction to computational fluid dynamics is also presented. The course is supplemented with assignments and laboratory experiments.

Prerequisite(s):

MEE311, MAE328

Semester:

Usually offered in the Winter Term

Contact Hour(s):

3 - 1.5 - 4.5

Credit(s):

1

MEE315 Fluid Dynamics

This course provides the basic concepts of fluid mechanics. It includes a study of the basic fluid properties, hydrostatics and the fundamental equations of fluid motion. The control volume concept is introduced and applied to the continuity, momentum, and energy equations. Appropriate simplifications result in the Bernoulli equation that is used for practical applications. Students are initiated to dimensional analysis and similitude. An introduction to the concepts of boundary layer for laminar and turbulent flows is given. Viscous flow understanding is then applied to the

empirical calculation of incompressible flow in pipes. Finally, the students are exposed to the analysis of open channel flows, as well as an introduction to pumps. The lectures are supplemented by problem assignments and experiments conducted in the laboratory, including measurement of pressure and hydrostatic pressures on submerged surfaces, velocity and flow rates, and weirs.

Prerequisite(s):

PHE205, MAE226

Semester:

Usually offered in the Fall Term

Contact Hour(s):

3 - 1.5 - 4.5

Credit(s):

1

MEE321 Heat Engines Laboratory

A laboratory course illustrating the general principles, operating characteristics, and thermodynamic analysis of internal combustion engines, and steam and gas turbines.

This course is part of CCE321.

Semester:

Usually offered in the Winter Term

Contact Hour(s):

0 - 2 - 2

Credit(s):

0

MEE331 Strength of Materials

This intermediate course in strength of materials develops the relationships between stresses, strains, deformations, and external loads for linear elastic bodies in three dimensions. Emphasis is given to the following topics: stress and strain at a point, strain-displacement relationships, the principle of superposition, combined stresses, stress and strain transformation at a point, principal stresses, overall maximum shear stress using Mohr’s circles for stress, strain and moments of inertia. Other topics include non-homogeneous bars, indeterminate beams in bending, non-symmetric bending of beams, shear stresses and shear flow in thin-webbed beams, concept of shear center, column buckling, failure criteria etc..

Prerequisite(s):

MEE231

Semester:

Usually offered in the Fall Term

Contact Hour(s):

3 - 1.5 - 4.5

Credit(s):

1

MEE333 Metallurgy and Engineering Materials

This course in materials science and engineering emphasizes the relationships between the structure and the mechanical properties of engineering materials. The effects of different strengthening mechanisms and thermal processing are studied. Failure mechanisms such as ductile and brittle fractures, fatigue, creep, and corrosion are covered. Emphasis is placed on properties and processing of metallic materials. The lectures are supplemented by tutorials, assignments on theory and applications, and laboratory experiments with cold working, heat-treating and metallography.

Prerequisite(s):

CCE101, MEE231

Semester:

Usually offered in the Fall Term

Contact Hour(s):

3 - 1.5 - 4.5

Credit(s):

1

MEE346 Modelling and Simulation of Dynamic Systems

This course is a continuation of MEE245. Topics covered include: derivation and solution of equations of motion using Newtonian and Lagrange methods, transfer function, time response of first and second order systems, free and forced vibration of single and multiple degrees of freedom systems, time domain and frequency response of cascaded and coupled systems. MATLAB/SIMULINK is used to simulate the dynamic response of these systems.

Prerequisite(s):

MAE328, MEE245, PHE205

Semester:

Usually offered in the Winter Term

Contact Hour(s):

3 - 1.5 - 4.5

Credit(s):

1

MEE351 Thermodynamics I

This course is a study of classical Thermodynamics by examining its application to practical devices such as engines and refrigeration systems. The First and Second Laws of Thermodynamics are analyzed in detail and applied to gases and two phase mixtures used in the studied devices. The lectures are supplemented by problem assignments and experiments during laboratory periods.

Prerequisite(s):

CCE101, MAE226

Semester:

Usually offered in the Fall Term

Contact Hour(s):

3 - 1.5 - 4.5

Credit(s):

1

MEE353 Thermodynamics II

This course continues the study of classical thermodynamics begun in MEE351. Further applications in power producing devices and refrigeration systems, mixtures and solutions, and compressible flows are studied in detail. The course is oriented towards practical applications such as power production and cogeneration, heating and air conditioning, humidification and dehumidification. The course introduces gas dynamics; it covers compressible flow in nozzles and diffusers, and normal shock waves. The lectures are supplemented by problem assignments and laboratory experiments.

Prerequisite(s):

MEE351

Semester:

Usually offered in the Winter Term

Contact Hour(s):

3 - 1.5 - 4.5

Credit(s):

1

Courses 400-499

MEE401 Machine Design II

A number of basic machine elements not previously studied, such as ball and roller contact bearings, belt and chain drives, springs, brakes and clutches are first introduced, followed by practical case studies involving the detailed design of these elements. This course is centered on the detailed design project of a machine assembly such as a multi-stage transmission comprising of a number of machine elements. The course project involves teams of two students working on the assigned machine assembly, starting from the evaluation of the external loads (from the initial given data) to the detailed design and selection of the individual components and the production of the required technical drawings, as if this assembly were to be fabricated in the machine shop.

Prerequisite(s):

MEE301

Contact Hours:

3 - 1 - 4

Credit(s):

1

MEE404 Computer-Aided Design and Manufacturing

The aim of the course is to teach the principles of computer-aided design and manufacturing. Topics covered include parametric design, simulation, optimization, prototyping and computerized manufacturing. Students will gain hands-on experience through classroom examples, assignments and projects.

Prerequisite(s):

MEE233

Contact Hours:

3 - 1 - 4

Credit(s):

1

MEE406 Reverse Engineering

This course will introduce the student to the process of reverse engineering for the purpose of design evaluation. The sequence of obtaining geometric data from physical components, creating CAD models from the measurement data and using the CAD models to perform design evaluation of the components will be covered. This course consists of a combination of theory and practical laboratories using reverse engineering equipment such as contact probes and 3D laser scanners as well as finite element software.

Prerequisite(s):

MEE331

Contact Hours:

3 - 1 - 4

Credit(s):

1

MEE407 Finite Element Methods

This course is an introductory course studying the theory and application of the finite element method as used in solving engineering problems. Topics covered include the discretization of the model, the derivation of elemental and global stiffness matrices, the determination of appropriate boundary conditions and resolution of the obtained global matrix system. Additional modeling topics that are encountered in practice are also discussed. This course has a large practical component, where commercial finite element software is used to perform stress analyses on two and three dimensional structures or components.

Prerequisite(s):

MEE331

Semester:

Usually offered in the Fall Term

Contact Hours:

3 - 1.5 - 4.5

Credit(s):

1

MEE417 Introduction to Biomechanics

Biomechanics consists of the application of mechanical principles to human or animal bodies in movement or at rest. This introductory course to biomechanics aims at providing the student with notions and principles of biomechanics with specific applications to the modeling of the musculoskeletal system. Among the topics covered, one finds the introduction to the functional anatomy, the kinematic and dynamic modeling of the human body in movement, the anthropometric models and the modeling of the mechanical behaviour of some tissues.

Prerequisite(s):

MEE245

Contact Hours:

3 - 1 - 4

Credit(s):

1

MEE421 Heat Transfer

This course introduces students to the three basic heat transfer processes, namely, conduction, convection and radiation. Specific topics include steady one- and two-dimensional conduction; external convection over a flat-plate and over a circular cylinder in cross-flow; laminar and turbulent internal convection through a straight pipe; conduction-convection heat exchanger analysis; Stefan Boltzmann law, Planck distribution law and Wien displacement law for blackbody surface thermal radiation. The lectures are supplemented by laboratory work which includes the determination of thermal conductivity and convective heat transfer coefficient.

Prerequisite(s):

MEE311, MEE351

Semester:

Usually offered in the Fall Term

Contact Hours:

3 - 1.5- 4.5

Credit(s):

1

MEE423 Applied Heat Transfer

This course covers concepts of heat transfer as they apply to engineering. Topics include, free and forced convection, boiling and condensation, thermal radiation exchange between surfaces, and combined heat transfer as it applies to HVAC. These heat transfer concepts are approached analytically and numerically, and semi-empirical correlations are also discussed. The coupling between the hydrodynamic and thermal fields is underlined in the case of free or mixed convection. The engineering applications that are considered are: Cooling in nuclear reactors and gas turbine blades and conceptual Design of heat exchangers. Solar power generators for space vehicles are also studied.

Prerequisite(s):

MEE421

Contact Hours:

3 - 1 - 4

Credit(s):

1

MEE425 Renewable Energy

The aim of this course is to examine renewable energy sources and generation systems and the impact of their use on the environment. The course includes the study of different technologies used to harness natural energy. Examples studied are: Thermal and photovoltaic solar, wind, tidal and geothermal energy. This course applies concepts learned in fluid dynamics and heat transfer. Projects on solar and wind energy are undertaken during the term.

Prerequisite(s):

MEE313

Contact Hours:

3 - 1 - 4

Credit(s):

1

MEE431 Stress Analysis

This is an advanced course in stress analysis, covering various topics, such as, the three dimensional theory of elasticity including the concept of stress functions directly applied to rotating disks, thick-walled pressure vessels and non-circular bars in torsion. Additional topics include failure theories, energy methods, composite materials and finite element laboratory applications.

Prerequisite(s):

MEE331

Semester:

Usually offered in the Fall Term

Contact Hours:

3 - 1.5 - 4.5

Credit(s):

1

MEE435 Experimental Techniques in Materials Engineering

This is a course on the measurement of mechanical properties of engineering materials. Emphasis is placed on precise measurement and application of relevant standard test methods for material properties. Lecture material covers the microstructure – material behaviour interactions, data reduction techniques and statistical analysis. Students develop their knowledge and skills in material behavior, experimental techniques, data analysis, and technical report writing.

Prerequisite(s):

MEE333

Note(s):

Enrolment is limited to 8, with priority given to the Mechanical Engineering programme. Individual grades in MEE333 will be used as the enrolment criterion.

Contact Hours:

2 - 2 - 4

Credit(s):

1

MEE436 Mechatronics

The objective of this elective course is to introduce the multidisciplinary field of Mechatronic Engineering. Such a field deals with integrated design approaches and implementation of computer-aided controllers, electrical sensors reading information (measure) from mechanical processes and providing outputs via electrical actuators to mechanical systems. More than just a simple description of electrical, mechanical and control systems, the special topics discussed in this course will be about integration of all these components into the design of controlled electromechanical systems, interfacing sensors and actuators. Electrical and mechanical design and prototyping through team-based controlled electromechanical projects will be prioritized.

Prerequisite(s):

GEE241 and MEE346

Note(s):
Enrolment is limited to 8. Individual grades in MEE346 will be used as the enrolment criterion.

Contact Hours:
2 - 2 - 4

Credit(s):
1

MEE437 Robot Dynamics and Control

This course covers the following topics: Classification of robot manipulators, Homogeneous Transformations, Euler Angles, Denavit Hartenberg Convention, Forward and Inverse Kinematics. Manipulator Jacobians, Robot Dynamics, Design of joint actuating systems, Independent joint control, Point-To-Point control, Path planning and trajectory control, Sensory components for robot control, Space application of robotic systems.

Prerequisite(s):
MEE346

Contact Hours:
3 - 1 - 4

Credit(s):
1

MEE443 Feedback Control of Electro-Mechanical Systems

A first course in linear feedback control systems which logically follows MEE346: Modelling and Simulation of Dynamic Systems. The material is covered under the following main topics: performance specifications and preliminary design, stability criteria, and techniques of feedback control. The examples and the problems used to illustrate the theory concentrates on mechanical, hydraulic and pneumatic systems as used on current military hardware. MATLAB/SIMULINK is used for the design of control systems and to carry out the simulations. Electromechanical systems are used in the lab to implement the PID controllers discussed in class.

Prerequisite(s):
MEE346

Semester:
Usually offered in the Fall Term

Contact Hours:
3 - 1.5 - 4.5

Credit(s):
1

MEE446 Introduction to Micro-and Nano-Engineering

This course will introduce students to fundamental principles governing fluids and materials at the small scale. Microfabrication techniques, such as plasma-based etching and deposition, of microscale and nanoscale elements will be investigated and illustrated for relevant mechanical and aerospace engineering applications. The small scale elements can also be assembled into more complex systems: a course project will consider the design of selected mechanical engineering applications (e.g.: micro-pump; micro-motor; micro heat-exchanger). Nano-motors and nano-machines will also be studied.

Prerequisite(s):
MEE311, MEE313, MEE421

Contact Hours:
3 - 1 - 4

Credit(s):
1

MEE451 Combustion Engines

After a review of basic thermodynamic and combustion principles necessary for studying the topics of interest, the lectures consider the design and operation of spark-ignition, Diesel, and gas turbine engines. Some of the topics studied are: fuel and ignition systems; supercharging, combustion chambers; properties and performance of fuels; sources and control of air pollution; alcohol, hydrogen, and other non-conventional fuels. The lectures are supplemented by assignments and laboratory experiments.

Prerequisite(s):

MEE353

Contact Hours:

3 - 1 - 4

Credit(s):

1

MEE469 Marine Systems Engineering

This course considers the main engineering issues involved in the design and operation of ships. The topics studied include: hull design for surface ships and submarines, including drag and stability; selection and performance of propulsion engines, including diesels, gas turbines and electric propulsion; propellers and water jet drives; generation and control of on-board electricity; weapon systems; and life support systems. The course is focused on the fundamental principles that drive the design of the systems studied, but also discusses recent technology and future developments.

Prerequisite(s):

MEE311, MEE351

Contact Hours:

3 - 1 - 4

Credit(s):

1

MEE471 Engineering Project

This course provides the student with the opportunity to undertake a project of sufficient magnitude to include all essential elements of an independent engineering study, under the supervision of a faculty member. Students are expected to perform a thorough literature survey on their selected topic, propose a plan of action, prepare a schedule for the major phases of the project, design and build the apparatus and the instrumentation as required, integrate theory taught in previous engineering courses, and acquire the new knowledge required for the analytical portion of the project. The project should integrate nontechnical considerations, such as economic factors, sustainable development, health and safety, ethics and legal constraints. Students submit short biweekly written progress reports and one final written report to the faculty and give two oral presentations to classmates and faculty members during the course of the year.

Prerequisite(s):

MEE303 and 7 Mechanical Engineering credits at the 300-level.

Contact Hours:

0 - 3 - 3 (Fall Term)

Contact Hours:

0 - 4 - 4 (Winter Term)

Credit(s):

1.5

MEE482 Instrumentation

This course presents an exhaustive analysis of various measurement, processing and acquisition devices used in mechanical systems. The course allows students to strengthen certain fundamental aspects of modeling, simulation and operation of electrical, mechanical, hydraulic, and thermal systems, as well as to identify important parameters in these models. Various measuring instruments and interfacing techniques of electro-mechanical systems are studied. This course presents methods of signal analysis and processing, and their applications in mechanical engineering.

Prerequisite(s):

GEE241, MAE209, MEE311, MEE346

Semester:

Usually offered in the Winter Term

Contact Hours:

3 - 1.5 - 4.5

Credit(s):

1

Date modified:

2024-11-12

Undergraduate Civil Engineering Programme

Related links

Civil engineering courses

General engineering courses

Undergraduate engineering programmes

Department of Civil Engineering

Admissions

General Information

The prescribed course of study for Civil Engineering is set out in the Programme Outline Tables listed below. The student must review the course descriptions to see if they have the preconditions to register in specific courses. Students must have the required prerequisites or the agreement of the Department.

Note: The baccalaureate degree programme in Civil Engineering is accredited by the Canadian Engineering Accreditation Board of the Canadian Council of Professional Engineers.

Physical Conditioning and Second Language Courses

Important: The physical conditioning courses and the second language courses are part of the four-pillar degree and apply to all RMC degree programmes except the 30-credit general degree programmes.

LCF: Based on the result of a placement test, students will be registered in LCF courses at the 100, 200, 300, or 400-level. Students will automatically be exempt from applicable lower level LCF courses once placed in the appropriate course. Students who attain a Second Official Language (SOL) proficiency level of at least BBB or higher on the Public Service Commission (PSC) Second Language Evaluation (SLE) will be exempt from LCF courses at RMC.

- ATE101: Foundations of Fitness, Health and Sports
- ATE301: Unarmed Combatives, Military Skills and Individual Sports
- LCF100 : Compétence de base – partie I
- LCF200 : Compétence de base – partie II
- LCF301 : Compétence intermédiaire – partie I
- LCF302 : Compétence intermédiaire – partie II
- LCF400 : Compétence intermédiaire - partie III

Note: The PSC SLE is the only SOL certification-testing instrument currently accredited and used by the CAF to assess the SOL

proficiency level. *(DAOD 5039-8, Canadian Armed Forces Second Official Language Certification Testing)*

B.Eng. Civil Engineering

A 51.5 credit programme, including the core courses for Engineering.

Semester	Fall year 1	Winter year 1	Fall year 2	Winter year 2
Courses	ENE121 PSE103 CSE101 CCE101 MAE101 PHE104 ATE101 LCF	ENE122 MAE129 GEE167 CCE101 (cont'd) MAE101 (cont'd) PHE104 (cont'd) ATE101 LCF	HIE207 MAE226 PHE205 CEE215 CEE265 GEE293 ATE101 LCF	HIE203 POE205 MAE209 MAE227 GEE231 CEE235 GEE291 ATE101 LCF
Semester total	**6 credits**	**6 credits**	**6 credits**	**6 credits**

Semester	Fall year 3	Winter year 3	Fall year 4	Winter year 4
Courses	PSE301 CEE303 CEE317 CEE355 CEE360 CEE385 MEE315 ATE301 LCF	CEE305 CEE311 CEE313 CEE319 CEE343 CEE363 [1] CEE389 CEE393 [1] ATE301 LCF	HIE289 [2] CEE405 CEE415 CEE493 CEE417 CEE443 CEE457 ATE301 LCF	PSE401 HIE271 CEE485 CEE493 (cont'd) **Optional courses** [3] 2 credits ATE301 LCF
Semester total	**7 credits**	**7 credits**	**7 credits**	**6.5 credits**

1 The duration of the Winter Term is 12 weeks followed by a two week examination period.
CEE393 The two-week survey field school is held immediately after the examinations.

2 POE372 can replace HIE289.

3 Two optional courses to be selected from:

GCF411: Conception et évaluation des ponts
CEE413: Prestressed Concrete
CEE419: Advanced Military Engineering
CEE445: Hydraulic Structures and Systems
CEE451: Applied Hydrogeology
CEE453: Advanced Hydrology
CEE459: Geotechnical Engineering
CEE460: Introduction to Geosynthetics in Geotechnical Engineering
CEE462: Advanced Geomatics Design and Analysis
CEE489: Transportation Planning

Laboratories and Equipment

Introduction

The laboratory experiments and exercises are designed to provide the students with practical experience in handling field, office and laboratory equipment used in the civil engineering profession. The teaching laboratories provide equipment to permit groups of three or four students to conduct experiments in structural engineering, soil mechanics, pavement materials, asphalt technology, hydrology, water supply, wastewater treatment, and environmental engineering; and to conduct exercises in surveying, photogrammetry and traffic engineering. The Department's equipment includes:

Structural Engineering

Six electronic data acquisition systems with PC's; MTS loading system with 1000 kN, 500 kN, 2 @ 250 kN, 100 kN and 50 kN capacity pistons; various reaction frames including one 1000 kN 4 column load reaction frame; numerous universal testing machines of 900 kN, 600 kN, 250 kN and 100 kN capacities and one 810 MTS 250 kN unit; one impact tester, four bench torsion testing instruments; three bench tension testing instruments; one electric concrete mixer; one screening plant; one vibrating table; one 1350 kN concrete cylinder testing machine; two environment-controlled rooms.

Geotechnical Engineering

Soil testing drive rods and sampling spoons; Atterberg limit testing devices; sieves, hydrometers, and specific gravity apparatus; standard and modified Proctor compaction apparatus; Harvard miniature compaction apparatus; CBR equipment; consolidometers; unconfined, direct shear and triaxial test apparatus; seismic refraction surveying apparatus; computerized electronic data acquisition systems; temperature & humidity controlled chamber; rigid and flexible wall permeaters; pressure plate and pressure membrane extractors; 50,000 kg shaking table.

Transportation Engineering

Apparatus for solubility, specific gravity, flash point, penetration, distillation, viscosity and ductility tests for bituminous materials, Marshall asphalt test equipment. Los Angeles abrasion machine, polished stone value machine, portable skid-resistance tester and extensive equipment for testing road aggregates. Traffic counters and associated equipment.

Environmental Engineering

Instruments to determine water pH, turbidity, colour, specific ion concentration and bacteriological quality; balances; instruments for pollution studies including colorimetric and spectrophotometric devices; apparatus for wastewater analysis including BOD, COD, nutrient enrichment and toxicity, temperature controlled rooms; atomic absorption spectrophotometer with flame and furnace for trace metals analysis; TOC analyzer; two ion chromatographs; three gas chromatographs, mass selective detector, to scan samples for organic contamination; neutron activation for metal analysis. Instruments to study pipe flow, open channel flow, ground water flow and hydrological phenomena. Laboratory and field equipment for vadose zone and groundwater investigations. Laboratory and field equipment for surface water quality and ecological studies.

Geomatics

Real-time and post-analytical differential GPS receiver equipment; total station, electronic and optical surveying equipment; photogrammetric stereoscopes and parallax measurement equipment.

Date modified:

2025-05-05

Undergraduate Civil Engineering Courses

Note: Not all optional or elective courses are offered each year. You can find details on which courses are being offered when you login to your My Services account, or you can contact the department's representative.

GEE231 Introduction to Mechanics of Materials

CEE215 Introduction to Problem Solving and Civil Engineering Design

CEE235 Introduction to Earth Sciences

CEE265 Computer Aided Design in Civil Engineering

CEE303 Strength of Materials

CEE305 Structural Theory

CEE311 Engineering Materials and Introduction to Steel and Timber Design

CEE313 Introduction to Concrete and Reinforced Concrete Design

CEE317 Civil Engineering Analysis I

CEE319 Civil Engineering Analysis II

CEE343 Hydrology

CEE355 Soil Mechanics

CEE360 Introduction to Geomatics in Civil Engineering

CEE363 Survey Field School

CEE385 Introduction to Environmental Engineering

CEE389 Road Design

CEE393 Civil Engineering Field School

CEE403 Introduction to Concrete and Reinforced Concrete Design

CEE405 Structural Analysis

CEE411 Design and Evaluation of Bridges

CEE413 Prestressed Concrete Design

CEE415 Reinforced Concrete Design

CEE417 Steel Design

CEE418 Management of Design and Construction of Structures

CEE419 Advanced Military Engineering

CEE443 Urban Hydraulics

CEE445 Hydraulic Structures and Systems

CEE451 Applied Hydrogeology

CEE453 Advanced Hydrology

CEE457 Foundations, Earthworks and Slope Stability

CEE459 Geotechnical Engineering

CEE460 Introduction to Geosynthetics in Geotechnical Engineering

CEE462 Advanced Geomatics Design and Analysis

CEE485 Water and Waste Water Treatment System Design

CEE489 Transportation Planning

CEE493 Civil Engineering Project

Related links

Civil engineering programme requirements

Course details guide

Courses 200-299

GEE231 Introduction to Mechanics of Materials

This course introduces the student to the fundamentals of mechanics of materials. The main topics include a review of statics: stress and strain, elasticity, superposition, and indeterminacy. The mechanics of axial loading, direct shear, and torsion of circular members are examined to determine resultant stresses, strains, and deflections. Flexural members are examined to find stresses in beams. Emphasis throughout the course is placed on the determination and use of axial force, torque force, shear force, and bending moment diagrams. The course culminates with a look at combined loading and the evaluation of principal stresses. At the end of the course, the student will be able to solve fundamental problems in Mechanics of Materials. The student should also have an appreciation of the limitations of the techniques employed and a rudimentary appreciation for the uncertainty of material properties.

Laboratory exercises include: tension, torsion, and bending tests.

Prerequisite(s):
PHE104

Semester:
Usually Offered in the Winter

Note(s):
For students of the Second Year taking Engineering.

Contact Hours:
3 - 2 - 4

Credit(s):
1

CEE215 Introduction to Problem Solving and Civil Engineering Design

Introduction to fundamental engineering skills and application of engineering science and mathematics content to civil engineering problems. The course introduces the basics of the problem solving process including problem definition and scoping, idea generation techniques, modelling, experimentation and measurement, and multi-criteria decision making. The course introduces concepts of engineering design to create workable solutions to open-ended complex problems using standard design methods and tools. The course introduces the concepts of personal learning styles, teamwork, technical communication, laboratory data collection and analysis, design methodologies, and workplace safety. At the end of the course students will be able to apply engineering design principles to solve practical problems.

Corequisite(s):
CEE265

Semester:
Usually Offered in the Fall

Note(s):
For students of the Second Year taking Civil Engineering.

Contact Hours:
2 - 2 - 4

Credit(s):
1

CEE235 Introduction to Earth Sciences

The purpose of this course is to introduce the students to geology and its role with respect to engineering practice. The course introduces students to the following topics: formation of the earth, the earth as a dynamic planet, plate tectonic theory, the rock cycle, geological time, mineralogy, rock types, rock and mineral identification and classification, structural geology, strength of geological materials, site investigations, geological models, hydrogeology, geomorphology, earthquakes, volcanoes, glacial processes and permafrost, Canadian climate and terrain, Canadian natural resources, and concepts related to engineering geology. The conduct of laboratories for identification of rocks and minerals as well as a local geological field trip serve to complement the course content.
Upon completion of this course, students will be able to gain a fundamental understanding of geology, be able to identify and classify rocks and minerals as well as geological structures (and relevant dynamic components) all within a primarily Canadian context. The students will also be able to differentiate the complementary roles of geologists and engineers.

Prerequisite(s):
GEE167

Note(s):
For students of the Second Year taking Civil Engineering.

Contact Hours:
3 - 2 - 5

Semester:
Usually Offered in the Winter

Credit(s):
1

CEE265 Computer Aided Design in Civil Engineering

This course continues the study of engineering graphics and its use in civil engineering design and construction. This course introduces the concept of Building Information Modelling (BIM). Students will produce 3-dimensional models and develop skills in preparing conventional engineering drawings. Students will be introduced to topography, architectural and structural drawings. Students will complete conceptual designs of civil engineering systems and apply modern commercial BIM software. Civil Engineering codes and standards and limit states design are introduced. Typical structural load-resisting systems constructed from a variety of structural materials will also be introduced.
By the end of this course, students will be able to prepare BIM models and drawings for Civil Engineering projects.

Prerequisite(s):
GEE167

Semester:
Usually Offered in the Fall

Note(s):
For students of the Second Year taking Civil Engineering.

Contact Hours:
1 - 2 - 3

Credit(s):
1

Courses 300-399

CEE303 Strength of Materials

This course builds on the material learned in GEE231 to further the students understanding of more complex issues of mechanics of materials. While elasticity remains the core of the course, the mechanics of plasticity in flexure is introduced. The main topics include: plane stress and plain strain conditions as simplifications of the 3D state of stress, Mohr's Circle of Stress, resolution of determinate and indeterminate beam deflections using moment-area method, and superposition for prismatic as well as non-prismatic beams, asymmetric bending and shear centre, plastic moment resistance and moment curvature of plastic hinges; and column buckling. The course culminates in the application of failure criterion (Rankine, Tresca, and von Mises). At the end of the course the student will be able to analyze simple structures and apply more complex strength of materials methods applying appropriate failure criteria given the resulting 2D stress condition.

Prerequisite(s):

GEE231, MAE227

Semester:

Usually Offered in the Fall

Note(s):

For students of the Third Year taking Civil Engineering.

Contact Hours:

3 - 2 - 5

Credit(s):

1

CEE305 Structural Theory

This course develops student understanding of structural analysis by manual calculation and introduces commercial structural analysis software. Determinate frames will be analyzed and degrees of indeterminacy in structures will be introduced. The calculation of loads according to the National Building Code of Canada will be covered as well as the application of load combinations and envelopes to determine extreme loading conditions. Influence lines for determining the effects of moving loads on beam and truss structures will be developed. The unit load method for determining deflections in a structure and the method of compatible deformations for analyzing an indeterminate frame and truss will be developed. Approximate methods for estimating loads in a regular, indeterminate frame systems will be applied. An introduction to the matrix stiffness method of analysis will be given.
At the end of the course, the student will be able to effectively calculate loads and determine extreme loading effects in basic truss, beam and frame structures.

Prerequisite(s):

CEE303, CEE317

Semester:

Usually Offered in the Winter

Note(s):

For students of the Third Year taking Civil Engineering.

Contact Hours:

3 - 2 - 5

Credit(s):

1

CEE311 Engineering Materials and Introduction to Steel and Timber Design

Topics include: mechanical properties of steel, fatigue, brittle fracture, residual stresses, welding types and properties of steel construction .

Steel design is introduced by topics such as limit state design; design of tension members, beams, compression members, and the design of beam columns.

Timber design includes the property, use and preservation of timber; design of tension members, beams, columns, and connections.

Prerequisite(s):

CEE303, CEE265

Semester:
Usually Offered in the Winter

Note(s):
For students of the Third Year taking Civil Engineering.

Contact Hours:
3 - 2 - 5

Credit(s):
1

CEE313 Introduction to Concrete and Reinforced Concrete Design

This course introduces concrete technology and limit states design for reinforced concrete structures. Students will design and prepare mixes in the laboratory, study the effects of admixtures and carry out laboratory tests to assess concrete strength and quality. Students will analyse and design reinforced concrete rectangular and T-beams for both flexure and shear. Students will fabricate and test reinforced concrete beams in the laboratory to fully understand the influence of reinforcement on the beams' behaviours. By the end of this course, students will be able to analyse and design determinate concrete beams.

Prerequisite(s):
CEE303, CEE265

Semester:
Usually Offered in the Winter

Note(s):
For students of the Third Year taking Civil Engineering.

Contact Hours:
2 - 2 - 4

Credit(s):
1

CEE317 Civil Engineering Analysis I

Ordinary differential equations that apply to Civil Engineering problems are derived. Problems studied include: structural vibration and beam deformation.

Concepts of linear algebra are applied to structural analysis.

Statistical analysis of data will also be studied.

The course is intended to develop the students' abilities in the application of the computer to Civil Engineering problems. A significant proportion of the course will entail computer use.

Prerequisite(s):
GEE231, MAE119, MAE227

Semester:
Usually Offered in the Fall

Note(s):
For students of the Third Year taking Civil Engineering.

Contact Hours:
1 - 2 - 3

Credit(s):
1

CEE319 Civil Engineering Analysis II

This course represents a direct continuation of course CEE317 and simply extends the range of problems considered, whilst following the same approach of mathematical formulation, numerical solution and computer applications.

Prerequisite(s):

CEE317, CEE355, CEE303

Semester:

Usually Offered in the Winter

Note(s):

For students of the Third Year taking Civil Engineering.

Contact Hours:

2 - 1 - 3

Credit(s):

0.5

CEE343 Hydrology

This is an introductory course to the concept of hydrology, the movement of water across the landscape. The course uses some concepts first introduced in Fluid Mechanics. It prepares students for future courses in urban hydraulics and water and wastewater treatment.The hydrologic cycle is introduced. Rainfall and rainfall – runoff relationships, the unit hydrograph theory, statistics and advanced probability concepts, and hydrologic and hydraulic routing techniques are introduced, developed, and applied to solve practical problems in hydrology such as the design of storm sewers, storm water management facilities and low-impact-development measures. Principles of drinking water and sanitary wastewater flow rates estimation are introduced. Numerical models such as HEC-HMS and EPA SWMM are introduced and applied for preliminary design exercises. At the end of the course, students will be able to estimate and predict the volume and flow rate of water at critical locations of a watershed for given hydrologic conditions. They will be able to perform frequency analysis, and reservoir routing calculations.

Prerequisite(s):

MEE315

Semester:

Usually Offered in the Winter

Note(s):

For students of the Third Year taking Civil Engineering.

Contact Hours:

3 - 1 - 4

Credit(s):

1

CEE355 Soil Mechanics

This course introduces soil mechanics fundamentals. It includes physical properties of soils, classification, plasticity, massvolume relationships, compaction, seepage, in-situ stresses and effective stresses, stress distribution, consolidation, and shear strength.
Characterization of and calculation of soil properties is developed. Analysis and design of earthworks and foundations is introduced. Technical literature for soil mechanics theory and applications are developed. Selection of appropriate analytical tools and soil characterization experiments are developed.
At the end of the course, the student will be able to perform analysis of earthworks and foundation applications for seepage, settlement, and shear strength conditions.

Prerequisite(s):

CEE235, GEE231

Semester:

Usually Offered in the Fall

Note(s):

For students of the Third Year taking Civil Engineering.

Contact Hours:

3 - 2 - 5

Credit(s):

1

CEE360 Introduction to Geomatics in Civil Engineering

This introductory geomatics course includes the following topics: surveying principles, error analysis, instrument checks and calibrations, measurements, detail surveys, Geographical Information Systems (GIS), route construction surveys and Global Positioning Systems (GPS). Equipment used by students includes levels, theodolites, total stations, and GPS receivers. The use of Computer Aided Design (CAD) and GIS software augments the design portion of the course content. Upon completion of this course, students will be able to design and implement surveying strategies in support of civil engineering design projects.

Prerequisite(s):

MAE209

Semester:

Usually Offered in the Fall

Note(s):

For students of the Third Year taking Civil Engineering.

Contact Hours:

1 - 3 - 4

Credit(s):

1

CEE363 Survey Field School

During this course, students plan and conduct simple horizontal and vertical control networks for the production of detail and construction surveys. Activities include: laying out circular, spiral and vertical curves; calculating earthwork volumes (cut/fill); producing topographic maps; and collecting data for input into a geographic information system.

Upon completion of this course, students can plan and carry out geomatics projects to meet civil engineering needs. These abilities will be put to immediate use during the third year civil engineering project following this course.

Two weeks duration, following Winter Term examinations

Prerequisite(s):

CEE360

Semester:

Usually Offered in the Winter

Note(s):

For students of the Third Year taking Civil Engineering.

Contact Hours:

10 - 30 - 40

Credit(s):

1

CEE385 Introduction to Environmental Engineering

This course is designed to introduce the students to broad environmental issues that are caused by and / or that can be mitigated through human activity.
The cycle of population growth – energy use – waste concentration – pollution is presented. The role of ethics in Engineering decision-making is introduced. Environmental Impact Assessment techniques are developed. Risk Assessment and the elaboration of quality standards for water, air, and soil are developed and applied. Water Management objectives and techniques are introduced. Water quality parameter analysis and BOD calculations are applied. Water quality impacts associated with wastewater discharges are developed and applied, with particular emphasis on dissolved oxygen. Water and wastewater treatment processes are introduced. Municipal Solid Wastes and Hazardous Wastes characteristics,

production, and disposal options are introduced. Other Sustainable Development techniques are also introduced. Air quality parameters and air pollution control are introduced.
At the end of the course, the student will be able to identify water and air quality parameters, select appropriate treatment or disposal options for water and wastewater, and design an environmental assessment program.

Prerequisite(s):

CCE101

Semester:

Usually Offered in the Fall

Note(s):

For students of the Third Year taking Civil Engineering.

Contact Hours:

2 - 1 - 3

Credit(s):

1

CEE389 Road Design

This course is focused on road design. In includes design of flexible, rigid, and low volume roads including military grade. It includes concepts of road materials, definition, and detection of road failure, use of geosynthetics, and cold regions-specific issues. It is designed to expand the knowledge of the students from previous geology and soil mechanics courses in the program.
Types of road materials are introduced. Mechanical design of flexible pavement, rigid pavement, and low volume roads are applied. Concept of road failure including detection and instrumentation is developed. Use of geosynthetics in road applications is introduced. Geometric design of roads and intersections are applied. Cold regions related issues including frost heave are introduced.
At the end of the course, the student will be able to perform road profile and geometric design under specified conditions.

Prerequisite(s):

CEE355

Semester:

Usually Offered in the Winter

Note(s):

For students of the Third Year taking Civil Engineering.

Contact Hours:

3 - 2 - 5

Credit(s):

1

CEE393 Civil Engineering Field School

This course is designed to provide civil engineering students with an opportunity to gain relevant experience associated with practical applications of civil engineering principles, analysis and design. Under the supervision of teaching and technical staff from the civil engineering department, students study relevant problems raised by organizations within the Canadian Forces and/or other sponsors requiring civil engineering support. The students plan and execute sub-disciplined civil engineering tasks (i.e. geomatics, environmental, structural, geotechnical etc..) for an actual client. Activities associated with this course include: project planning, data collection, data interpretation, project design and the preparation and presentation of an engineering report on their work for the client. Upon completion of this course, students will have obtained relevant experience within a sub-discipline of civil engineering and will have been exposed to the very real issues associated with the conduct and delivery of a civil engineering assessment or design project.

One week duration following CEE363: Survey Field School

Corequisite(s):

CEE363

Semester:

Usually Offered in the Winter

Note(s):
For students of the Third Year taking Civil Engineering.

Contact Hours:
10 - 30 - 0

Credit(s):
0.5

Courses 400-499

CEE403 Introduction to Concrete and Reinforced Concrete Design

This course provides an overview to the design of reinforced concrete buildings. Continuity in concrete construction for beams, one-way continuous slab design and development length of reinforcement are introduced. Students will analyse the effect of loads in multi-story buildings and design two-way slab systems, columns and footings. Modern concrete design software will be introduced. By the end of this course, students will produce a preliminary design of a multi-storey reinforced concrete building.

Prerequisite(s):
CEE303

Semester:
Usually Offered in the Fall

Note(s):
For students of the Fourth Year taking Civil Engineering.

Contact Hours:
3 - 2 - 5

Credit(s):
1

CEE405 Structural Analysis

This course develops an in-depth understanding of modern commercial structural analysis programs employing matrix stiffness or finite element methods. The process of deriving stiffness matrices for spring, truss, beam, frame, and grid elements, assembling these with loading and boundary conditions in matrix format into global equations of equilibrium and solving displacements and forces of basic structural systems is developed and applied extensively. Transformations into two and three-dimensional space is also developed and applied. The basic approaches of the matrix stiffness method are supplemented by formal finite element approaches to determine the stiffness matrices of basic and two-dimensional elements. Throughout the course, commercial structural analysis software will be applied. Techniques for representing structures and verifying potential errors in the models will be discussed as well as the additional advanced applications of the structural analysis methods and the software that are the focus of this course.
At the end of the course, the student will be able to effectively analyze a variety of small structures.

Prerequisite(s):
CEE305, CEE319

Semester:
Usually Offered in the Fall

Note(s):
For students of the Fourth Year taking Civil Engineering.

Contact Hours:
3 - 2 - 5

Credit(s):
1

CEE411 Design and Evaluation of Bridges

Introduction to the design of reinforced concrete bridges, steel and pre-stressed concrete. Review of methods of analysis in accordance with CSA-S6 standard. Software will be used as part of the course to determine the stresses caused by a moving load. This course also included the assessment of residual capacity of an existing bridge. Conventional methods of evaluations will be presented in addition to an introduction to the Military Load Classification procedures (MLC). At the end of the course, students will be able to properly design a simple bridge in addition to make a proper assessment of a bridge in a civil or military context.

Prerequisite(s):

CEE405, CEE415, CEE417

Contact Hours:

3 - 2 - 5

Credit(s):

1

CEE413 Prestressed Concrete Design

This course provides an overview to the design of prestressed concrete structures. Prestressing techniques and materials will be considered. The behaviour, analysis and design of both pretensioned and post-tensioned concrete systems for bridges and buildings including simply-supported and continuous beams and two-way slabs will be studied. Prestress losses and deflections will be calculated. Modern prestressed concrete design software will be introduced. By the end of this course, students will produce a preliminary design of a prestressed concrete structure.

Prerequisite(s):

CCE415

Semester:

Usually Offered in the Winter

Note(s):

For students of the Fourth Year taking Civil Engineering.

Contact Hours:

3 - 2 - 5

Credit(s):

1

CEE415 Reinforced Concrete Design

This course provides an overview to the design of reinforced concrete buildings. Continuity in concrete construction for beams, one-way continuous slab design and development length of reinforcement are introduced. Students will analyse the effect of loads in multi-story buildings and design two-way slab systems, columns and footings. Modern concrete design software will be introduced. By the end of this course, students will produce a preliminary design of a multi-storey reinforced concrete building.

Prerequisite(s):

CEE313

Corequisite(s):

CEE405

Semester:

Usually Offered in the Fall

Note(s):

For students of the Fourth Year taking Civil Engineering.

Contact Hours:

3 - 2 - 5

Credit(s):

1

CEE417 Steel Design

Topics include: connections; plate girders, composite structures, steel bridges, and P-Delta effects in steel structures. Term projects include: design of bridges, industrial buildings and task structures.

Prerequisite(s):

CEE311

Corequisite(s):

CEE405

Semester:

Usually Offered in the Fall

Note(s):

For students of the Fourth Year taking Civil Engineering.

Contact Hours:

3 - 1 - 4

Credit(s):

1

CEE418 Management of Design and Construction of Structures

Structural building systems and bridge systems. Construction Materials and loadings. Conceptual/Preliminary Design. Government Requirements/Regulations/Guides and Codes. Design Team/Process/ Professional Obligations. Mech/Elect Building Systems. Construction - Process, Equipment, Planning.

Prerequisite(s):

CEE405, CEE415, CEE417, GEE293

Semester:

Usually Offered in the Winter

Note(s):

For students of the Fourth year taking Civil Engineering

Contact Hours:

3 - 2 - 5

Credit(s):

1

CEE419 Advanced Military Engineering

Field assessment of structures/damaged structures. Military Load Classification of Bridges; Design against blast loading and basic fortification design. Design of slab on grade.

Prerequisite(s):

CEE313, CEE405, CEE417

Semester:

Usually Offered in the Winter

Note(s):

For students of the Fourth year taking Civil Engineering.

Contact Hours:

3 - 2 - 5

Credit(s):

1

CEE443 Urban Hydraulics

This course is focused on the movement of water in an urban setting. It includes concepts such as open channel and pipe flow, water demand, sanitary sewage generation, rainfall and runoff, and stormwater management. It is designed to expand the knowledge of the students from the previous hydrology course in the program, as well as prepare students for a future course related to water and wastewater treatment.
Principles of fluid mechanics, and of flow rates estimation, are reviewed. Flow in pressure conduits is developed. Urban water supply and distribution systems design techniques are applied. Open channel flow is developed. Sanitary sewage and storm water collection systems design, as well as culvert design techniques are applied.
At the end of the course, the student should be able to calculate the conduit or channel dimension required to carry a given flow rate under specified conditions.

Prerequisite(s):

CEE343

Semester:

Usually Offered in the Fall

Note(s):

For students of the Fourth Year taking Civil Engineering.

Contact Hours:

2 - 1 - 3

Credit(s):

1

CEE445 Hydraulic Structures and Systems

Design of hydraulic retention structures. Study of the forces induced by flow. Application examples to culverts, bridge piles, dams, reservoirs and port facilities. Control structures such as gates and weirs.

Prerequisite(s):

CEE443

Contact Hours:

3 - 2 - 5

Credit(s):

1

CEE451 Applied Hydrogeology

Groundwater and hydrologic cycle. Aquifer and aquitard. Hydraulic head and piezometers. Subsurface movement of water. Darcy's law. Permeability values and measurements. Groundwater flow net. Pumping test: transient flow, steady state, boundary effects, leaky aquifers. Factors affecting water levels. Geochemistry. Groundwater quality. Contaminant fate and transport. Treatment methods and barriers. Modeling techniques. Groundwater exploration and management. Artificial recharge. Saltwater intrusions. Problems and applications.

Prerequisite(s):

GEE235, CEE319, CEE355

Semester:

Usually Offered in the Winter

Note(s):

For students of the Fourth year taking Civil Engineering

Contact Hours:

3 - 2 - 5

Credit(s):

1

CEE453 Advanced Hydrology

Students will be introduced to the fundamentals of water resources management from a civil engineering perspective. Access to secure and reliable fresh water is an essential component for sustainable development. This course explores the assessment of water resources, both surface and sub-surface, through practical applications of state-of-the-art numerical tools, advanced statistical methods, GIS and readily available hydrological and meteorological national databases. Course topics include flood and drought analysis, frequency analysis, watershed hydrology, non-parametric trend analysis, and climate change. Students will gain expertise in the application of numerical models commonly applied by engineering consultants, including ArcSWAT and HEC-HMS. Direct application of knowledge and skills acquired throughout the course will be achieved by completion of a group design project.

Prerequisite(s):

CEE343

Contact Hours:

3 - 2 - 5

Credit(s):

1

CEE457 Foundations, Earthworks and Slope Stability

Bearing capacity; analysis and design of shallow and deep foundations; settlements, soil-structure interaction. Earth pressure theories; analysis and design of rigid, flexible and braced retaining structures. Slope stability; analysis and design of cuttings and embankments, performance of natural slopes. Construction methods. Site investigation.

Prerequisite(s):

CEE355, CEE319

Semester:

Usually Offered in the Fall

Note(s):

For students of the Fourth Year taking Civil Engineering.

Contact Hours:

3 - 2 - 5

Credit(s):

1.5

CEE459 Geotechnical Engineering

A case-history approach to geotechnical engineering practice. The course covers advanced design and modeling topics in geotechnical engineering including: shallow foundations, deep foundations, design using geosynthetics, propped walls and bulkheads, rock and soft ground tunnelling, slopes, culverts, geoenvironmental issues. The relationship between predicted and observed behaviour is explored.

Prerequisite(s):

CEE457

Semester:

Usually Offered in the Winter

Note(s):

For students of the fourth year taking Civil Engineering

Contact Hours:

3 - 2 - 5

Credit(s):

1

CEE460 Introduction to Geosynthetics in Geotechnical Engineering

An introductory course for use and design of geosynthetics. The course introduces topics including geosynthetics and manufacturing processes; properties and test methods; methods of analysis and design for geosynthetics used for separation, filtration, soil reinforcement, erosion control and liquid/hazardous waste containment. At the end of the course, students will be able to design geosynthetics applications for filtration, separation and reinforcement.

Prerequisite(s):

CEE457

Semester:

Usually Offered in the Winter

Note(s):

For students of the Fourth Year taking Civil Engineering.

Contact Hours:

3 - 2 - 5

Credit(s):

1

CEE462 Advanced Geomatics Design and Analysis

The focus of this geomatics course is the study of the mapping sciences. Topics include: project planning, projections, coordinate systems, remote sensing, digital image processing, photogrammetry, cartography, design of monitoring programs, least squares analysis and the adjustment of survey observations. A geomatics design project is a core course requirement. Upon completion of this course, students will be able to analyze survey network computations and use mapping science tools in order to support civil engineering design projects.

Prerequisite(s):

CCE360

Semester:

Usually Offered in the Winter

Note(s):

For students of the Fourth Year taking Civil Engineering.

Contact Hours:

2 - 2 - 4

Credit(s):

1

CEE485 Water and Waste Water Treatment System Design

This course is focused on the design of treatment processes to produce drinking water and to render wastewater suitable for discharge into the environment. It follows environmental engineering and hydraulic concepts developed and applied in previous courses.
Chemistry concepts relevant to water and wastewater treatment are reviewed and applied to inorganic and organic chemistry, acid-base chemistry, and biochemistry problems. Microbiology concepts are also introduced, with particular emphasis on biological treatment processes in wastewater. Common reactor configurations are introduced, and reaction rate equations are developed and applied. Numerical analysis and design approaches of various physicochemical and biological treatment processes for water and for wastewater treatment are developed and applied. Physiochemical process design will address screening, sedimentation, aeration, coagulation and flocculation, filtration, disinfection, and softening while biological treatment design will address aerobic and anaerobic treatment and biological reactor design.
At the end of the course, the student will be able to complete preliminary designs of the main components of water and wastewater treatment facilities.

Prerequisite(s):

CEE385

Semester:

Usually Offered in the Winter

Note(s):

For students of the Fourth Year taking Civil Engineering.

Contact Hours:

4 - 2 - 6

Credit(s):

1.5

CEE489 Transportation Planning

Characteristics of different modes of transport. The land use/urban transportation planning process. Transportation studies, data collection and analysis, demand models, forecasts. Traffic flow and capacity, level of service and freeway operations.

Prerequisite(s):

CEE319

Semester:

Usually Offered in the Winter

Note(s):

For students of the Fourth Year taking Civil Engineering.

Contact Hours:

3 - 2 - 5

Credit(s):

1

CEE493 Civil Engineering Project

This course is designed to allow the students to apply the knowledge they have acquired to all aspects of a Civil Engineering design, from the elaboration of the Statement of Requirements through the Conceptual, Preliminary, and Detailed Design.
Civil Engineering Projects involving multiple fields of Civil Engineering are proposed by the Department of National Defence, governmental agencies or Consulting Engineering companies, and approved by the Department of Civil Engineering. A different project is then undertaken by each group of students. The skills of project and time management, and of technical calculation and communication, are applied. Students present orally their Conceptual, Preliminary, and Detailed Design, and also present a Detailed Design poster and Final technical report.
At the end of the course, the student should be able to execute the various design phases of a complex Civil Engineering project.

Prerequisite(s):

CEE265

Co-requisite(s):

Appropriate 4th year courses. Topic depend on department approval.

Note(s):

For students of the Fourth Year taking Civil Engineering.

Contact Hours (Fall):

1 - 2 - 3

Contact Hours (Winter):

1 - 3 - 4

Credit(s):

2

Date modified:

2024-11-06

Graduate Programmes in Electrical Engineering and Computer Engineering

Programme Information

Course Descriptions

EE587 Topics in Software Engineering

EE588 Topics in Cybersecurity

EE593 Advanced Network Traffic Analysis

EE595 Cyber Threat and Attack Techniques

EE597 Operational Technology Cybersecurity

EE598 Artificial Intelligence in Cybersecurity

PR500 Project

TH500 Thesis (Master's Level)

TH600 Thesis (Doctoral Level)

CP600 Comprehensive Examination (Doctoral Level)

General Information

Programmes Offered

The Department of Electrical and Computer Engineering offers the Master's and Doctoral degree programmes in Engineering, with specialty fields of Electrical Engineering, Computer Engineering, and Cyber Security.

This department's graduate research programme is closely affiliated with and supported by DND research labs, directorates and agencies. There is also ongoing collaboration with government laboratories, private companies, and other universities in various research areas.

Graduate Research

Graduate research may be pursued in the following areas:

Electrical Engineering:

- Radar Studies and Polarimetry, Electromagnetic Interference and Compatibility
- New Antennas and Microwave Circuits for Radar
- Wireless Communication Systems
- Automatic Control Systems
- Electric Power Systems and Power Electronics
- Electric Machines
- Robotics
- VLSI and Microelectronics
- Vehicular Navigation Systems
- Digital Signal Processing and Image Processing
- Target Detection and Classification

Computer Engineering/Software Engineering:

- VLSI Architecture and Design Automation
- Embedded Computer Systems
- Computer Communications
- Computer Security
- Human-Computer Interaction
- Object-Oriented Analysis and Design
- Real-Time Software Design
- Software Development and Maintenance
- Software Quality and Process Improvement

Additional Information

Admission
Admission to Graduate Studies

Dates to Remember
Important Dates and Deadlines

Administration Fees and Tuition
RMC Academic Fees

Contact

Graduate Studies Committee Chair
Dr. Sylvain P. Leblanc

Telephone
613-541-6000 ext 271-6355

Fax
613-544-8107

Web Page
Department of Electrical and Computer Engineering

Related Links
Department of Electrical and Computer Engineering

Web Page
Department of Electrical and Computer Engineering

Programme Requirements

> ⚠ **Important:** All students must complete the zero-credit course AI500: Academic Integrity or an equivalent course by the end of their first term of study.

Masters and Doctoral Degree Requirements

The Master of Applied Science (MASc) will be awarded to candidates who successfully complete a 12-credit programme of studies normally comprised of:

- 6 lecture courses at the graduate level (6 credits), plus;
- a thesis (6 credits).

The Master of Engineering (MEng) will be awarded to candidates who successfully complete a 10-credit programme of studies normally comprised of:

- 8 lecture courses (8 credits), plus;
- a project (2 credits).

> ℹ **Note:** The Master's degree when pursued full-time in the residential programme normally requires two academic years plus the intervening summer (5 terms) to complete.

The Doctoral (PhD) will be awarded to candidates who successfully complete a 17-credit programme of studies normally comprised of:

- 10 lecture courses at the graduate level (10 credits), plus;
- a comprehenive exam (1 credit), plus;
- a thesis (6 credits).

Course Descriptions

EE501 An Introduction to the Theory of Statistical Communications

Formulation of the communications problem as a stochastic process; probability and random variables; expectations; moments; characteristic function; multi-variate distributions; stationarity and the ergodic theorem; ensemble and time averages. An introduction to optimum detection; the sampling theorem and efficient transmission of message sequences.

Lectures:	3 periods per week (one term)
Credit(s):	1

EE502 Applied Research in Electrical and Computer Engineering

This course is normally taken by students in the Master of Applied Science Programme in Electrical, Computer or Software Engineering. The course provides an introduction to the primary and secondary sources of information in the literature of the associated disciplines. The students will also be exposed to the specific applied research groups within the Department, their techniques, and their specific application of the scientific method.

The students will conduct in-depth research in a specific topic area related to their field of study. A member of the Department Faculty will supervise this investigation through directed study. The student will be required to communicate research ideas in writing through academic papers and proposals, and verbally through presentations and seminars. Standards for academic discourse and publication will be emphasized in the assigned papers and presentations.

Lectures:	Lectures/Seminars/Directed Study (two terms): Equivalent to a course of 3 periods per week for one term.
Credit(s):	1

EE503 Wheeled Mobile Robots: Control and Instrumentation

The goal of the course is to provide an introduction to wheeled mobile robots (WMR), pertaining to distinct classes/topologies. The material is divided in three sections. The nonholonomy, a typical property of WMR is treated first: mathematical definition, examples, tools from nonlinear control theory and impact on control and instrumentation is covered. Then, two classes of WMR are studied: car-like robots and mobile wheeled pendulums. For each class, modelling, nonholonomy test, controllability and control are covered. Finally, the instrumentation on board of WMR is investigated, namely inertial and vision sensors.

Lectures: Equivalent to a course of 3 periods per week (one term).

Credit(s): 1

EE505 Satellite Communications

Satellite orbital mechanics, spacecraft technology, satellite antennas, link design and budgets, transmission engineering, propagation effect and modelling, earth station technology,VSAT,multiple access techniques, spread spectrum, coding, specific applications.

Lectures: 3 periods per week (one term)

Credit(s): 1

EE511 Digital Signal Processing

The fast Fourier transform and its computer implementation; spectral estimation; analytic signal; multi-dimensional signal processing; digital filters, signal detection and estimation; Kalman filters; linear predictive coding; adaptive receivers.

Lectures: 3 periods per week (one term)

Credit(s): 1

EE513 Topics in Electrical Engineering

The course consists of formal lectures and the study and discussion of research papers appearing in the current literature. Students will be expected to participate in the presentation of the lecture material. Topics chosen will be by arrangement with the department.

Lectures: 3 periods per week (one term)

Credit(s): 1

EE517 Adaptive Filtering Theory

This course covers the fundamentals of adaptive filtering including performance objectives, optimal filtering and estimation. The Wiener solution and the orthogonality principle are also introduced. Analysis of the different Adaptation algorithms, MSE performance surface, gradient search methods, the Widro-Holf LMS algorithm, convergence speed and the deviation from the absolute minimum MSE are studied. This course will discuss several advanced adaptive filtering techniques including recursive least-squares algorithms, gradient and least-squares lattice filter. Applications will include system identification, channel equalization, echo cancellation, linear prediction and noise cancellation.

Lectures: 3 periods per week (one term)

Credit(s): 1

EE523 Integrated Navigation Systems

This course covers the fundamentals of inertial navigation systems (INS) and the integration with global positioning systems (GPS). The performance characteristics of different types of navigation sensors, their calibration procedures and the stochastic modelling of their errors are discussed. The computation of the position, velocity and attitude components of a moving platform in the 3D space

with respect to certain reference frame is studied. The course also covers the INS/GPS integration using both Kalman filter and artificial intelligence techniques. Applications are mostly related to car navigation.

Lectures: 3 periods per week (one term)

Credit(s): 1

EE533 Hardware Implementation of Digital Signal Processing

Design techniques and hardware implementation of digital signal processing (DSP) algorithms. Design flow from concept to bit true simulation to hardware implementation. DSP hardware technologies including FPGA technology; the fundamentals of DSP Arithmetic; FPGA elements for DSP algorithms; analysis and modelling of DSP algorithms; conversion of models to fixed-point blocks; high-level DSP optimizations; common DSP structures such as pipeline FFTs and finite/infinite impulse response filters; timing and synchronization issues.

Lectures: 3 periods per week plus laboratory and project (one term)

Credit(s): 1

EE535 Adaptive Control Systems

A review of linear control systems will be presented. The Lyapunov stability is covered. Identification techniques will be discussed. Introduction to Adaptive Control of Linear Systems will be presented. Self-tuning Approach and Model reference adaptive Control are covered. Introduction to nonlinear control and adaptive nonlinear control methods: Input-output linearization, input-state linearization and backstepping techniques. Adaptive control for nonlinear systems will be discussed: Self-tuning and Model reference approaches are covered. Applications are mostly related to electric motors, power electronics, and power systems.

Prerequisites: A strong foundation in linear control theory is a recommended course prerequisite.

Lectures: 3 periods per week (one term)

Credit(s): 1

EE537 Antenna Engineering

The course addresses fundamental and advanced topics in Antennas. Contents include: Introduction to antenna basics. Fundamental parameters of antennas and radiation. Analysis methods. Wire, array antennas and synthesis, self and mutual impedance and coupling. Travelling wave, microstrip, dielectric and leaky wave antennas. Small antennas and fundamental limitations. Broad band, ultra-wide band, frequency independent, fractal antennas. Reflector antennas and Fourier transform and apertures. Introduction to smart antennas system aspects. Measurement techniques.

Prerequisites: Basic electronic theory is a recommended course prerequisite.

Lectures: 3 periods per week (one term)

Credit(s): 1

EE539 Variable Speed Control of Electric Machines

DC machine control, variable speed control, variable-voltage inverter drive, pulse-width modulated voltage/current source inverter drive. Motor drives: induction motor, permanent magnet motors, stepper motors and switched reluctance motors: Design of vector control systems. Flux and torque estimation methods, Rotor and stator flux oriented control, Sensitivity to parameter stat and parameter adaptation, PWM current control techniques, Direct Torque Control and Speed/position estimation.

Lectures: 3 periods per week (one term)

Credit(s): 1

EE543 Radar Basics and Applications

Review of electromagnetic waves basic concepts, antenna basics, linear antennas, arrays, computer-aided analysis and design techniques application to antennas, radar basics and fundamentals, radar antennas, polarization concepts in radar, radar cross section, weather effects on radars, radar techniques (SAR, MTI, etc..), applications (weather radars, SBR, OTHR).

Lectures: 3 periods per week (one term)

Credit(s): 1

EE546 Introduction to Fuzzy Logic and Neural Networks

The course covers the mathematical foundations of fuzzy logic and neural networks. The examination of fuzzy logic introduces the fuzzy set theory and linguistic rules, fuzzy relations and compositions, fuzzy arithmetic, fuzzification and defuzzification using various techniques, fuzzy inference systems and Fuzzy logic control (FLC). The examination of neural networks introduces the neuron model, perceptron architecture and learning rules, and supervised Hebbian learning. The course examines case studies and applications in various engineering domains.

Lectures: 3 periods per week (one term)

Credit(s): 1

EE547 Digital Forensics

Digital forensics is a branch of forensic science which focuses on the recovery and analysis of information found in digital systems. It has a wide range of applications including intelligence gathering, private, corporate and criminal investigations, incident response involving digital systems and many others. In this course, students will develop a thorough understanding of digital forensics theory and techniques and will apply these to investigate incidents involving malicious user activity and malware on common operating systems. Topics will include image acquisition techniques, analysis of volatile and non-volatile memory, file systems structure, OS artifacts, e-mail systems, web browser activity, USB storage device activity, timeline of activity, data stream carving, deleted file carving, process analysis, network connection analysis and anti-forensic techniques.

Lectures: 3 periods per week (one term)

Credit(s): 1

EE548 High Performance Computing

High Performance Computing (HPC) can solve very large computational problems by aggregating computing power and memory capacity to deliver much higher performance than a single computer could ever provide. Programming HPC systems requires a comprehensive understanding of computer architecture and parallel programming. This course introduces the fundamentals of HPC and parallel computing with a significant emphasis on applied programming. It covers fundamental techniques for developing HPC applications, the commonly used HPC platforms with a strong focus on Graphics Processing Units (GPUs), performance measurement and analysis, shared memory and distributed systems, parallel decomposition, parallel patterns and primitives, data locality, load-balancing and several other topics. This course includes numerous programming assignments. Students completing this course will be able to design efficient parallel algorithms and will be able to program GPUs using Compute Unified Device Architecture (CUDA®), shared memory systems using Open Multi-Processing (OpenMP), distributed systems using Message Passing Interface (MPI) and supercomputers using all of the above. Other parallel programming languages may be covered in the course.

Lectures: 3 periods per week (one term)

Credit(s): 1

EE549 Digital Communications

Baseband transmission. Digital modulation techniques and performance. Block codes. Convolutional code. Trellis-coded modulation. Coding and modulation for fading channels.

Lectures: 3 periods per week (one term)

Credit(s): 1

EE550 Applied Deep Reinforcement Learning

This course provides a comprehensive exploration of deep reinforcement learning (DRL), an exciting field at the intersection of artificial intelligence, machine learning, and control systems. The materials of this course combine both theory and practice while covering the major methods of DRL. The studied materials include the concept of reinforcement learning (RL), Markov decision processes, elements of a reinforcement learning environment, Q-functions, value-based RL methods, policy-based RL methods, actor critic methods, multi-agent DRL, and action space exploration and exploitation. The course also sheds the light on advanced topics such as inverse reinforcement learning, meta-learning, and transfer learning. The course will provide students with a deep understanding of foundational principles, algorithms, and practical applications of reinforcement learning. It will also expand their skills in using deep reinforcement learning to solve real-world decision-making problems.

Lectures: 3 periods per week (one term)

Credit(s): 1

EE563 Topics in Computer Engineering

Consists of formal lectures and the study and discussion of research papers appearing in the current literature. Students will be expected to participate in the presentation of the lecture material. Topics chosen for discussion will be by arrangement with the department.

Lectures: 3 periods per week (one term)

Credit(s): 1

EE569 Malware Analysis

The course covers dissection of malware for the purposes of understanding, detection and mitigation. It includes static analysis topics to include hashing, packing and obfuscation techniques, portable executable file format, the execution environment, x86 architecture, code constructs in assembly, the Windows API and registry. It also examines dynamic analysis topics to include sandboxing, run-time debugging, memory maps, threads and stacks, exception handling, drivers and kernel debugging. The course covers an introduction to document-based malware, memory forensic techniques and others. The course includes practical work such as laboratories and a project.

Lectures: 3 periods per week (one term)

Credit(s): 1

EE571 Advanced Topics in Power Engineering

A course dealing with topics on power systems operation, control and protection. Topics include reaction power control: compensators, voltage regulation and power factor correction for symmetrical and asymmetrical loads; effects of reduced voltage on the operation and efficiency of electric loads; distribution loss evaluation and optimization; fault current limiting and effects of reduced fault duration upon power system components; control of interconnected power systems.

Lectures: 3 periods per week (one term)

Credit(s): 1

EE578 Introduction to Computer Systems and Network Security

The course is meant as an introduction to the security issues associated with the security of computer systems and networks. The topics covered will include computer security concepts, terminology, seminal research, operating systems, and issues of network administration related to computer security, including the deployment and configuration of servers such as directory services. The course will discuss comprehensive aspects of security such as network attack, network zoning, segmentation and protection, intrusion techniques and the detection of such attacks and intrusions. Students undertake a series of lectures, assignments and laboratory exercises throughout the course.

Lectures:	3 periods per week (one term)
Credit(s):	1

EE580 Applied Cyber Operations

Cyber Operations are much more than the use of computers and networking technology; they require coordinated action to achieve a desired effect in cyberspace. This course will explore the application of cyber operations through the preparation for and participation in a major cyber exercise where students will design networks in support of a simulated military operation, build the network and operate it. Students will be required to operate in the face of a sophisticated and determined adversary with goals in direct opposition to the students, thereby generating simulated cyberspace conflict. In preparation for the simulated engagement, students will be required to build and deploy services such as directory, name resolution, electronic mail, web, file, etc. During the simulated engagement, students will be required to monitor these services, perform other network maintenance tasks, carry out intrusion detection and other simulated defensive cyber operations tasks, as well as participate in simulated offensive cyber operations. All students registered in the course will form part of a single team which will work cooperatively with teams of students from other academic programs against teams of adversaries composed of members from the military, government, and partner organizations.

Prerequisite(s):	EE578 or similar experience in computer systems and network security
Lectures / Cyber Exercise:	Equivalent to a course of 3 periods per week (one term)
Credit(s):	1

EE581 Electronic Warfare Systems Engineering

Electronic warfare refers to techniques that are used to detect and defeat hostile electromagnetic sensors while ensuring that friendly sensors remain effective. Although electronic warfare applies to the entire electromagnetic spectrum, this course focuses on radar and communication signals that are transmitted at radio and microwave frequencies. The course is divided into three modules. In the first, the fundamentals of wave propagation, radar, and telecommunication will be reviewed, culminating in a study of modern low probability of detection methods. The second module deals with hostile signal detection, analysis, direction of arrival, and emitter geolocation. In the final module, jamming techniques and self-protection measures are considered.

Lectures:	3 periods per week (one term)
Credit(s):	1

EE587 Topics in Software Engineering

The study and discussion of research papers appearing in the current literature. Students will be expected to participate in the presentation of the material. Topics chosen for the course will be by arrangement with the Department.

Lecture and tutorial:	3 periods per week (one term)
Credit(s):	1

EE588 Topics in Cybersecurity

This course consists of formal lectures and the study and discussion of contemporary cybersecurity research. Students are expected to conduct activities such as participating in the development and presentation of lecture material, collaborative discussion regarding specific research topics and the implementation of research related methodologies in a lab environment. Topics chosen for discussion will be by arrangement with the department.

Lecture and tutorial:	3 periods per week (one term)
Credit(s):	1

EE593 Advanced Network Traffic Analysis

There are many benefits to the networking of computer systems, but networks are inherently vulnerable. All networked computing devices are subject to malicious traffic; military networks can be especially attractive targets for espionage services, organized crime and hacking groups. In this course, students will develop a thorough understanding of traffic analysis theory and techniques, and apply these to topical computer security problems such as intrusion detection, extrusion analysis and traffic classification. Specific techniques explored may include intrusion detection systems, signature-based detection and analysis, anomaly-based detection and analysis and traffic classification. Students completing this course will be able to analyze network traffic for the purpose of protecting networks against malicious activity. The course will include practical laboratory work, review and critique of traffic analysis literature and a major course project.

Lectures:	3 periods per week (one term)
Credit(s):	1

EE595 Cyber Threat and Attack Techniques

Those operating in the cyber domain that is tasked with the defence of networks and computer systems must have a sound understanding of the threats that they face and of the techniques used by their adversaries; this course discusses the fundamentals of Cyber threats and attack techniques, with a heavy focus on practical applications. Topics will include current cyber threat categories and general capabilities; attack techniques including password cracking, buffer and heap overflows, IP and DNS spoofing, viruses and worms, backdoors and remote access tools, key loggers, tunnelling and covert channels, SQL injection and cross--site scripting; advanced evasion techniques such as polymorphic code and rootkits. The course also introduces malware construction including assembly level program flow control and return oriented programming.

Lectures:	3 periods per week (one term)
Credit(s):	1

EE597 Operational Technology Cybersecurity

In this course, students will develop a thorough understanding of the components within operational technology (OT) and its similarities and differences with information technology (IT). The course will include offensive and defensive cyber security aspects of Operational Technologies at the application, network and physical layers. Components of the course will build on the foundations from civilian OT systems and protocols and focus on military platform security. The course includes practical work such as laboratories and a project. There is a security clearance requirement for this course.

Lectures:	3 periods per week (one term)
Credit(s):	1

EE598 Artificial Intelligence in Cybersecurity

Artificial intelligence (AI) and machine learning (ML) techniques are being increasingly deployed in cybersecurity settings. This course examines the principles of combining data science with security research to analyze security problems and build ML data-driven detection/prevention techniques. At the same time, those ML techniques are susceptible to new attacks. To this end, the

course explores AI in cybersecurity from the basics to advanced and adjacent topics of cybersecurity of AI. The topics include Basic ML for cybersecurity; adversarial AI, attacks (mimicry, white/black box, poisoning attacks) and adversarial examples in security applications; defenses against adversarial AI; anti adversarial AI. Specific applications of AI in cybersecurity are examined on traditional IT networks and on cyber physical systems running on critical infrastructure.

Lectures: 3 periods per week (one term)

Credit(s): 1

PR500: Project

This code is used for students enrolled in a project.

Credit(s): 2

TH500: Thesis (Master's Level)

This code is used for students enrolled in a Master's Level thesis.

Credit(s): 6

TH600: Thesis (Doctoral Level)

This code is used for students enrolled in a doctoral Level thesis.

Credit(s): 6

CP600: Comprehensive Examination (Doctoral Level)

This code is used for students enrolled in a comprehensive Examination.

Credit(s): 1

Date modified:
2025-10-01

Undergraduate Electrical Engineering and Computer Engineering Courses

GEE241 Electrical Technology

GEE293 Managing Engineering Projects

EEE203 Electric Circuits I

EEE210 Electronic Devices and Circuits

EEE231 Energy Conversion

EEE243 Applied Computer Programming

EEE250 Digital Design I

EEE307 Computer Interfacing Techniques

EEE310 Electric Circuits II

EEE311 Signals and Systems

EEE320 Object-Oriented Analysis and Design

EEE325 Introduction to Control Systems

EEE330 Computer Network Design

EEE332 Electric Power Systems

EEE335 Principles of Operating Systems

EEE340 Compilers and Program Execution Environments

EEE350 Digital Design II

EEE351 Computer Organization and Assembly Language

EEE360 Integrated Circuits Design

EEE373 Signal Transmission

EEE375 Signal Propagation

EEE400 Introduction to Cyber Attack Theory

EEE401 Secure Web Applications

EEE402 Applied Artificial Intelligence

EEE404 Cyber Defence

EEE411 Communication Theory

EEE412 Wireless Communication Systems

EEE413 Digital Signal Processing

EEE414 Advanced Control Systems

EEE447 Robotics

EEE449 Power Electronics

EEE455 Electrical Engineering Design Project

EEE457 Computer Engineering Design Project

EEE466 Distributed Systems

EEE469 Computer Architecture

EEE474 Radar and Electronic Warfare

EEE475 Radio Frequency Systems

EEE495 Digital Systems Architecture

EEE499 Real-Time Embedded System Design

Related links

Computer engineering programme requirements

Electrical engineering programme requirements

Course details guide

Courses 200-299

GEE241 Electrical Technology

This course provides the fundamentals of electrical engineering, with an emphasis on the generation of electrical energy, its transmission, and its use in motors and other loads. Students completing this course will be able to analyze electric circuits and will have an understanding of the essentials of electric power. Topics include: electric circuit concepts; DC and AC circuit analysis; sources of energy, including renewable energy sources such as wind and solar energy; three-phase AC circuits; ideal transformers; synchronous generators; and synchronous, induction, single-phase, and DC motors.

Prerequisite(s):
PHE104

Contact Hours:
3 - 2 - 5

Credit(s):
1

GEE293 Managing Engineering Projects

An introduction to the management of engineering resources, specifically time, money, and risk. Specific topics include: fundamentals of project management; scheduling; time-value of money; cash flows and equivalence; depreciation concepts and analysis; economic equipment replacement decision; effects of inflation; financial and project risks, and multi-criteria decision making.

Contact Hours:
3 - 1 - 6

Credit(s):
1

EEE203 Electric Circuits I

This course provides the fundamentals of electrical engineering. It deals with the behaviour of circuits built from basic linear circuit elements that are resistor, capacitor, inductor, independent and dependent voltage and current sources. Students completing this course will be able to analyze electric circuits. Topics include: DC circuit analysis; energy storage and time domain behavior; sinusoidal steady state circuit analysis; ac power; three-phase systems; magnetic laws and circuits; and, ideal transformers.

Prerequisite(s):

PHE104

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE210 Electronic Devices and Circuits

This course introduces the electronic components that are used to implement the circuits found in most electrical systems. Students completing this course will be able to design and analyze wave shaping circuits, voltage rectifiers and regulators, low-power amplifiers, and digital logic gates. The course includes a significant laboratory component in which the students build diode and transistor circuits for a variety of low-power analog and digital applications. Topics include: the junction diode; field effect transistors; MOSFETs; diode circuits; the analysis and design of single stage low-power amplifiers; small signal models; and, the static and dynamic analysis of the CMOS inverter.

Prerequisite(s):

EEE203

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE231 Energy Conversion

Electric motors and generators are used in daily life for energy conversion, transportation, and within industry, and hence are an important part of the field of electrical engineering. This course explains the operation of electric machines, including machines used in electric vehicles and renewable energy systems, and considers control issues for different machine types. Students completing this course will understand the basic modes of operation of electric machines, and will be able to analyze their performance. Topics include: a survey of energy conversion methods; a review of three-phase systems; magnetic laws and circuits; transformers; analysis of electromechanical systems; and DC, induction, and synchronous machines, and their principles of operation.

Prerequisite(s):

GEE241 or EEE203

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE243 Applied Computer Programming

Software systems frequently drive physical devices and are often complex in their own right. This course uses mobile robots as an application area to explore software design. Students completing the course will be able to design significant software programs and components in the presence of other software and hardware subsystems. Topics include: effective decomposition of software into modules; modular programming and design techniques; structured programming; the execution model for software; the software build cycle; basic data structures; the use of third-party components and underlying operating system support; rudimentary control of physical systems through high-level interfaces to digital input/output channels; and analog/digital and digital/analog converters.

Prerequisite(s):

CSE101

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE250 Digital Design I

This introductory course sets the foundation for designing digital systems for a wide range of applications. It provides the basics of logic design concepts and the implementation of logic functions using modern design tools and hardware platforms. Students completing this course will be able to design digital circuits for a multitude of logic and arithmetic applications. The course includes a significant laboratory component in which students analyze, design, simulate and implement digital circuits. Topics include: number systems; boolean algebra; combinational logic; hardware description language (HDL); design of data path components and arithmetic logic unit (ALU); sequential circuit elements; design of sequential circuits; and algorithmic state machines.

Contact Hours:

3 - 2 - 5

Credit(s):

1

Courses 300-399

EEE307 Computer Interfacing Techniques

The aim of this course is to expand programming skills to the interfacing of low-level devices. Students completing this course will be able to design and implement simple interfaces to modern microcomputers or microprocessors. Interfacing theory will be studied in the classroom and reinforced by a strong laboratory component during which the students will put theory into practise. Topics include: description of the computer bus; timing analysis of buses and devices; analog-to-digital and digital-to analog conversion; serial and parallel interfaces; polling, interrupt and direct memory access input/output techniques; and interfacing to memory and other storage devices.

Prerequisite(s):

EEE351

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE310 Electric Circuits II

Electric circuits form the basis of all electrical and electronic equipment. Students completing this course will be able to apply the laws of circuit analysis to practical electronics and power systems problems. This course will also make use of computer simulations and electronic equipment to design, build and test several circuits. Topics include: circuit theory; circuit analysis techniques; ideal operational amplifiers and their circuits; transient analysis of second order linear circuits; transfer functions and system frequency response; application of Laplace transforms to the solution of system equations; an introduction to passive and active filters; and matrix representation of two-port networks.

Prerequisite(s):

MAE227 and EEE203

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE311 Signals and Systems

The concepts of signals and systems arise in a wide variety of areas, such as communications, speech and image processing, and biomedical engineering. This course deals with signals, systems, and transforms, from their theoretical mathematical foundations to practical implementation in communication systems. Students completing this course will understand transfer functions and system responses in both the time and

frequency domains, and will be able to perform system modelling, analysis and design. Modern computational software and laboratory equipment are used extensively for simulation and real-time signal processing. Topics include: Fourier analysis of signals; linear systems and filters; sampling theory; filter design and implementation; probability theory, random variables, and random processes.

Prerequisite(s):

EEE310

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE320 Object-Oriented Analysis and Design

Most modern programming languages and development approaches are based on the concept of “objects.” Students completing this course will be able to apply the object concept to the analysis and design of significant software systems. Techniques for managing complexity are introduced including data and procedural abstraction, encapsulation, hierarchy, and decomposition of problems into classes and objects. The uses of overloading, multiple inheritance and polymorphism are studied. Object-oriented analysis, design and implementation of software are practised in the context of an iterative, use case driven development process using modern software modelling tools, development environments and programming languages. Good design and design reuse are introduced through the application of design patterns.

Prerequisite(s):

CSE250

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE325 Introduction to Control Systems

Feedback control is used in many applications in the military such as flight control and target tracking. This course provides the theoretical foundations of feedback control systems. Students completing this course will understand issues related to the stability of systems, be able to analyze systems and determine their performance criteria, and design basic computer control for physical systems. The course includes a significant laboratory component in which the students will analyze, design, simulate and implement control strategies for relevant military equipment such as helicopters, ground vehicles and automated tracking systems. Topics include: physical system modelling; analysis of transient and steady state responses; and compensator design.

Prerequisite(s):

MAE325

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE330 Computer Network Design

The Internet and other major networks permit the interconnection of diverse networks, computers and mobile devices in a myriad of configurations. Students completing this course will gain an understanding of the computer network operations environment, learn to practise basic network design, and investigate how networks behave under cyber attack. The course includes a significant laboratory component in which students will design, build and analyze networks. Topics include: layers 2 - 4 of the OSI Model, circuit and packet switching; network topology; queueing and its application to networks; routing and flow control; networking equipment, including bridges, hubs and switches; and the security implications of network protocols.

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE332 Electric Power Systems

Electric power systems are vital for generating, transmitting and transforming energy for industrial, military and transportation uses, and are also at the heart of alternative energy systems. This course, and its accompanying laboratory component, are based on shipboard electrical power systems, although the material presented is also applicable to aircraft and land-based systems. Students completing this course will be able to identify and address current and future electrical engineering problems related to energy sources, generation, conversion, transmission, utilization, efficiency, protection, and control of electrical power. Topics include: common aspects of power equipment; generators; electric motors; transformers; power distribution schemes; fault analysis; system protection; and power systems standards.

Prerequisite(s):

EEE231

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE335 Principles of Operating Systems

Operating systems act as virtual machines that manage a computer's resources and facilitate interactions with the computer hardware. Specialized operating systems are found in personal devices, automobiles and aircraft. This course explores the internal workings of operating systems such as the Windows family, including modes of operation protected by hardware (kernel modes). Students completing this course will understand the design of operating systems used in modern computing systems, including the management of shared hardware and software resources. Students will implement operating systems concepts in programming laboratories. Topics include: the process; concurrent processes; inter-process communication; deadlock; scheduling; input/output; file systems; file servers; memory management; and virtual storage management.

Prerequisite(s):

CSE250

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE340 Compilers and Program Execution Environments

The aim of this course is to analyze how software implemented in high-level programming languages is ultimately executed on running processors, and to explore what runtime support mechanisms are used in the execution environment. Students will develop a solid understanding of these mechanisms and the ways in which they can be optimized for performance, or abused to violate security. Topics include: language grammars, syntax and semantics; parsing, lexical analysis and abstract symbol tables; software memory models and runtime support mechanisms; static, shared and dynamic libraries; linking and loading; language specifications, code optimizations and security vulnerabilities; interpreted environments and scripting; static and dynamic code analysis; and code injection.

Prerequisite(s):

EEE320

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE350 Digital Design II

Digital circuitry is changing the way we perceive and interact with our environment, as it continues to replace many of the older analog systems used in audio recording, image processing, mechanical control, etc. The aim of this course is to develop skills in designing moderately complex digital functions based on modern design tools. Students completing this course will be able to model, design and test digital systems. The course, supported by an important laboratory component, includes: hardware description language (HDL); HDL modelling, verification techniques, field programmable gate array (FPGA) architectures and resources; digital system design methodology; finite and algorithmic state machines; synchronous systems; sequential design and static timing analysis.

Prerequisite(s):
EEE250

Contact Hours:
3 - 2 - 5

Credit(s):
1

EEE351 Computer Organization and Assembly Language

The aim of this course is to develop skills in assembly language programming for simple sequential computers. Students completing this course will be able to design and implement simple to moderately complex assembly language programs using a modern assembly language. Practical programming assignments will be completed during a strong laboratory component in which students will solve problems by coding in assembly language. Topics include: the microprocessor as a system building block; computer organization and interconnections; an introduction to the architecture of simple sequential computers; an introduction to assembly and machine languages; instruction sets and addressing modes; assembly language programming; and interrupts, vectors, interrupt requests and handshakes.

Prerequisite(s):
EEE243

Corequisite(s):
EEE250

Contact Hours:
3 - 2 - 5

Credit(s):
1

EEE360 Integrated Circuits Design

Integrated circuits have made modern computation and communications possible. This course presents modern integrated circuit design concepts for both bipolar and MOS technologies, with an emphasis placed on CMOS technology. Students completing this course will be able to model, analyze, simulate and design analog and digital integrated circuits. Computer-aided design tools and laboratory exercises complement the course. Topics include: non-ideal operational amplifiers; internal circuitry of operational amplifiers; frequency response of single-stage and multistage integrated circuit amplifiers; integrated circuit biasing including current sources, current mirrors and current steering circuits; analog-to-digital and digital-to-analog converters; digital CMOS logic and memory; oscillators; multivibrators; and integrated circuit timers.

Prerequisite(s):
EEE210 and EEE310

Contact Hours:
3 - 2 - 5

Credit(s):
1

EEE373 Signal Transmission

Electrical signals are used in computers and in communications systems to relay information. This course examines the physical properties of electrical signals and how they travel along wires and through materials. Students completing this course will be able to apply the laws of electromagnetism to design wired communication links, control interference, and will understand how electromagnetic waves propagate through, and interact with, different materials. Laboratory experiments allow students to explore many signal properties. Topics include: transmission line models; signal transmission in the time and frequency domains; electromagnetic theory; plane waves; and shielding.

Prerequisite(s):
PHE104 and MAE226

Contact Hours:
3 - 2 - 5

Credit(s):
1

EEE375 Signal Propagation

All wireless systems rely on the radiation, propagation, and reception of electromagnetic waves. This course examines how these waves propagate and how they interact with antennas and other objects. Students completing this course will understand how propagation occurs and will be able to design antenna systems and wireless radio links. The laboratories will demonstrate important propagation effects and give the students the opportunity to design, build, and test their own antenna arrays. Topics include: antenna elements; antenna arrays; propagation modes at radio, microwave, infrared and optical frequencies; and radar cross section.

Prerequisite(s):
EEE373

Contact Hours:
3 - 2 - 5

Credit(s):
1

Courses 400-499

EEE400 Introduction to Cyber Attack Theory

Cyber security within the military is a growing and important field. This course aims at educating the students in understanding a broad range of cyber threats. Students completing this course will understand the fundamentals of exploitation techniques employed by adversaries. Students completing this course will gain an understanding of a breadth of the fundamentals will bootstrap their abilities to research and explore concepts in depth and participate in modern cyber challenges. Topics include bash and python scripting, cryptography, basic reverse engineering, an introduction to host based forensics, vulnerability discovery, and binary exploitation.

Prerequisite(s):
EEE243

Corequisite(s):
EEE351

Contact Hours:
3 - 2 - 5

Credit(s):
1

EEE401 Secure Web Applications

Web applications are developed for anything from social media to e-commerce and are under constant pressure to maintain confidentiality, integrity and availability. The aim of this course is to provide an introduction to the different web security threats and the best practices to counter them. Students completing this course will be able to conduct various common attacks on websites and will have learned the best practices to prevent them. Topics include web app architecture, web app vulnerability assessment, SQL injection, cross-site scripting, cross-site request forgery and web frameworks.

Prerequisite(s):
EEE400 and EEE466

Contact Hours:
3 - 2 - 5

Credit(s):
1

EEE402 Applied Artificial Intelligence

This course covers foundational Machine Learning (ML) concepts with an emphasis on the practical application of ML techniques in engineering-related domains such as robotics, control systems, radar, communication, navigation and computer networks. ML is a subset of Artificial Intelligence that focuses on developing algorithms and techniques that allow computers to learn from data. We will explore both traditional ML techniques and deep Neural Network (NN) models. The following topics are covered: linear and non-linear models; performance evaluation, overfitting, cross-validation, bias-variance trade-off, representation, regularization and generalization; supervised (regression and classification)

and unsupervised learning (k-means, mixture models, density estimation, expectation maximization, principle component analysis); support vector machines and kernels; curse of dimensionality: dimension reduction and feature selection; error estimation and empirical validation; backpropagation, optimization methods for training NN, normalization methods, hyperparameter tuning. Tailored for engineers, the course highlights real-world engineering problems demonstrating how ML algorithms can be used to solve challenges in specific engineering fields while introducing the core theory, which unifies all the algorithms.

Prerequisite(s):
MAE209 and MAE226

Contact Hours:
3 - 2 - 5

Credit(s):
1

EEE404 Cyber Defence

Military and civilian computing systems are frequently attacked by espionage services, organized crime, and hacking groups. In this course, students will investigate the cyber threat environment, network attack, the design of network perimeter defence, and defence-in-depth. The capstone activity is a two-week cyber defence exercise at term end, organized and run by the National Security Agency, involving military college teams from Canada and the United States. Students completing this course will be able to design a defensive computer network architecture and understand the network cyber operations environment. Topics include: firewall design; deployment of intrusion detection and preventions systems; design and implementation of security policy; and identification and authentication.

Note(s):
For students of the fourth year taking Computer Engineering

Prerequisite(s):
EEE466

Contact Hours:
3 - 2 - 5

Credit(s):
1.5

EEE411 Communication Theory

Communications systems are prevalent in today's world, and play an essential role in the military and in everyday life. This course explains the criteria in the design of communications systems, their implementation at a systems level, their operation and requirements. Students completing this course will be able to design communications systems, understand how a system works, and determine what kind of performance can be expected from a system. Topics include: analog and digital modulation techniques; reception techniques including matched filtering, the correlation receiver, and non-coherent detection; error performance; spread-spectrum communications; and error-control coding, including block codes, convolutional codes, and Viterbi decoding.

Prerequisite(s):
EEE311

Contact Hours:
3 - 2 - 5

Credit(s):
1

EEE412 Wireless Communication Systems

New generations of wireless communication systems have the potential to provide civilian and military users with high-speed and high-quality information exchange using their portable devices such as smart phones, laptops, and tablets. This course presents the design and analysis of wireless systems and the techniques used to overcome the fundamental limits of wireless channels. Students completing this course will be able to perform design, simulation, and testing of terrestrial and satellite wireless systems. Topics include: wireless systems and standards; models of wireless channels; multipath fading, satellite orbits and link budgets; digital modulation under wireless channel impairments; multipleantenna technology; multicarrier modulation; spread spectrum; multiple access techniques; GPS; wireless sensor and ad hoc networks.

Prerequisite(s):

EEE411

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE413 Digital Signal Processing

The vast and flexible processing power of computers allows signals to be manipulated in useful ways. This course applies digital signal processing (DSP) techniques to target tracking, positioning and navigation applications. Students completing this course will be able to design code and apply DSP algorithms. The course laboratory involves the design of DSP algorithms for military applications, including: GPS, portable navigation devices for dismounted soldiers, de-noising of navigation sensors, and vehicle terrain profiling systems. Topics include: sampling, quantization and data acquisition; discrete-time signals and systems; Fourier and Z-transforms; discrete-time linear time-invariant systems; finite impulse and infinite impulse response filters; and, distortion and channel equalization for mobile communications.

Prerequisite(s):

EEE311

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE414 Advanced Control Systems

Control systems have made possible many applications of the modern world, ranging from the autopilot to the autonomous car, and from the turret control of warships to the operation of Unmanned Aerial Vehicles (UAVs). This course studies the design of controllers using digital computers and their application to military systems. Students completing this course will be able to design controllers on several platforms. The course includes a significant laboratory component in which students will model, analyze, design, simulate and implement controllers for various military applications. Topics include: modelling and identification of dynamic systems; design by frequency response; stability analysis; modern control techniques; and performance assessment of controllers.

Prerequisite(s):

EEE325

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE447 Robotics

Robots and unmanned systems such as UAVs are becoming more common in the modern world, with applications in industry, transportation and the military. Most of the design of robots is not related to the physical platforms, but to the programming of the robots' intelligence to provide them with problem solving capabilities. This course studies the design of intelligent autonomous robots and their application to military systems. Students completing this course will be able to analyze complex environments and design robot behaviours to autonomously solve difficult problems. Topics include: sensors and actuators used in robotics; kinematics; design of mobile ground robots; robotic architectures; implementation of behaviours; and collaboration among robots.

Prerequisite(s):

EEE243 and EEE325

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE449 Power Electronics

Power electronic converters are circuits that transform electrical energy from one form to another, and are used extensively within industry, National Defence, and in most consumer products. Students completing this course will be able to analyze and design the most common converters and their control systems. This course includes a significant laboratory component in which the students will design and build converters to supply AC and DC motors, to charge a battery, and to extract maximum power from a photovoltaic system. Topics include: DCDC choppers; single phase and three-phase DC-AC inverters and AC-DC rectifiers; AC-AC converters; and the application and design of those converters.

Prerequisite(s):

EEE332

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE455 Electrical Engineering Design Project

The year-long design project allows students to demonstrate that they are capable of applying the electrical engineering knowledge, skills, and techniques learnt in their electrical engineering program to design and build a working product. Under the supervision of two faculty members, groups of 2-4 students design an electrical system starting with the definition of system requirements, followed by a preliminary and a detailed design, after which they construct a prototype system and test its actual performance against the original requirements. Oral and written progress reports are required along with a written final report, a final demonstration, and a formal oral examination by a board of faculty members.

Contact Hours:

Fall: 4 - 0 - 4 Winter: 4 - 0 - 4

Credit(s):

2

EEE457 Computer Engineering Design Project

The year-long design project allows students to demonstrate that they are capable of applying the computer engineering knowledge, skills, and techniques learnt in their computer engineering program to design and build a working product. Under the supervision of two faculty members, groups of 2-4 students design a computer-based system starting with the definition of system requirements, followed by a preliminary and a detailed design, after which they construct a prototype system and test its actual performance against the original requirements. Oral and written progress reports are required along with a written final report, a final demonstration, and a formal oral examination by a board of faculty members.

Contact Hours:

Fall: 4 - 0 - 4 Winter: 4 - 0 - 4

Credit(s):

2

EEE466 Distributed Systems

Distributed software systems communicate over computer networks and provide applications such as internet banking, social networks, and military command and control information systems. Students completing this course will understand the key technologies used in distributed systems, and will be able to design and implement them. In the laboratory, students will build distributed systems using sockets, remote invocation, and web-based technologies. Topics include: principles and characteristics of distributed systems; protocol design; client/server and peer-to-peer systems; distributed objects; time services; distributed transactions and replicas; concurrency control; the two-phase commit protocol; name services; network security threat models; cryptographic key distribution; authentication and signature; and common internet services and protocols.

Prerequisite:

EEE320 and EEE330

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE469 Computer Architecture

The computer processor is one of the most complex and intricate machines ever designed and built, and is at the heart of the information age. The aim of this course is to provide the current state of the practise in computer processor architectures. Students completing this course will be able to design, model, simulate and analyze processor architectures using state-of-the-art computer aided engineering tools and will have honed their skills during a rigorous laboratory component. Topics include: instruction set architectures; instruction level parallelism; data-level parallelism, including GPU and vector processors; thread-level parallelism, including simultaneous multithreading and multicore processors; hardwired and microprocessor-based control units; memory hierarchies; and performance analysis.

Prerequisite:
EEE350

Corequisite:
EEE307

Contact Hours:
3 - 2 - 5

Credit(s):
1

EEE474 Radar and Electronic Warfare

Military forces the world over use radar as a primary sensor for navigation, mapping, weather monitoring, and weapons guidance. This course provides an introduction to radar systems and to the techniques that can be used to detect and defeat electronic systems. Students completing this course will understand the principles of radar, be capable of designing radar subsystems, and understand aspects of electronic warfare. Students will design, fabricate and test their own radar subsystems during the course's laboratory component. Topics include: monopulse, pulse, and pulse-Doppler radar architectures; radar modes and mapping; signal detection and emitter direction finding; jamming and decoys; and electronic protection measures.

Prerequisite(s):
EEE311 and EEE373

Contact Hours:
3 - 2 - 5

Credit(s):
1

EEE475 Radio-Frequency Systems

Radar and communication systems use high frequency signals to transmit information wirelessly through the air. This course studies the transmitter and receiver circuitry that converts data into wireless signals, and vice versa. Students completing this course will be able to design transmitters and receivers, design, build and test transceiver circuitry, and estimate link budgets. The course includes a significant laboratory component in which the students will design, fabricate and test their own radio-frequency circuits. Topics include: radio-frequency network analysis; couplers; filters; amplifiers; oscillators; mixers; planar circuit technology and computer-aided design techniques; receivers and transmitters; radio links; and noise analysis.

Prerequisite(s):
EEE373

Contact Hours:
3 - 2 - 5

Credit(s):
1

EEE495 Digital Systems Architecture

Components and architecture are complementary in the design of digital systems implemented in many technologies. This course provides students with an understanding of the architecture, design and implementation of modern digital systems using state-of-the-art computer aided engineering tools with emphasis on field programmable gate array (FPGA) devices. Students completing this course will understand the internal components and architecture of a typical FPGA device, and will be able to implement complex systems in FPGAs while meeting design constraints. The course, supported by an important laboratory component, includes: FPGA architectures and resources; digital system design methodology; static timing analysis; high performance computer arithmetic architectures; and design for testability.

Prerequisite(s):

EEE350

Contact Hours:

3 - 2 - 5

Credit(s):

1

EEE499 Real-Time Embedded System Design

Real-time systems are found in everyday applications such as smart phones, military avionics, safety systems in automobiles, and in the control systems found in nuclear facilities and chemical processing plants. Students completing this course will be able to analyze, design and implement real-time systems. Typical applications and considerations for systems are presented and practised in laboratory work. Topics include: specification and design methods for real-time systems and applicable computer aided software engineering tools; specification and verification of timing; scheduling and schedulability analysis; real-time operating systems, kernels, and programming languages; fault tolerance, critical races, deadlock and livelock; host target development; and real-time distributed systems.

Prerequisite(s):

EEE320

Contact Hours:

3 - 2 - 5

Credit(s):

1

Date modified:

2025-05-27

General Engineering and Engineering Service Courses

Related links

Programme requirements Aeronautical Engineering

Programme requirements Chemical Engineering

Programme requirements Civil Engineering

Programme requirements Computer Engineering

Programme requirements Electrical Engineering

Programme requirements Mechanical Engineering

Course details guide

General Engineering Course Descriptions

GEE291 Introduction to Engineering Professional Development

The objective of the course is to initiate students to aspects of professional development in Engineering. The course has four modules: (i) roles and responsibilities of engineering in society and ethics in engineering; (ii) environmental stewardship; (iii) sustainable development; and, (iv) safety. The modules will be given by professors from the Faculty of Engineering and/or invited professional engineers.

In addition to the in-classroom instruction, the course also includes a site visit to a local industrial plant.

Semester:
Usually Offered in the Winter term

Note(s):
Mandatory for students in Engineering.

Contact Hours:
8 - 0 - 0

Credit(s):
0

GEE393 Engineering Tours

The course objective is to expose students to the practical application of engineering within private industry, the Canadian Forces and governmental and non-governmental agencies. This course consists of tours of engineering sites (such as construction, production, manufacturing, laboratory, research) and discussions with engineering professionals related to the field of engineering being studied.

Prerequisite(s):
Successful completion of second year engineering requirements

Semester:

Usually Offered in the Winter term

Note(s):
Mandatory for most students in Engineering.

Contact Hours:
0 - 12 - 0

Credit(s):
0

Table of General Engineering Courses

Courses given to students taking degree programmes from numerous engineering departments are deemed general engineering courses. The following table gives details of those general engineering courses, along with the department nominally responsible for teaching them.

Course Code	Course Title	Engineering Programmes Affected	Delivered by
GEE167	Engineering Graphics - 1	Aeronautical, Chemical, Civil, Computer, Electrical, Mechanical	Mechanical Engineering
GEE231	Introduction to Mechanics of Material	Chemical, Civil	Civil Engineering
GEE241	Electrical Theory	Aeronautical, Mechanical, Chemical	Electrical & Computer Engineering
GEE291	Introduction to Engineering Professional Development	Aeronautical, Chemical, Civil, Computer, Electrical, Mechanical	N/A
GEE293	Managing Engineering Projects	Aeronautical, Chemical, Civil, Computer, Electrical, Mechanical	Office of the Dean of Engineering
GEE393	Engineering Tours	Aeronautical, Chemical, Computer, Electrical, Mechanical	N/A

Table of Engineering Service Courses

Courses given by departments outside of the Faculty of Engineering to engineering students are deemed Engineering Service Courses. The following table gives details of these Engineering Service Courses, along with the Department responsible for their delivery.

Course Code	Course Title	Engineering Programmes Affected	Delivered By
MAE226	Engineering Calculus: Multivariate Functions	Aeronautical, Chemical, Civil, Computer, Electrical, Mechanical	Mathematics and Computer Science
MAE227	Engineering Calculus: Differential Equations and Infinite Series	Aeronautical, Chemical, Civil, Computer, Electrical, Mechanical	Mathematics and Computer Science

Date modified:
2024-05-14

Undergraduate Certificate Programmes

Introduction

The Royal Military College of Canada offers certificate programmes in both English and French. The links below will connect you to web pages containing the requirements and the courses for the certificate programmes. You will need to read the details of each certificate to see if you can enroll.

Note: It should be understood that not all certificate programmes are open to all students.

Certificate in Management with Applications to Defence

Certificate in Accounting

Certificate in Applied Economics

Certificate of General Military Studies (CGMS)

Certificate of Advanced Military Studies (CAMS)

Certificate in Military Leadership and Management (CMLM)

NCM Executive Professional Development Programme (NEPDP)

Ammunition Technology Certificate

Date modified:
2024-02-13

Second Official Language Education and Training

Legacy rights: Any RMC student (not including those in Preparatory Year at RMC Saint-Jean during the 2020-2021 Academic Year), military or civilian, who is currently enrolled in a programme of study at RMC, and who has taken courses prior to 7 September 2021 will be granted legacy rights by Senate such that they will not be required to pass any LCF course in order to meet the requirements of their programme of study, even if they change programmes before or after 7 September 2021 or are required to repeat an academic year provided they remain subsidized under ROTP. ROTP students granted legacy rights will not be required to pass any LCF course; however, they will still be required to take Second Official Language and Education Training (SOLET) to obtain BBB on the Public Service Commission (PSC) Second Language Evaluation (SLE) as a requirement of ROTP. Any RMC student, military or civilian who is currently enrolled in a programme of study at RMC, and who has taken courses prior to 7 September 2021, or any student who was previously granted and conferred a degree and wishes to obtain a second degree in accordance with Academic Regulation 4 or to upgrade their degree in accordance with Academic Regulation 5 will be granted legacy rights by Senate if they are admitted into their new programme of study no later than 7 September 2021; anyone after this date will not be granted legacy rights by Senate. Any RMC student, military or civilian who is currently enrolled in a certificate at RMC, and who has taken courses prior to 7 September 2021, and is admitted to a Bachelor of Arts (Honours), Bachelor of Arts, Bachelor of Science (Honours), Bachelor of Science, or Bachelor of Engineering will be granted legacy rights by Senate if they are admitted into their new programme of study no later than 7 September 2021; anyone after this date will not be granted legacy rights by Senate. Any RMC Saint-Jean students who were in their Preparatory Year during the 2020-2021 academic year will not be granted legacy rights by Senate; all remaining RMC Saint-Jean students who were students at RMC Saint-Jean during the 2020-2021 academic year will be granted legacy rights by Senate.

General Information

Important: *Given the limited number of students registered in English as a second language, classes are taught by personnel with a degree in languages and/or linguistics with a minimum competency level of E. On a case-by-case basis and on request, the College can also put together a partnership with another teaching institution to provide individual online english classes taught by an expert in the english language. Additional information is available here: /en/bilingualism-pillar—-solet—-english-second-language-rmc.*

Based on the result of a placement test, anglophone students will be registered in LCF100, LCF200, LCF301, LCF302 or LCF400. Students will automatically be exempt from applicable lower level LCF courses once placed in the appropriate course. Students who attain a Second Official Language (SOL) proficiency level of at least BBB or higher on the Public Service Commission (PSC) Second Language Evaluation (SLE) will be exempt from LCF courses at RMC.

The PSC SLE is the only SOL certification-testing instrument currently accredited and used by the CAF to assess the SOL proficiency level. *(DAOD 5039-8, Canadian Armed Forces Second Official Language Certification Testing)*

> **Note:** All students who do not achieve the "exemption" level of bilingualism on initial testing are required to take second language.

The aim of the Language Centre is to enable students to function well in their second language as officers of the Canadian Armed Forces.

Every effort is made to ensure that students become bilingual in the shortest possible time. Classes are small, with a maximum of 10 students. In first and second year, six periods, each lasting 50 minutes, are timetabled for each week of the academic year. In third and fourth year, four periods per week are timetabled. The learning process is given a practical aspect by the frequent use of technology. Classroom activities are designed to promote a high level of participation by the student. Students who have not reached the appropriate fluency level by the end of their second year take an intensive summer course of 250 hours.

Official testing is granted when students reach an acceptable level; the tests determine whether they have achieved a satisfactory rate of progress, they also indicate their actual level via a linguistic profile.

Language Centre Director

R. Paquet, B.A., M.A. (Laval)

Language Center Teaching Staff

List of Teaching Staff

French as a Second Language

All non-Francophone students who have passed the Public Service Commission's bilingualism tests with a minimum of BBB can register for the Minor, Certificate, and Attestation in French as a Second Language. ***(Only students with BBB or with a maximum of one C in their profile (CBB, BCB or BBC) will be allowed to follow these programmes)***

The course will be split between the Language Centre and the Department of French, Literature and Culture, in a one third (LC) /two thirds ratio (FLC), The Language Centre portion of each course – the bilingualism portion – will focus on grammar, syntax, vocabulary and pronunciation. The French, Literature and Culture portion – the biculturalism portion – will explore the language via argumentation, persuasion, debates, conversations, analysis and literature, all of which with various themes.

For more information on the French as a Second Language programmes follow the link.

Second Language Course Descriptions

LCF100 Compétence de base – partie I

This course intended for beginners takes up the basic knowledge required to start communicating in the target language. It covers modules 1 to 3 of the Canadian Armed Forces French Curriculum. In this course, learners will acquire the means to establish basic social interactions; to ask for personal information; and to request for services in the target language.

Note(s):

This course is only available to students enrolled in the 4-pillar programme.

Contact Hours:

Variable

Credit(s):

0

LCF200 Compétence de base – partie II

This course builds on the knowledge acquired in level 100 and leads to a level of communication that allows simple exchanges. It covers modules 4 to 6 of the Canadian Armed Forces French Curriculum. In this course, learners will acquire the means to make calls; to explain an itinerary; and to give further details about an intended move or a trip in the target language.

Note(s):

This course is only available to students enrolled in the 4-pillar programme.

Contact Hours:

Variable

Credit(s):

0

LCF301 Compétence intermédiaire – partie I

This course builds on the knowledge acquired in level 200 and leads to a functional level of communication in most situations. It covers modules 7 to 8 of the Canadian Armed Forces French Curriculum. In this course, learners will acquire the means to inform others about an activity to come and describe events of the past in the target language.

Note(s):

Mandatory for students enrolled in a 4-pillar degree, unless they are exempt if their level of bilingualism is above this course.

Prerequisite(s)

LCF100 and LCF200, unless they are exempt.

Semester

Fall/Winter

Contact Hours:

4-0-2

Credit(s):

0

LCF302 Compétence intermédiaire – partie II

This course builds on the knowledge acquired in level 301 and leads to a functional level of communication in even more situations. It covers modules 9 to 11 of the Canadian Armed Forces French Curriculum. In this course, learners will acquire the means to talk about their trade and position; to explain how to operate a tool or a device; and to follow an investigation in the target language.

Note(s):

Mandatory for students enrolled in a 4-pillar degree, unless they are exempt if their level of bilingualism is above this course.

Prerequisite(s)

LCF100 and LCF200, unless they are exempt.

Semester

Summer

Contact Hours:

4-0-2

Credit(s):

0

LCF400 Compétence intermédiaire – partie III

This course refines the language skills required to reach level B on Public Service linguistic tests. It is a review of all previous courses (LCF100, 200, 301 and 302) as well as an overview of the modules 12 to 14 of the Canadian Armed Forces French Curriculum. In this course, learners will acquire the means to provide details about the circumstances of an event; to distribute tasks; to evaluate the work done; and to assess the efficiency of a piece of equipment in the target language. They will also prepare for the Public Service testing for their Second Official Language profile using various tools (practice tests, simulations, targeted reviews).

Note(s):

This course is only available to students enrolled in the 4-pillar programme.

Contact Hours:

Variable

Credit(s):

0

Date modified:

2025-05-26

Athletic Department

Contacts

Director of Athletics
Stephane Robert

Financial Administration Coordinator
Patricia Bennett

Telephone
613-541-6000 ext. 271-6019

Department Website
Department of Athletics

Note: Any RMC student (not including those in Preparatory Year at RMC Saint-Jean during the 2019-2020 Academic Year), military or civilian, who is currently enrolled in a programme of study at RMC, and who has taken courses prior to 7 September 2021 will be granted legacy rights by Senate such that they will not be required to pass ATE101 and ATE301 in order to meet the requirements of their programme of study, even if they change programmes before or after 7 September 2021 or are required to repeat an academic year provided they remain subsidized under ROTP. ROTP students granted legacy rights will not be required to pass ATE101 and ATE301; however, they will still be required to take Athletics courses (ATH courses)., Every ROTP student must pass the Canadian Forces Minimum Physical Fitness Standard (MPFS) in accordance with CAF policy; currently the FORCE Evaluation is the MPFS as a requirement of

> ROTP. Any RMC student, military or civilian who is currently enrolled in a programme of study at RMC, and who has taken courses prior to 7 September 2021, or any student who was previously granted and conferred a degree and wishes to obtain a second degree in accordance with Academic Regulation 4 or to upgrade their degree in accordance with Academic Regulation 5 will be granted legacy rights by Senate if they are admitted into their new programme of study no later than 7 September 2021; anyone after this date will not be granted legacy rights by Senate. Any RMC student, military or civilian who is currently enrolled in a certificate at RMC, and who has taken courses prior to 7 September 2021, and is admitted to a Bachelor of Arts (Honours), Bachelor of Arts, Bachelor of Science (Honours), Bachelor of Science, or Bachelor of Engineering will be granted legacy rights by Senate if they are admitted into their new programme of study no later than 7 September 2021; anyone after this date will not be granted legacy rights by Senate. Any RMC Saint-Jean students who were in their Preparatory Year during the 2019-2020 academic year will not be granted legacy rights by Senate; all remaining RMC Saint-Jean students who were students at RMC Saint-Jean during the 2019-2020 academic year will be granted legacy rights by Senate.

General Information

Mission

As an integrated part of the Royal Military College, the Athletic Department supports the mission of RMC by providing operationally oriented physical education, competitive intramural sports, varsity and recreational club programmes for naval/officer cadets. These programmes provide extensive leadership development opportunities in an atmosphere that helps instill the values of the Canadian Forces, the College and the Department. This is achieved through mandatory Cadet involvement in physically and mentally challenging activities.

Vision

The Athletic Pillar of the Royal Military College will provide programmes of excellence that contribute to the development of outstanding leaders for the CAF who value physically active and healthy lifestyles. These programmes will enhance the national reputation and profile of the College and help attract outstanding athletes.

Values

Loyalty

to your team and/or squadron including obedience of superiors, e.g., coaches and team captains. Loyalty should always be upward first.

Integrity

hinges on consistently giving precedence to ethical values in our decisions and actions.

Courage

Physical courage is a self-evident requirement for contact sports. Moral courage, related to integrity, is also necessary.

Diligence

Persistence, hard work, meticulous attention to detail and perfection of athletic skills all describe diligence in the athletic context.

Fairness

implies treating people, groups and situations justly, equitably, and without bias.

Responsibility

is the ethical obligation that exercises and maintains integrity. Responsibility implies an obligation to be accountable, competent, and caring.

Excellence
the desire to pursue excellence is fundamental to being an outstanding leader and officer.

Physically Active and Healthy Lifestyle
to maintain a good personal level of physical fitness and a healthy body.

Perseverance
striving to finish and/or to win against seemingly insurmountable obstacles, difficulties, pain and/or setbacks.

Goals and Strategies

The Athletic Department's goal is to help attract high quality officer candidates and to develop them into outstanding junior leaders.

Goals in the Department can be described as department or programme oriented and are as follows:

- to maintain diverse athletic programmes, i.e., Physical Education, Competitive Intramural Sports, Varsity and Recreation;
- to provide athletic programmes that encourage and provide opportunities for development of leadership, physical fitness and a healthy lifestyle;
- to take advantage of the flexible and willing support of the RMC Club and Foundation;
- to take advantage of the reduced Varsity programme to focus and increase College support for the remaining Varsity sports;
- to increase the presence of the RMC Athletic Department on the Internet and in local, provincial and national media;
- to improve upon the historic performance of RMC Varsity teams;
- to gain greater control or influence over the recruiting and selection process for candidates to facilitate the recruiting of Varsity athletes;
- to acquire expanded facilities to facilitate RMC hosting of athletic events and competitions;
- to establish a stable departmental budget; and to contribute to the rationalization and coordination of demands on naval/officer cadets' time.

Facilities and Equipment

RMC's athletic facilities are shared with those of CFB Kingston and include a large triple wood floor gymnasium with various combinations of basketball, volleyball and badminton courts; one field house which includes one 200-meter indoor track and four large sports courts; one 25-meter, 8 lanes pool; one small warm-up pool; one weight training and cardio area; an arena; eight soccer fields; five outdoor tennis courts; six squash courts, two martial arts rooms, and an artificial turf field covered year round by an air supported dome.

With its location on Lake Ontario, the College has excellent facilities for recreational sailing and boating.

In addition to the athletic facilities, use is made of nearby military recreation facilities, which include an eighteen-hole golf course and a curling rink.

Equipment is provided for participation in the Physical Education programme, Varsity programme, Competitive Intramural Sports programme and Recreational programme.

Programmes

Physical Education Programme

The aim of the Physical Education Programme is to:

- develop a basic knowledge of physical education theory and philosophy;

- develop physical fitness through a programme of strenuous physical activities;
- develop sports skills and introduce the fundamentals of team play as commonly practiced by members of the Canadian Forces (CAF);
- develop skills in lifetime sports which have both a social and a fitness value;
- develop leadership and organizational abilities through opportunities in various team and individual activities and;
- award military and/or civilian recognized qualifications

Naval/Officer cadets participate in one compulsory 90 min period per week. The Physical Education Programme is divided in two folds:

- the development and maintenance of a high level of physical fitness which will enable all naval/officer cadets to attain the required standard on the Royal Military College physical fitness test; and
- the development of naval/officer cadets who are knowledgeable and experienced in fitness training methods, who are capable of performing a variety of sports skills and military activities, and who have the ability to organize and administer athletic events.

Physical fitness testing takes place two times a year i.e. during the Fall and Winter Academic semesters.

FORCE Evaluation

Every ROTP student must pass the Canadian Forces Minimum Physical Fitness Standard (MPFS) in accordance with CAF policy; currently the FORCE Evaluation is the MPFS.

Varsity Programme

The aim of the varsity programme is to achieve competitive excellence. This will mean different things to different sports; however, the aim in general is that:

- RMC becomes a highly respected opponent in terms of competitive challenge and sportsmanship;
- RMC is the smallest university member of USPORTS with a student population just over 1000 naval/officer cadets in the undergraduate programme. It has to overcome a talent deficit through recruiting, outstanding preparation and performance;
- provide an opportunity for students to participate in organized, highly-skilled and competitive athletics;
- instill, through the demands of training and competition, self-discipline, the desire to excel and willingness to compete in a team effort;
- create a college "esprit de corps;"
- provide an opportunity for interaction with other contemporary university athletes thereby bringing RMC into the focus of the civilian community;
- improve physical fitness; and
- provide leadership opportunities.

The Royal Military College of Canada offers an extensive varsity sports programme for students capable of participating at a higher skill level.

RMC competes as a member of the Ontario University Athletics (OUA) in the following sports: fencing (men and women), hockey (men), rugby (men), soccer (men and women) and volleyball (men and women).

The varsity programme is an extension of the physical education programme and thus contributes to the achievement of the overall aim by instilling a high degree of self-discipline, the desire to excel, and the willingness to sacrifice personal interest for coordinated team effort. The Varsity Programme also provides an opportunity for involvement with contemporary university students, thereby bringing the Royal Military College of Canada into the focus of the civilian community.

Competitive Club Programme

The aim of the Competitive Club Programme is to provide members the opportunity for training and competition that is appropriate for their level of competition. While in their competitive season, members are exempted from the Intramural Sports Programme allowing them more time to develop and improve their skills.

The clubs compete in various competitions at the Local, National and International level in the following sports: Rowing, Running (Cross-Country and Track), Sailing, Swimming, Taekwondo and Women's Rugby.

Intramural Sports Programme

The Intramural Sports Programme has a two-fold purpose.

1. **First,** it provides each cadet with the opportunity to develop sports skills and apply the principles, which are taught in the Physical Education Programme.
2. **Second,** it provides each cadet with the opportunity to compete in a variety of team sports on a weekly basis.

The Intramural Sports Programme is composed of sports leagues within the college, where each squadron forms teams to compete. The programme is compulsory for cadets who are not varsity or competitive club athletes

The fall and winter term Intramural Sports Programme offers leagues such as soccer, hockey, ultimate, handball, water polo, ball hockey, basketball, dodgeball, and flag football. Optional Intramural sports offered are badminton, and squash.

The programme is organized on a seasonal basis. The fall programme runs from September to the end of November, and the winter programme runs from January to the end of March. Responsibility for the day-to-day operation of the programme is given to the cadets themselves under the supervision of the Intramural Coordinator, thus affording them an opportunity to develop qualities of leadership. In addition to playing, cadets are expected to learn and carry out the duties of team captains, game officials, and league convenors.

All naval/officer cadets must participate in the Cadet Wing Fall and Winter Sports Days, which include, the Harrier cross-country race and Winter Sports Day. The Wing tournaments normally offer activities such as flag football, ball hockey, soccer, ultimate, broomball and volleyball.

Recreational Programme

The aim of the RMC Recreational Programme is to:

- Offer a diversified program that supports the interests of the NCdts/OCdts;
- Provide opportunities for leadership training and development;
- Increase visibility by promoting club accomplishments;
- Offer an enjoyable program that increases morale;
- Promote a balanced lifestyle

The RMC Recreation Association includes 17 Recreational Clubs and 6 Competitive Clubs. All students and staff at RMC are permitted and encouraged to participate in the Recreational Program.

The Competitive Clubs are Rowing, Running, Sailing, Swimming, Taekwondo and Women's Rugby.

The list of recreational clubs is subject to change depending on the interest but they currently are Astronomy, Aviation Enthusiasts, Bilingualism, Climbing, Chess, Curling, Debating, Judo, Expedition, Paintball/Airsoft, Photography, Rowing, Running, Sailing, Scuba, Sport Parachuting, Swimming, Taekwondo, Theatre, Multisport, War Games, Windsurfing, Women's Rugby and Yacht.

Course Descriptions

ATE101 Foundations of Fitness, Health and Sports

ATE101 is designed to provide students the tools they need in order to take charge of their personal fitness and health, as well as introduce them to leadership development through sports. Theoretical and practical aspects of these topics are covered. ATE101 is divided into 4 twelve-week units. Foundations of Fitness, Foundations of Health and two terms of Foundations of Sports. Foundations of Health unit is further divided into 3 four-week components including an introduction to aquatics, sports, and combatives, in addition to a Health Promotion workshop. Students must pass all three components in order to successfully complete the course.

Students will complete the following units:

1. Foundations of Fitness
    - Fundamental movement patterns
    - Training concepts
2. Foundations of Health
    - Aquatics
    - Health and wellness
    - Unarmed combatives
    - Introduction to Sports
3. Foundations of Sports (two of)
    - Stick sports
    - Ball sports
    - Field sports
    - Court Sports
    - Racquet Sports
    - Learn to swim
    - Competitive fitness
    - Competitive combative sports

Note(s):

Students must successfully complete the FORCE evaluation.

Contact Hours:

2 - 0 - 0

Credit(s):

0

ATE102 Foundations of Fitness, Health and Sports (UTPNCM/non-ROTP)

ATE102 is designed for UTPNCM / non-ROTP students to equip them with the tools necessary to take charge of their personal fitness and health, while also introducing them to leadership development through sports. The course covers both theoretical and practical aspects of these areas. ATE102 is structured into four 12-week units: Foundations of Fitness, Foundations of Health, and two terms of Foundations of Sports. The Foundations of Health unit is further divided into three 4-week components, including an introduction to aquatics, sports, and combatives, along with a Health Promotion workshop.

Note(s):

Course restricted to UTPNCM / non-ROTP students enrolled in a major or honours degree programme. Students must successfully complete the FORCE evaluation.

Same course content as ATE101.

Eighteen total hours: all mix of theory and practical

Contact Hours:

2 - 0 - 0

Credit(s):

0

ATE301 Unarmed Combatives, Military Skills and Individual Sports

ATE301 is designed to provide students basic unarmed combative skills, military fitness skills and introduce them to individual sports. In the combatives and military fitness units students are placed in environments outside of their comfort zone in order to enhance their gumption, resiliency and grit. The individual sports unit introduces them to new skills that will foster healthy and active lifestyle habits once they graduate. Students must pass all three components in order to successfully complete the course.

Students will complete the following units:

1. Unarmed combat
    - Commando Krav Maga
2. Military Skills
    - Waterborne
    - Indoor climbing
    - Group physical training
3. Individual Sports (two of)
    - Beginner ice skills
    - Racquet sports
    - Yoga
    - Strength and conditioning for the tactical athlete
    - Advanced combatives
    - Spin
    - Canoeing and climbing
    - Multisport
    - Training for triathlons

Prerequisite(s)

ATE101

Note(s):

Students must successfully complete the FORCE evaluation. Failure of the FORCE evaluation will result in a requirement to follow a Supplementary Physical Training (SPT) programme.

Contact Hours:

2 - 0 - 0

Credit(s):

0

ATE302 Unarmed Combatives, Military Skills and Individual Sports (UTPNCM/non-ROTP)

ATE302 is designed for UTPNCM / non-ROTP students to provide basic unarmed combative skills, military fitness training, and an introduction to individual sports. The combatives and military fitness units challenge students by placing them in environments outside their comfort zones, aiming to develop their determination, resilience, and grit. The individual sports unit introduces new skills that promote healthy and active lifestyle habits, which students can carry forward after graduation.

Prerequisite(s)

ATE102

Note(s):

Course restricted to UTPNCM / non-ROTP students enrolled in a major or honours degree programme. Students must successfully complete the FORCE evaluation.

Same course content as ATE301.

Eighteen total hours: all mix of theory and practical

Contact Hours:

2 - 0 - 0

Credit(s):

0

ATH1 PSC1

The first year athletics programme is aimed at giving naval/officer cadets the tools to take charge of their personal fitness and health in preparation to lead military members in physical training in their future careers. Topics covered include the principles of strength and conditioning (S&C) (i.e. warm ups, cool downs, basic movement patterns in S&C, running training, energy systems training, building a training program), aquatics, Health, and introduction to combative. There is a practical exam for the strength and conditioning section, and a written exam for the S&C and health topics.

ATH2 Sports

The second year programme offers a variety of elective sport courses where naval/officer cadets select one course per term. Each course includes instruction in 2 sports of the same genre (i.e. Stick Sports, Racquet Sports, Field Sports, Court Sports, Aquatic Sports).. The second year programme outcomes include learning the basic rules and skills of the sport so that they can lead a sport session for PT with military members in their future roles in the CAF. There is a practical skills assessment and rules quiz for each sport covered in the course. Further, each NCdt/OCdt will be evaluated on their skills as Class Leader. Class Leader responsibilities include sport session plan, session attendance and introduction, warm up, and cool down. The Class Leader portion is there to prepare the NCdt/OCdt to bridge the gap between being a follower in PT (I year) to being a leader in a sport or PT session (III and IV year).

ATH3 MCSK

The third year programme exposes NCdts/OCdts to a physical environment outside of their comfort zone in which they will develop self-confidence, self-efficacy, and leadership opportunities in a military skills and combatives environment. This is the aspect that RMC calls “education with a difference”. Skills covered include platoon/troop physical training, indoor climbing, waterborne training, and combative training. There are practical evaluations in each of the three areas of instruction.

ATH4 Enhancement Activity

The fourth year programme offers enhancement opportunities to the NCdts/OCdts to provide more in-depth instruction on areas already taught in the PE program, introduce them to new skills that will enhance active living as individuals when they graduate , or provide them with certifications that they can use in the future either as a CAF member or for personal use. NCdts/OCdts have a choice of courses, which include canoeing, rock climbing, advance strength and conditioning, swimming and lifeguarding, advanced combative, racquet sports, yoga, and spinning leadership. Evaluations in this course may include either a practical or a written test.

Date modified:

2025-07-17

Professional Military Training

General Information

Purpose

The main purpose of the Military Pillar is to identify, develop, and consolidate the moral qualities and ethical values which are essential for a military officer. These qualities and values include: honesty, loyalty, integrity, honour, and courage. These are also very effectively captured in the College's motto of "TRUTH, DUTY, VALOUR."

The Military Pillar also develops and prepares OCdts to function effectively within the College and Cadet Wing organization.

Training Cell

The Military Pillar of the ROTP and UTPNCM programmes at RMC provide Professional Military Training during the academic year. This Pillar is compulsory for all OCdts in all years.

Programme Design

Introduction

The personal, team, and leadership skills and values required of an officer must be exercised on a continuous basis, at all times, in all places, in all situations. The Military Pillar provides the necessary forum for the development and assessment of these qualities by exposing OCdts to a wide variety of training scenarios.

Focus by Year

The programme is designed to achieve three important transformations in the officer candidates over the four years at RMC. These are: adolescent to adult, imposed discipline to self discipline, and followership to leadership. The emphasis by year is as follows:

1st year

Personal development, Followership, Teamwork

2nd year

Personal development, Teamwork, prepare for Leadership positions

3rd year

Personal development, Leadership

4th year

Personal development, Leadership, prepare for Commissioning

Courses of Study

There are six main areas of competence, which are identified as Performance Objectives (PO's). These can be considered as courses of study, using a combination of formal classroom instruction and a wide variety of practical exercises. The six PO's are:

1. General Military Knowledge
2. Personal Attributes
3. Teamwork
4. Leadership
5. Communications, and
6. Drill

Programme Delivery

Three periods per week are allocated for drill classes or other formal military instruction. Weapons and refresher training is completed during Division Training Weekends. Additional training, professional development, and occupation and element-specific exposure are also provided on chosen weekends throughout the academic year. Practical leadership and teamwork activities such as dress and room inspections in addition to Squadron level parades are scheduled on weekday mornings. Wing and College level activities take place during Duty Weekends as listed in the Table at the end of this Section.

In third and fourth year, OCdts are appointed to various command and staff positions known as “Bar Positions” in order to provide semester-long development and assessment opportunities.

Equivalences and Credits

The military record of service for OCdts in the UTPNCM programme, or for OCdts in the ROTP programme who have previous military service, is reviewed upon joining RMC. Previous training may be accepted for credits under the Military Pillar.

Training Periods

In addition to the two periods per week scheduled during the day (0800-1630), the following periods are used to deliver the Military Pillar:

> ℹ **Legend: A** = All **D** = Designated **E** = Elective / Optional **S** = If / When Scheduled **N/A** = Non Applicable

Fall Semester

Activities	Year 1	Year 2	Year 3	Year 4
Cadet Wing Start-of-Year Weekend	A	A	A	A
Reunion Weekend	A	A	A	A
Battle of Britain	D	D	D	D
Remembrance Day	A	A	A	A
Wing Sports Day (Fall)	A	A	A	A
Christmas Ball	A	E	E	A

Winter Semester

Activities	Year 1	Year 2	Year 3	Year 4
Mess Dinner [1]	N/A	N/A	N/A	A
Wing Sports Day	A	A	A	A
West Point Weekend	A	A	A	A
MOC Weekend	A	A	A	N/A
Colour Party Competition	N/A	N/A	D	N/A
Sandhurst Competition	D	D	D	D
Sports Awards Ceremony	A	A	A	A
Copper Sunday / Battle of Atlantic Weekend	A	A	A	A
Graduation Weekend	A	A	A	A

Footnotes for Training Periods

1	1 mess dinner per environment

Course Descriptions

General Military Knowledge

The PO covers general knowledge regarding Canadian Forces policies and regulations such as drugs and alcohol, harassment, counselling, duties and responsibilities, etc.. This PO also covers RMC-specific knowledge such as College history, organization, Cadet Wing structure, etc..

Personal Attributes

Officers in the Canadian Forces must exhibit exemplary conduct and deportment at all times. Such conduct stems from well developed personal character traits such as honesty, integrity, loyalty, self respect, respect of others, responsibility, and courage. It includes the concept of "service before self," and the development of a work and play ethic to bring out the best in individuals and subordinates. These traits are developed and assessed throughout the 4yr programme.

Teamwork

Teamwork and cooperation are essential elements of a successful military unit. This PO provides practical opportunities for team building and fostering esprit-de-corps. It also develops the necessary confidence and trust in peers. The PO stresses the need to become a good follower and team player in order to become a good leader.

Leadership

The core element of officership is leadership. This PO provides practical opportunities to develop and practice leadership in a wide variety of scenarios. All opportunities for leadership, including Cadet Wing bar appointments, sports team captains, class leaders, class seniors, project and event organizers, etc.. are exploited to expose OCdts to leadership challenges, and to assess their development and performance. The minimum requirement for successful completion of the programme is to perform satisfactorily as a Cadet Section Commander for one semester in either third or fourth year.

Communications

This PO is a follow-on to the material commenced during BOTP, and concentrates on the development of essential written and oral communication skills. These skills form a cornerstone of leadership and will be needed for all aspects of RMC life.

Drill

Drill is a powerful method to develop individual pride, mental alertness, precision, and esprit de corps which will assist OCdts to carry out orders instinctively and immediately at all times. The attainment of good discipline calls for a high development of personal qualities, particularly self-control and cooperation. Drill and formal parades are designed to develop these qualities so that their practice becomes habitual and will persist under the strain of activities in peace and war. This PO will teach OCdts foot, rifle, and sword drill, and will place OCdts in increasing levels of authority and responsibility on the parade square in order to further develop their self confidence and bearing.

Date modified:

2024-05-14

Undergraduate Academic Prerequisites

General Prerequisites

An applicant for admission to one of the Baccalaureate or Certificate programmes must be completing or have completed:

- High school (Grade 12) diploma at a pre-university level satisfactory to RMC with credits acceptable and sufficient for regular admission to a university in the province in which the student is completing secondary education.
- The first year of a two-year pre-university programme at Quebec College of General and Vocational Education (CEGEP) and will normally be expected to offer 14 credit courses.
- The equivalent to grade 12 high school or CEGEP 1;
- Possess academic standards higher than those specified above; or,
- Meet the conditions for admission as a mature student.
- Quebec students who have completed Sec V will complete a five-year undergraduate Programme which includes first year CEGEP (or Preparatory Year) at the Collège militaire royal de Saint-Jean in Quebec followed by university studies at the RMC Campus;

Admissions Restriction

RMC reserves the right to reject applicants on the basis of their overall academic record, even where entrance requirements have technically been met. Normally a candidate who has been required to withdraw from another university or college for academic reasons will not be considered for admission until a full academic year has elapsed since the required withdrawal. Normally RMC will uphold any suspension for academic reasons from another college or university and that candidate will not be eligible for admission until the suspension is lifted.

Admission Requirements - Other Education Systems

US High School - Admission Requirements

Candidates completing their high school education U.S. must complete Grade 12 at an accredited high school with the following:

General requirements

- Four years of English (not ESL) to the Senior Level;
- A minimum of three other full-year Senior Level academic subjects;

- Three years of mathematics to the Junior Level ;
- If prerequisite courses are AP, they are acceptable from any year. Otherwise, prerequisite courses should be completed in the Junior or Senior year;
- SAT1 results may be used. (Minimum score of 1200 with no less than 580 Critical Reading and 520 Mathematics.) A minimum ACT score of 26 is also acceptable.
- Applicants are evaluated on the basis of their Junior and Senior year grades, the strength of their academic program, their performance on the SATI or ACT examinations.

Program-specific requirements

Arts

- Four years of English (first language - not ESL) to the Senior Level
- Three years of Mathematics to the Junior Level

Science

- Four years of English (not ESL) to the Senior Level;
- Senior Level Math (Pre-Calculus); and two of,
    - Biology Senior Level,
    - Chemistry Senior Level, or
    - Physics Senior Level.

Engineering

- Four years of English (not ESL) to the Senior Level;
- Senior Level Math (Pre-Calculus);
- Senior Level Chemistry (2 full years or AP Chemistry); and,
- Senior Level Physics (2 full years or AP Physics

British Patterned Education - General Certificate of Education (GCEs)

General admission requirements

- Graduation from a university-preparatory program at a senior secondary school:
- Successful completion of at least seven subjects, including English, with at least three at the Advanced Level or equivalent (excluding the General Paper).
- Two Advanced Subsidiary Level are considered equivalent to one Advanced Level subject, however, prerequisite courses must be at the Advanced Level
- A subject may not be counted at both the A Level and the GCSE Level (O Level).
- Admission average calculated on final year academic courses/exams: Your admission average is calculated on at least two GCSEs (O Levels) and three GCE A Levels (or six Advanced Subsidiary Levels).
- Grades required for admission will vary by program but, based on the GCE British Pattern Advanced Level grading scale, the minimum average needed to fall within the competitive range is B in three Advanced Level subjects. Grades at the Ordinary level must be C or higher.

Minimum Program-specific requirements

Arts

- English at the GCSE (Ordinary) or Advanced Level; and,
- Mathematics at the GCSE (Ordinary) or Advanced Level.

Science

- English at the GCSE (Ordinary) or Advanced Level;
- Mathematics Advanced Level; and two of,

a. Biology;
b. Chemistry; or,
c. Physics at the Advanced Level.

Engineering

- English at the GCSE (Ordinary) or Advanced Level;
- Mathematics – Advanced Level,
- Chemistry – Advanced Level; and,
- Physics – Advanced Level.

French baccalauréat (Lycée)

If you have are in the process of completing or have completed the *classe de treminale* at a *lycée français* in Canada recognized by the Agence pour l'enseignement français à l'étranger, you are eligible for admission to the first year of university at RMC.

Students should have a **minimum** overall average (class de terminale) of 11/20 and should have a minimum of 12/20 in each of the required courses (classe de terminale).

Program-specific requirements

Arts

- English or Français - Terminale
- Mathematics – *Première*

Science

- English or Français - Terminale
- Mathematics – *Terminale*
- Physics - Chemistry - *Terminale*

Engineering

- English or Français - Terminale
- Mathematics – *Terminale*
- Physics - Chemistry - *Terminale*

International Baccalaureate (IB)

For candidates applying with IB credentials, RMC will consider the following:

- Prerequisite preparation at either the Higher or Subsidiary Level.
- If you are completing both the IB Diploma and another high school curriculum, RMC will consider both sets of information to determine which credential best positions you for admission.
- Mathematical Studies and Further Mathematics are not acceptable prerequisites for admission. Math Studies/SL Applications and Interpretations are not an acceptable prerequisite for programs that require Grade 12 Advanced Functions, Calculus or equivalent.
- Students who do not complete the full IB Diploma must meet admission standards from an accredited high school graduating curriculum.

Applicants who are pursuing the IB Diploma must satisfy the following general admission requirements as well as the program-specific requirements listed below:

General conditions

Complete the full IB Diploma;

a. With three subjects at the Higher Level, and
b. A minimum grade total of 28 (excluding bonus points).

Program-specific requirements

Students must present a minimum score of 4 in each of the following courses:

Arts – in addition to the general conditions, candidates must have:

- HL or SL in English or French , and
- Mathematics: Applications and Interpretations SL.

Science – in addition to the general conditions, candidates must have:

- HL or SL in English or French ;
- Mathematics: Applications and Interpretations HL, plus 2 of
  - Biology
  - Chemistry
  - Physics
  - or another Math course (SL or HL Analysis & Approaches)

> *Note: Mathematics, Biology, Chemistry and Physics taken at the Higher Level are preferred; however, two may be taken at the Subsidiary Level.*

Engineering – in addition to the general conditions, candidates must have:

- HL or SL English or French ;
- The following IB Math courses will satisfy the "Calculus and Vectors" and "Advanced Functions" prerequisites for science and engineering programs:
  - Mathematics: Applications and Interpretations HL; Mathematics: Analysis and Approaches SL; and Mathematics: Analysis and Approaches HL;
- HL or SL Chemistry; and
- HL or SL Physics.

> *Mathematics, Chemistry and Physics taken at the Higher Level are preferred; however, one may be taken at the Subsidiary Level.*

Home Schooling

RMC will consider home schooled applicants on a case-by-case basis if they can provide proof of receiving a Canadian Secondary School Diploma or another recognized high school graduation diploma, as well as a transcript showing final year courses taken and the actual numerical or alpha grades obtained. Applicants who are ‘home schooled’ must satisfy RMC`s general admission requirements as per their home province including the program-specific subject prerequisites. Further details with regards to the home schooling system used will provide RMC with details required to properly assess a homeschooled candidate's academics.

Advanced Placement

The Advanced Placement program and courses are considered excellent preparation for university courses. RMC will recognize and utilize Advanced Placement courses as prerequisite courses for admission. Candidates must satisfy RMC`s general admission requirements as per their home province including the program-specific subject prerequisites.

Scholastic Aptitude Tests (SATs)

In lieu of the programme specific subject prerequisites, RMC will consider applications based on SAT Examinations results, from individuals who possess a high school diploma and where the completion of the subject prerequisites is not evident.

For admission to Arts

- SAT Reasoning Test;
- SAT Subject Test in English (Literature); and,
- SAT Subject Test in Mathematics Level 1.

For admission to Science

- SAT Reasoning Test;
- SAT Subject Tests in;
    - English (Literature);
    - Mathematics Level 1 and 2; and two of
        - Biology,
        - Chemistry, or
        - Physics.

For Admission to Engineering

- SAT Reasoning Test:
- and the SAT Subject Tests in;
    - English,
    - Mathematics Level 1 and 2,
    - Physics, and
    - Chemistry

Date modified:

2023-09-12

Prerequisites by Province

For students interested in the **Bachelor of Arts** degree programme, it is recommended that grade 11 Chemistry and grade 11 Physics be completed since these subjects are part of the core curriculum and some knowledge of the topics is useful. These are not required simply recommendations.

For students interested in the **Bachelor of Science** degree programme, it is recommended that grade 12 Chemistry and Grade 12 Physics be completed because students will be required to complete a course in each of these subjects in their first year.

▼ British Columbia and Yukon

Students must offer a minimum course mark of 75% for each of the required courses

Students must have an overall average of 75% on the best 6 courses completed in grade 12 (this includes the required courses).

Arts	Science	Engineering
◦ English 12 ◦ Pre-Calculus 11	◦ English 12 ◦ Pre-Calculus 12 ◦ any **two** of; ▪ Calculus 12 ▪ Chemistry 12 ▪ Physics 12 ▪ Biology 12.	◦ English 12 ◦ Pre-Calculus 12 ◦ Calculus 12 ◦ Chemistry 12 ◦ Physics 12

▼ Alberta, Northwest Territories and Nunavut

Please note: Students must offer a minimum course mark of 75% for each of the required courses

Students must have an overall average of 75% on the best 6 courses completed in grade 12 (this includes the required courses).

Arts	Science	Engineering
◦ English 30-1 ◦ Mathematics 30-2	◦ English 30-1 ◦ Mathematics 30-1 ◦ Any **two** of: ▪ Mathematics 31 ▪ Chemistry 30 ▪ Physics 30 ▪ Biology 30	◦ English 30-1 ◦ Mathematics 30-1 ◦ Mathematics 31 ◦ Chemistry 30 ◦ Physics 30

▼ Saskatchewan

Please note: Students must offer a minimum course mark of 75% for each of the required courses.

Students must have an overall average of 75% on the best 6 courses completed in grade 12 (this includes the required courses).

Arts	**Science**	**Engineering**
◦ English 30A and 30B ◦ Pre-Calculus 20	◦ English 30A and 30B ◦ Pre-calculus 30, ◦ Any **two** of; ▪ Calculus 30 ▪ Chemistry 30 ▪ Physics 30 ▪ Biology 30	◦ English 30A and 30B ◦ Pre-Calculus 30 ◦ Calculus 30 ◦ Chemistry 30 ◦ Physics 30

▼ Manitoba

Please note: Students must offer a minimum course mark of 75% for each of the required courses.

Students must have an overall average of 75% on the best 6 courses completed in grade 12 (this includes the required courses).

Arts	**Science**	**Engineering**
◦ English 40S ◦ Pre-Calculus 30S	◦ English 40S ◦ Pre-Calculus 40S ◦ any **two** of; ▪ Applied Mathematics 40S ▪ Chemistry 40S ▪ Physics 40S ▪ Biology 40S	◦ English 40S ◦ Pre-Calculus 40S ◦ Chemistry 40S ◦ Physics 40S

▼ Ontario

Please note: Students must offer a minimum course mark of 75% for each of the required courses

Students must have an overall average of 75% on the best 6 courses completed in grade 12 (this includes the required courses).

*These courses must be at the M or U level. C (pre-college) level courses are **not accepted**.*

Arts	**Science**	**Engineering**

◦ English ENG4U ◦ one of: ▪ Functions MCF3M ▪ Functions and Relations MCR3U ◦ Plus 4 more 4U or 4M level courses	◦ English ENG4U ◦ Advanced Functions MHF4U ◦ Any two of; ▪ Calculus and Vectors MCV4U ▪ Chemistry SCH4U ▪ Physics SPH4U ▪ Biology SBI4U ◦ Plus 2 more 4U or 4M level courses	◦ English ENG4U ◦ Advanced Functions MHF4U ◦ Calculus and Vectors MCV4U ◦ Chemistry SCH4U ◦ Physics SPH4U ◦ Plus 1 more 4U or 4M level course

▼ Quebec

Students can be admitted directly to 1st year university at RMC if they have successfully completed the first year of a two-year General DEC Diploma from an accredited CEGEP. Students who have completed their two-year DEC Diploma may be admitted with advance standing. The admission criteria for CEGEP students are as listed below:

Please note: Students must offer a minimum course mark of 75% for each of the required courses.

Students must have an overall average of 75% on the best 6 courses completed at the CEGEP level (this includes the required courses.)

Arts	**Science**	**Engineering**
◦ English - 2 Core courses ◦ Sec V Mathematics Technical & Scientific Option (064506 or 564506) or, prior to 2010, Sec V Mathematics 526.	◦ English - 2 Core courses ◦ Math one of: ▪ 201-NYA-05, ▪ 201-NYC-05, ▪ 201-NYB-05 ◦ Any two of: ▪ An additional math from above ▪ Chemistry 202-NYA-05 ▪ Physics 203-NYA-05 ▪ Biology 101-NYA-05	◦ English - 2 Core courses ◦ Math 201-NYA-05, ◦ Math 201-NYC-05, ◦ Math 201-NYB-05. ◦ Chemistry 202-NYA-05 ◦ Physics 203-NYA-05

Quebec students who have or who are completing high school may be admitted to a Prep Year equivalent to 1st year CEGEP at RMC St-Jean. The admissions criteria can be found on the RMC St-Jean site.

▼ New Brunswick - English Sector

Please note: Students must offer a minimum course mark of 75% for each of the required courses.

Students must have an overall average of 75% on the best 6 courses completed in grade 12 (this includes the required courses)

Arts	**Science**	**Engineering**

◦ English 122 ◦ Pre-calculus 110	◦ English 122 ◦ Pre-Calculus A 120 and Pre-Calculus B 120 ◦ Any two of: ▪ Physics 121 or 122 ▪ Chemistry 121 or 122 ▪ Biology 121 or 122 ▪ Calculus 120	◦ English 122 ◦ Pre-Calculus A 120 and Pre-Calculus B 120 ◦ Calculus 120 ◦ Physics 121 or 122 ◦ Chemistry 121 or 122

▼ New Brunswick - French Sector

Please note: Students must offer a minimum course mark of 75% for each of the required courses.

Students must have an overall average of 75% on the best 6 courses completed in grade 12 (this includes the required courses.)

Arts	**Science**	**Engineering**
◦ French 10411 ◦ Math 30311B or Math 30331C	◦ French 10411 ◦ Math 30411B or Math 30411C; ◦ two of: ▪ Biology 53411 ▪ Chemistry 52411 ▪ Physics 51411 ▪ Math 30421C	◦ French 10411 ◦ Math 30421C ◦ Math 30411B OR Math 30411C ◦ Physics 51411 ◦ Chemistry 52411

▼ Nova Scotia

Please note: Students must offer a minimum course mark of 75% for each of the required courses.

Students must have an overall average of 75% on the best 6 courses completed in grade 12 (this includes the required courses.)

Arts	**Science**	**Engineering**
◦ English 12 ◦ Pre-Calculus 11	◦ English 12 ◦ Pre-Calculus 12, ◦ any two of: ▪ Calculus 12 ▪ Chemistry 12 ▪ Physics 12 ▪ Biology 12	◦ English 12 ◦ Pre-Calculus 12, ◦ Calculus 12 ◦ Chemistry 12 ◦ Physics 12

▼ Prince Edward Island

Please note: Students must offer a minimum course mark of 75% for each of the required courses.

Students must have an overall average of 75% on the best 6courses completed in grade 12 (this includes the required courses.)

Arts	**Science**	**Engineering**

◦ English 621 ◦ Math 521B	◦ English 621 ◦ Math 621B, ◦ any two of; ▪ Math 611B ▪ Chemistry 621A ▪ Physics 621A ▪ Biology 621A	◦ English 621 ◦ Math 611B ◦ Math 621B ◦ Chemistry 621A ◦ Physics 621A

▼ Newfoundland and Labrador

Please note: Students must offer a minimum course mark of 75% for each of the required courses.

Students must have an overall average of 75% on the best 6 courses completed in grade 12 including the required courses.

Arts	**Science**	**Engineering**
◦ English 3201 or 3202 ◦ Math 2200	◦ English 3201 or 3202 ◦ Math 3200 ◦ any two of; ▪ Math 3208 ▪ Chemistry 3202 ▪ Physics 3204 ▪ Biology 3201	◦ English 3201 or 3202 ◦ Math 3200 ◦ Math 3208 ◦ Chemistry 3202 ◦ Physics 3204

Date modified:

2019-10-29

Apply Now

How to apply

Regular Officer Training Plan (ROTP)

RMC will not provide updates on the status of your ROTP application

Application deadline 31 Jan - Depending on availability and screening requirements, applications submitted after this date may still be considered.

Members of the CAF RESERVES must follow the application process found here: Component Transfer

If you are interested in applying for the ROTP, you must apply online through the Canadian Armed Forces.

When asked "Are you ONLY interested in Subsidized education", please answer "Yes" to indicate you are applying for the ROTP. Once you have completed the Canadian Forces Aptitude Test and been given your Applicant ID number, please use the RMC Application link sent to you by your Recruiting Center. RMC will not provide this link to you and the online application form found in the next box is **NOT** the appropriate application.

All communications with ROTP applicants will be done through their respective Recruiting Centers. **RMC will not provide updates on the status of your application**

Undergraduate Studies (NON-ROTP)

Do not use this application for paid education. Please read the instructions for the ROTP applications.

This application is for ***Current and retired CAF members, Federal Government employees or spouses of CAF members*** who meet the Eligibility criteria and who are applying for undergraduate programmes, for Interest Only, Mature Student or Visiting Student status, are reminded that you must submit your online admissions applications **AND** documentation by the following dates in order to begin your studies for the next semester.

- **31 July** for the fall semester (Sep-Nov) - Course registration 1 July - 15 August (Late registration: 16-30 August & additional fees apply)
- **01 November** for the winter semester (Jan-Apr) - Course registration 1 - 30 November (Late registration: 1-15 December & additional fees apply)
- **31 March** for the spring semester (May-Aug) - Course registration 1 - 30 April (No late registration)

Applications received after the start of course registration will be considered for the next following semester.

There is a $75.00 fee for Admissions and payment is due when you submit your application.

Do not use this online form as part of your application for the ROTP, it will be rejected.

Any member of the CAF admitted to a Bachelor of Arts (Honours), Bachelor of Arts(Major), Bachelor of Science (Honours), Bachelor of Science (Major), or Bachelor of Engineering degree who does not have legacy rights and subsequently releases from the CAF before completing their degree will not be allowed to remain in any of these degrees.

If they are MOSID qualified before releasing from the CAF then they will be permitted to transfer into one of the following degrees: Bachelor of Arts (General), Bachelor of Science (General), Bachelor of Military Arts and Science, or Bachelor of Military Arts and Science (Honours)

APPLY NOW

Graduate Studies

Graduate Studies Application page

Date modified:

2023-10-23

Contact Admissions

Admissions Office contact information

Graduate Studies applications and status updates:

Programme Contacts

Applications and status updates:

Admissions Officer
Royal Military College of Canada
Office of the Registrar
P.O. Box 17000, Station 'Forces'
Kingston, ON K7K 7B4

Telephone: 613-541-6000 ext 3857

E-Mail: Admissions@rmc-cmr.ca

Fax: 613-542-3565

Program or course information:

Please contact your program representative.

ROTP Applications and Status:

All communications with candidates are done through the Canadian Forces Recruiting Centers. For an update on the status of your application, contact the Customer service email STG-CFRG-CustomerSvc@forces.gc.ca

If you are having difficulties uploading documents or completing the online RMC application, please refer to the instructions on the page or contact
RMC IT Support at:

Email: support@rmc-cmr.ca

Telephone: (613) 541-6000 ext 6343 (8:00 AM through 4:00 PM Eastern Time, Monday to Friday)

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2021-07-12