

# College of Arts and Science

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## Introduction

### [Arts and Social Sciences](#) [Science](#)

The College of Arts and Science, established in 1988, consists of the [Faculty of Arts and Social Sciences](#) and the [Faculty of Science](#). The College of Arts and Science meets to discuss matters of concern common to its units, in particular those relating to academic programs and regulations. The Dean of Arts and Social Sciences and the Dean of Science alternate, year by year, as Provost of the College. The Provost chairs College meetings and prepares the agenda for those meetings. Administrative responsibility for what is decided in College meetings remains in the two Faculties. Undergraduate degrees are offered through one School, eleven Departments and several programs in the Faculty of Arts and Social Sciences, and ten Departments and three programs in the Faculty of Science. There are several interdisciplinary programs of instruction in the College, the responsibility for which is shared among members from different Departments.

The College of Arts and Science is responsible for the curriculum of Bachelor of Arts, Bachelor of Science, and Bachelor of Music degree programs, and for diploma programs in Meteorology and Costume Studies. The College is also responsible for the establishment of academic regulations governing students registered in its programs.

The College of Arts and Science consists of several groups: some 6,100 undergraduate students who typically spend three or four years in the College, nearly 450 full-time teaching and research faculty and staff as well as a number of part-time teachers and teaching assistants, and a support staff of administrative assistants and technicians. The student's academic role is to learn from teachers, from laboratory experience, from books, from other students, and from solitary contemplation. Students learn not only facts but concepts, and what is most important, they learn how to learn.

Through intellectual interaction with other members of the academic community, undergraduate students should gain the background knowledge, the ability and the appetite for independent discovery. Their acquisition of these components of liberal education is marked formally by the award of a Bachelor's degree. The academic faculty has two equally important roles: to teach the facts, concepts, and methods that the student must learn; and to contribute to the advancement of human knowledge through research and through scholarly or artistic activity.

The goal of the Bachelor's degree is to produce educated persons with competence in one or more subjects. Such competence includes not only factual knowledge but, more importantly, the ability to think critically, to interpret evidence, to raise significant questions, and to solve problems. A BA or a BSc degree often plays a second role as a prerequisite to a professional program of study.

BA and BSc degree programs in the College are of three types: the four year or 120 credit hour degree with Honours; the four year or 120 credit hour degree with a Major; and the three year or 90 credit hour degree with a minor.

The College is particularly proud of the Honours programs that it offers in most subjects to able and ambitious students. The BA or BSc with Honours is distinguished from the BA or BSc Major (120 credit hours) or the BA or BSc (90 credit hours) in that a higher standard of performance is expected, a greater degree of concentration of credit hours in one or two subjects is required, and at the conclusion of the program each student must receive a grade which is additional to those for the required 120 credit hours. Frequently, Honours students obtain this grade by successfully completing an original research project under the supervision of a faculty member. Completion of a BA or BSc with Honours is an excellent preparation for graduate study at major universities throughout the world. Dalhousie is distinguished among Canadian universities in offering BA programs with Honours in most subjects in which it also provides BSc Honours programs and in providing BA and BSc degree programs with Combined Honours in an Arts and a Science subject.

#### **Provost of the College**

Harvey, F., BA, MA, PhD (McGill)

Moore, C. L., BA, PhD (Cantab)

## General Degree Requirements

Following is a list of the faculty requirements needed to satisfy degree programs in the College of Arts and Science. Details of these requirements can be found on the pages following these lists. Departmental requirements can be found in the appropriate department/faculty listing in this calendar. Please note that students must satisfy both department and faculty requirements. Before registering for the second year, each student in the College of Arts and Science should declare a subject of concentration and obtain program advice from a faculty advisor in the appropriate department.

Requirements for degree programs other than College of Arts and Science can be found in the appropriate department/school/college/faculty listing.

#### **Subject Groupings**

Course offerings within the College of Arts and Science are placed into three subject groupings: (1) Languages and Humanities, (2) Social Sciences and (3) Life and Physical Sciences. All BA and BSc programs must include a minimum of six credit hours from each of the three subject groupings.

#### **1. Languages and Humanities**

Arabic, Canadian studies, Chinese (Mandarin), cinema and media studies, classics, comparative religion, contemporary studies, creative writing, early modern studies, English, European studies, French, gender and women's studies, German, Greek, history, history of science and technology, Italian studies, King's Foundation Year, Latin, music, Performance Studies, philosophy, religious studies, Russian, Spanish, and theatre.

## 2. Social Sciences

Canadian studies, contemporary studies, early modern studies, european studies, economics, gender and women's studies, history, history of science and technology, international development studies, King's Foundation Year, law, justice and society, political science, psychology, sociology and social anthropology, and sustainability (for BSc only).

## 3. Life Sciences and Physical Sciences

Biochemistry and molecular biology, biology, chemistry, computer science, earth sciences, economics, engineering, environmental science, human physiology\* (for BA only), informatics, marine biology, mathematics, microbiology and immunology, neuroscience, oceanography, physics, psychology, science, statistics, and sustainability (for BA only).

\* Offered by the Faculty of Medicine. See **Electives** section below, for limit on courses from other Faculties.

PLEASE NOTE:

1. In cases where a subject is listed in more than one of the groupings, any credit taken in that subject may be used to satisfy only one of the grouping requirements. A second credit in the same subject cannot be used to satisfy another subject grouping requirement. The exceptions are the Dalhousie Integrated Science Program and King's Foundation Year Program. **King's Foundation Year Program** (KING 1000.24, KING 1100.18) satisfies the humanities-language and social science groupings and students must take six credit hours in a single life/physical sciences subject to complete the subject grouping requirements. The **Integrated Science Program** satisfies the life sciences and physical sciences and social sciences subject groupings. Integrated Science students are required to take another three credit hours of Languages and Humanities in addition to PHIL 1050.03 to satisfy the Languages and Humanities requirement.
2. The subject groupings requirement should normally be completed in the first 60 credit hours.

### Writing Course Requirements

An approved writing course or set of courses is required for all BA and BSc degrees. Courses and course combinations that can be used to fulfill the writing requirement are listed below. It is recommended that students complete the writing requirement early in their programs, preferably in their first year of studies.

- CLAS 1010X/Y.06: Ancient History: God-Kings, Spartans and Caesars
- CLAS 1103.03: Gods, Heroes, and Monsters: Ancient Mythology I and CLAS 1104.03: Gods, Heroes, and Monsters: Ancient Mythology II (both must be completed)
- ENGL/CRWR 1030.06: Reading and Writing Stories
- Any two of ENGL 1005.03: Literature: Global Perspective, ENGL 1015.03: Literature: How it Works, ENGL 1025.03: Literature: Why it Matters, ENGL 1040.03: Reading Popular Culture: Writing Requirement, ENGL 1050.03: Pulp Fiction: Writing Requirement, ENGL 1100.03: Writing for University
- GERM 1026.03: German Fiction in Novel and Film I and GERM 1027.03: German Fiction in Novel and Film II (both must be completed)
- GERM 1080X/Y.06: German Folk and Fairy Tales
- HIST 1022.03: Introduction to European History Part I (Writing Requirement) and HIST 1023.03: Introduction to European History Part II (Writing Requirement) (both must be completed)
- HIST 1510.06: The History of the Future: How Visions of the Future Have Shaped History Around the World
- Any two of HIST 1503.03: The Black Death, Silk, and the Mongols - Shock, Culture, and Awe in Medieval Eurasia (12-15th Centuries): Comparative Global History, HIST 1504.03: Origins of Modern Global Society, HIST 1006.03: The Idea of the Past and the Making of the Present
- HSTC 1800.03: Technology and Engineering: From the Stone Age to the Industrial Age and HSTC 1801.03: Technology and Engineering: From the Industrial Age to the Cybernetic Age (both must be completed)
- JOUR 1001X/Y.06: Foundations of Journalism \*
- Integrated Science Program (SCIE 15XX)
- King's Foundation Year
- OCEA 1001.03: Conversations with Ocean Scientists I and OCEA 1002.03: Conversations with Ocean Scientists II (both must be completed)
- PERF 1000.03: Introduction to Performance Studies and one of PERF 1001.03: Writing About Music OR PERF 1002.03: Writing About Stage and Screen
- PHIL 1010X/Y.06: Introduction to Philosophy
- POLI 1103X/Y.06: Introduction to Government and Politics
- RELS 1201.03 : Gods, Heroes, and Monsters: Ancient Mythology I and RELS 1202.03: Gods, Heroes, and Monsters: Ancient Mythology II (both must be completed)
- RUSN 1020.03: Russian Culture and Civilization under the Tsars and RUSN 1070.03: Modern Russian Culture and Civilization (both must be completed)
- SCIE 1111.03: Writing for the Sciences (satisfies writing requirement for BSc students only)
- SUST 1000.06: Introduction to Environment, Sustainability and Society I

\* Offered by the School of Journalism. See **Electives** section below, for limit on courses from other Faculties.

The Writing Course may also be used to satisfy one of the subject groupings.

### Mathematics Requirement (Bachelor of Science)

A minimum of six credit hours in mathematics or statistics other than MATH 1001.03, MATH 1002.03, MATH 1003.03, MATH 1110.03, MATH 1120.03 or MATH 1115.03, are required for all BSc programs. A course taken to satisfy the mathematics requirement may not be used to also satisfy the subject groupings requirement.

Students may also satisfy this requirement by passing the test which is administered by the [Department of Mathematics and Statistics](#). Such students must nevertheless complete 90 or 120 credit hours in order to graduate.

## Language Course (Bachelor of Arts)

Students should consider becoming fluent in French. BA students are required to obtain six credit hours from the following language courses:

- ARBC 1021.03: Introduction to Arabic I and ARBC 1022.03: Introduction to Arabic II (both must be completed)
- CHIN 1030X/Y.06: Introduction to Chinese (Mandarin)
- CHIN 1031.03: Introduction to Chinese (Mandarin) Pt 1 and CHIN 1032.03: Introduction to Chinese (Mandarin) Pt 2 (both must be completed)
- CLAS 1801.03: Introduction to Latin I and CLAS 1802: Introduction to Latin II; CLAS 1900X/Y.06: Introductory Classical Hebrew; CLAS 2505.03: Introductory Ancient Greek I and CLAS 2506.03: Introductory Ancient Greek II
- [FREN](#) (any course taught in French)
- GERM 1001X/Y.06: German: A Practical Course for Beginners, GERM 1010X/Y.06: German for Beginners, GERM 1060X/Y.06: German for Reading
- ITAL 1010X/Y.06: Italian for Beginners
- RELS 1600.03/CLAS 1600.03: Introductory Sanskrit I and RELS 2600.03/CLAS 2600.03: Introductory Sanskrit II (both must be completed)
- RUSN 1000X/Y.06: Elementary Russian
- RUSN 1002.03: Elementary Russian I and RUSN 1003.03: Elementary Russian II (both must be completed)
- SPAN 1021.03: Beginning Spanish and SPAN 1022.03: Advanced Beginning Spanish (both must be completed)
- SPAN 1035X/Y.06: Intensive Beginning Spanish

For students with advanced language skills, upper-level language courses may be substituted. Consult the Registrar's Office if you require further information. **A course taken to satisfy this requirement cannot also satisfy the requirement of a course from section 1.**

Students may satisfy this requirement by passing one of the tests administered by the language departments. Such students must nevertheless complete 90 or 120 credit hours in order to graduate.

BA students who choose to major in economics, philosophy, law, justice and society, political science, psychology or sociology and social anthropology may substitute for a language course at least six credit hours in mathematics or statistics taught by the Department of Mathematics and Statistics, other than MATH 1001.03, MATH 1002.03, MATH 1003.03, MATH 1110.03, MATH 1120.03, or MATH 1115.03, to meet this requirement; or they may meet it by passing the test administered by the Department of Mathematics and Statistics.

**A course taken to satisfy this requirement cannot also satisfy the requirement of a course from [Life Sciences and Physical Sciences](#).**

## Electives

Students may choose electives from any of the courses offered by teaching units within the College of Arts and Science, College of Sustainability, Faculty of Agriculture and the Faculty of Computer Science. In addition, without prior permission, electives are permitted as follows provided prerequisites are met and the consent of the instructor(s) is obtained when necessary:

## Bachelor of Arts

- 18 credit hours from courses offered in other faculties plus up to 12 credit hours in Commerce

Please note that BA students registered for minors in Business, Law and Society, Health Studies, Community Design, Journalism or other minors approved for students within the College of Arts and Science are permitted to take the courses necessary to satisfy the requirements for the minor. In addition, 12 credit hours from courses offered in other faculties are permitted.

## BA/BEng

Students may count as electives a total of 36 engineering credit hours. In addition 12 credit hours from courses offered in other faculties are permitted.

## Bachelor of Science

- 18 credit hours from courses offered in other faculties plus up to 12 credit hours in Commerce OR
- 30 credit hours in Engineering or Food Science courses and 18 credit hours from courses offered in other faculties

Please note that BSc students registered for any approved [minor](#) are permitted to take the courses necessary to satisfy the requirements for the minor. In addition, 12 credit hours from courses offered in other faculties are permitted.

## BSc/BEng

Students may count as electives a total of 36 engineering credit hours and in addition 12 credit hours from courses offered in other faculties.

Any additional elective credit hours outside the College of Arts and Science will require explicit permission, to be obtained by application to the appropriate Dean's Office. Permission to count a requested course for degree credit will only be granted to students who demonstrate clearly, in a written submission, how a desired course will enhance the objectives of the BA or BSc program in progress. In this regard, a written statement of support from an academic advisor in the department of concentration is desirable.

Students seeking to enrol in courses beyond the above provisions as a means of preparing to transfer to a program of study outside the College of Arts and Science will be given approval to do so by the appropriate dean's office if admission to the course(s) has been granted by the instructor(s) concerned. In such cases, however, it will be explicitly stated that the courses will not count for credit towards a BA or BSc degree.

## Cross-listed Courses

Please note that cross-listed courses will count as one subject only for the purpose of satisfying degree requirements, e.g. ECON 2260.03 cross-listed with MATH 2060.03 may count either as a mathematics course or economics course but not both.

## Major/Honours Conversion

### Upgrading of BA or BSc (90 credit hour) to a BA or BSc Major (120 credit hour)

A person who holds a Dalhousie BA or BSc (90 credit hour) degree may apply through the Registrar's Office for admission to a major program. On completion of the required work with proper standing, a conversion parchment will be awarded which has the effect of upgrading the degree to major status.

### Upgrading of a BA or BSc (90 or 120 credit hour) to a BA or BSc Honours (120 credit hour)

A person who holds a Dalhousie BA or BSc (90 or 120 credit hour) degree may apply through the Registrar's Office with the appropriate department advisor(s) approval, to an Honours program. On completion of the required work with proper standing, a parchment will be awarded which has the effect of upgrading the degree to honours status.

## BA/BSc (120 credit hour) Programs

The 120 credit hour degree is the standard BA or BSc degree. There are a variety of programs within the 120 credit hour degree. Each is designed to develop some level of concentration of knowledge and expertise.

## Major Programs

A major program focuses a student's studies, but not to the extent that an honours program does. Unlike the honours degree, the major degree may not be adequate for admission to graduate programs. Students interested in a major program are advised to seek detailed information from the department in which they wish to concentrate their studies.

### BA (120 credit hour)

- First Year
  - No more than 18 credit hour equivalents of the first 30 credit hours taken may be in a single subject
- 6 credit hours in an approved [writing course](#)
- 6 credit hours in one or more language/humanities subjects (see Section 1 of [Subject Groupings](#)).
- 6 credit hours in one or more social science subjects (see Section 2 of [Subject Groupings](#)).
- 6 credit hours in one or more life or physical science subjects (see Section 3 of [Subject Groupings](#)).
- 6 credit hours in a **single** language subject (see [Language Course section](#))
- A minimum of 30, maximum of 54 credit hours in the major subject beyond the 1000 level, including 18 credit hours beyond the 2000 level.
- Within the last 90 credit hours, complete 6 credit hours in each of two subjects other than the major
- Total credit hours required above 1000 level - 72
- Total credit hours required for degree - 120
- Required GPA for graduation - 2.00
- Graduation with distinction - 3.70
- May be combined with minor(s)

Bachelor of Arts major subjects: cinema & media studies, classics, English, european studies, French, German, gender & women's studies, history, international development studies, law, justice & society, music, philosophy, political science, religious studies, Russian studies, sociology & social anthropology, Spanish, theatre, or any of the BSc major subjects.

### BSc (120 credit hour)

- an approved [writing course](#)
- 6 credit hours in one or more language/humanities subjects (see Section 1 of [Subject Groupings](#)).
- 6 credit hours in one or more social science subjects (see Section 2 of [Subject Groupings](#)).
- 6 credit hours in math (see [Math Requirement](#)).
- A minimum of 30, maximum of 60 credit hours in the major subject beyond the 1000 level, including 18 credit hours beyond the 2000 level.
- Total credit hours required above 1000 level - 72
- Total credit hours required for degree - 120
- Required GPA for graduation - 2.00
- Graduation with distinction - 3.70
- May be combined with minor(s)

Bachelor of Science major subjects: Actuarial Science, Biochemistry and Molecular Biology, Biology, Chemistry, Earth Sciences, Economics, Environmental Science, Marine Biology, Mathematics, Microbiology and Immunology, Neuroscience, Ocean Sciences, Physics, Psychology, or Statistics.

### BSc Major (120 credit hour) Science Co-operative Education

Requirements are as for the major program with the addition of the following:

- A minimum of three co-op work terms

The following departments currently offer co-op programs: Biochemistry and Molecular Biology, Biology, Chemistry, Earth Sciences, Marine Biology, Microbiology and Immunology, and Physics and Atmospheric Science. For details on these programs, consult the calendar entries for the departments and the [Science, Information Technology and Engineering \(S.I.T.E.\) Cooperative Education](#) section.

## Double Major programs

The double major program allows study in two disciplines of equal or comparable interest.

## BA Double Major (120 credit hour)

- First Year

No more than 18 credit hour equivalents of the first 30 credit hours taken may be in a single subject

- 6 credit hours in a [writing course](#)
- 6 credit hours in one or more language/humanities subjects (see Section 1 of [Subject Groupings](#)).
- 6 credit hours in one or more social science subjects (see Section 2 of [Subject Groupings](#)).
- 6 credit hours in one or more life or physical science subjects (see Section 3 of [Subject Groupings](#)).
- 6 credit hours in a **single** language subject for (see [Language Course section](#))
- A minimum of 60, maximum of 84 credit hours in the major subject beyond the 1000 level are to be in the two allied subjects, with no more than 48 credit hours and no fewer than 30 credit hours in either, including 18 credit hours beyond the 2000 level in each of the two major subjects. The major subject with the most advanced credits appears first on the record.
- Within the last 90 credit hours, complete six credit hours in a single subject other than the two major subjects
- Total credit hours required above 1000 level - 72
- Total credit hours required for degree - 120
- Required GPA for graduation - 2.00
- Graduation with distinction - 3.70
- May be combined with minor(s)

Bachelor of Arts Double Major subjects: Choose both subjects from the Bachelor of Arts and Bachelor of Science major subjects, or Computer Science (as a second subject only); or combine one BA major subject with Environment, Sustainability and Society. In addition to the BA major subjects listed in the [BA \(120 credit hour\) section](#), Canadian studies, music and creative writing are also available as one of the subjects in a double major. European Studies is not available in the double major program.

## BSc Double Major (120 credit hour)

- an approved [writing course](#)
- 6 credit hours in one or more language/humanities subjects (see Section 1 of [Subject Groupings](#)).
- 6 credit hours in one or more social science subjects (see Section 2 of [Subject Groupings](#)).
- 6 credit hours in approved mathematics/statistics courses (see [Math Requirement](#)).
- Minimum of 60 and a maximum of 84 credit hours in the two major subjects beyond the 1000 level, with no more than 54 credit hours and no fewer than 30 credit hours in either, including at least 18 credit hours beyond the 2000 level in each of the two major subjects.
- The major subject with the most advanced credit hours appears first on the record.
- If a BSc major subject is combined with a BA major subject, the BSc subject must have more credit hours than the BA subject
- Total credit hours required above 1000 level - 72
- Total credit hours required above the 2000 level - 36
- Total credit hours required for degree - 120
- Required GPA for graduation - 2.0
- Graduation with distinction - 3.70
- May be combined with minor(s)

BSc Double Major subjects:

- Choose two BSc major subjects (Actuarial Science, Biochemistry and Molecular Biology, Biology, Chemistry, Earth Sciences, Economics, Environmental Science, Marine Biology, Mathematics, Microbiology and Immunology, Neuroscience, Ocean Science, Physics, Psychology, or Statistics)
- Combine one BSc major subject with Computer Science or Environment, Sustainability and Society
- Combine one BSc major subject with one of the BA major subjects (except European Studies) or with Canadian Studies, Creative Writing, or Music.

## Honours Programs

Honours programs require a higher quality of work than is required by the other undergraduate programs of the college (such as the 90 credit hour degree and 120 credit hour major). Able and ambitious students are urged to enter these programs. There are two types of honours programs in the BA (concentrated and combined) and three types in the BSc (concentrated, combined, and multidisciplinary). Applications for admission to honours programs must be made to the departments concerned on forms available in departments, at the Registrar's Office or online at [dal.ca/honours](http://dal.ca/honours).

Students should apply in their second year. If application is made later, it may be necessary to make up some work not previously taken.

For each individual student the entire honours program, including elective credit hours, is subject to supervision and approval by the department or departments concerned, or in the case of multidisciplinary honours, by an interdisciplinary committee.

NOTE: The last day to apply to an honours program is September 19.

## BA Concentrated Honours (120 credit hour)

- First Year No more than 18 credit hour equivalents of the first 30 credit hours taken may be in a single subject
- 6 credit hours in a [writing course](#)
- 6 credit hours in one or more language/humanities subjects (see Section 1 of [Subject Groupings](#)).
- 6 credit hours in one or more social science subjects (see Section 2 of [Subject Groupings](#)).
- 6 credit hours in one or more life or physical science subjects (see Section 3 of [Subject Groupings](#)).
- 6 credit hours in a **single** language subject for (see [Language Course section](#))

- A minimum of 54, maximum of 66 credit hours beyond the 1000 level in the honours subject, grade must be "C or better", otherwise, course will not count toward degree.
- Within the last 90 credit hours, complete 6 credit hours in each of two subjects other than the major
- Total credit hours required above 1000 level - 72
- Total credit hours required for degree - 120
- Required GPA for graduation - 2.00
- Honours Qualifying Examination: At the conclusion of an honours program a student's record must show a grade which is additional to the grades for the courses taken to obtain the required 120 credit hours. This grade may be obtained through a comprehensive examination, the presentation of a research paper (which may be an extension of one of the courses), or such other method as may be determined by the committee or department supervising the student's program. The method by which this additional grade is obtained is referred to as the Honours Qualifying Examination. Departments may elect to use a pass-fail grading system for this examination. Unless pass/fail grading is employed, the grade must be "B-" or better for honours, and "A-" or better for first class honours.
- Required standing for graduation: Arts and Social Sciences subjects require a GPA of 2.70 (3.70 for first class) on courses in the honours subject. Science subjects (see below) require a GPA of 3.00 (3.70 for first class) in the honours subject.
- May be combined with minor(s)

Note: If the student has a minor, courses in the honours subject and the minor are included in the GPA.

Bachelor of Arts concentrated honours subjects: Classics, English, European Studies, French, German, History, International Development Studies, Music, Philosophy, Political Science, Religious Studies, Russian Studies, Social Anthropology, Sociology, Spanish, and Theatre or any of the BSc honours subjects.

#### **BSc Concentrated Honours (120 credit hour)**

- an approved [writing course](#)
- 6 credit hours in one or more language/humanities subjects (see Section 1 of [Subject Groupings](#)).
- 6 credit hours in one or more social science subjects (see Section 2 of [Subject Groupings](#)).
- 6 credit hours in math (see [Math Requirement](#)).
- Minimum of 54 credit hours with a grade of C or better, maximum of 66 credit hours beyond the 1000-level in the honours subject
- Total credit hours required for degree - 120
- Total credit hours required above 1000 level - 72
- Required GPA for graduation - 2.00
- Honours Qualifying Examination: At the conclusion of an honours program a student's record must show a grade which is additional to the grades for the courses taken to obtain the required 120 credit hours. This grade may be obtained through a comprehensive examination, the presentation of a research paper (which may be an extension of one of the courses), or such other method as may be determined by the committee or department supervising the student's program. The method by which this additional grade is obtained is referred to as the Honours Qualifying Examination. Departments may elect to use a pass-fail grading system for this examination. Unless pass/fail grading is employed, the grade must be "B-" or better for honours, and "A-" or better for first class honours.
- Required standing for graduation:  
GPA 3.00 (3.70 for first class) on courses in the honours subject.
- May be combined with minor(s)

Bachelor of Science concentrated honours subjects: Actuarial Science, Biochemistry and Molecular Biology, Biology, Chemistry, Computer Science, Earth Sciences, Economics, Environmental Science, Marine Biology, Mathematics, Microbiology and Immunology, Neuroscience, Ocean Sciences, Physics, Psychology and Statistics.

#### **BA Combined Honours (120 credit hour)**

- First Year  
No more than 18 credit hour equivalents of the first 30 credit hours taken may be in a single subject
- 6 credit hours in a [writing course](#)
- 6 credit hours in one or more language/humanities subjects (see Section 1 of [Subject Groupings](#)).
- 6 credit hours in one or more social science subjects (see Section 2 of [Subject Groupings](#)).
- 6 credit hours in one or more life or physical science subjects (see Section 3 of [Subject Groupings](#)).
- 6 credit hours in a **single** language subject for (see [Language Course section](#))
- Total credit hours required above 1000 level - 72
- Total credit hours required for degree - 120
- Required GPA for graduation - 2.00
- Minimum of 66, maximum of 84 credit hours beyond the 1000 level in two allied subjects, not more than 48 credit hours nor fewer than 30 credit hours being in either of them. Grade must be "C" or better, otherwise, course will not count toward degree. The honours subject with the most advanced credit hours appears first on the record.
- Within the last 90 credit hours, 6 to 24 - depending on the number selected in the honours subjects - elective credit hours.
- Honours Qualifying Examination: see concentrated honours program above for details.
- Required standing for graduation:  
Arts and Social Sciences subjects require a GPA of 2.70 (3.70 for first class) on courses in the honours subjects.  
Science subjects (see below) require a GPA of 3.00 (3.70 for first class) in courses in the honours subjects.
- May be combined with minor(s)

Note: If the student has a minor, courses in the honours subjects and the minor are included in the honours GPA.

Bachelor of Arts combined honours subjects: Canadian Studies, Cinema & Media Studies, Classics, Contemporary Studies, Creative Writing, Early Modern Studies, English, French, Gender and Women's Studies, German, History, History of Science & Technology, International Development Studies, Law, Justice & Society, Music, Philosophy, Political Science, Religious Studies, Russian Studies, Social Anthropology, Sociology, Spanish, Theatre and Computer Science, Environment, Sustainability & Society or any of the BSc honours subjects.

### **BSc Combined Honours (120 credit hour)**

- an approved [writing course](#)
- 6 credit hours in one or more language/humanities subjects (see Section 1 of [Subject Groupings](#)).
- 6 credit hours in one or more social science subjects (see Section 2 of [Subject Groupings](#)).
- 6 credit hours in approved mathematics/statistics courses (see [Math Requirement](#)).
- Minimum of 66, maximum of 84 credit hours beyond the 1000 level in two subjects, not more than 54 credit hours nor fewer than 30 credit hours being in either, including at least 18 credit hours above the 2000 level in each subject. Grades in honours subject courses must be C or better.
- The honours subject with the most advanced credit hours appears first on the record.
- If a BSc honours subject is combined with a BA honours subject, the BSc subject must have more credit hours than the BA subject.
- Total credit hours required above the 1000 level - 72
- Total credit hours required above the 2000 level - 36
- Total credit hours required for degree - 120
- Required GPA for graduation - 2.00
- Honours Qualifying Examination: see concentrated honours program above for details.
- Required standing for graduation:  
GPA of 3.00 (3.70 for first class) on courses in the honours subjects.
- May be combined with minor(s)

Bachelor of Science combined honours subjects:

- Choose two BSc honours subjects (Actuarial Science, Biochemistry and Molecular Biology, Biology, Chemistry, Earth Sciences, Economics, Environmental Science, Marine Biology, Mathematics, Microbiology and Immunology, Neuroscience, Ocean Sciences, Psychology and Statistics)
- Combined one BSc honours subject with Computer Science or Environment, Sustainability and Society provided the larger number of honours credit hours is in a science subject.
- Combined one BSc honours subject with one of the BA honours subjects (except European Studies), or with Canadian Studies, Cinema & Media studies, Creative Writing, Law, Justice & Society or Music. The larger number of honours credit hours must be in the BSc subject.

### **BSc Multidisciplinary Honours (120 Credit Hour)**

- an approved [writing course](#)
- 6 credit hours in one or more language/humanities subjects (see Section 1 of [Subject Groupings](#)).
- 6 credit hours in one or more social science subjects (see Section 2 of [Subject Groupings](#)).
- 6 credit hours in math (see [Math Requirement](#)).
- A total of 72 credit hours beyond the 1000 level in three or more subjects. A minimum of 18 and a maximum of 30 in each of three subjects. Grades must be "C" or better.
- Total credit hours required for degree - 120
- 18 elective credit hours
- Honours Qualifying Examination: See Concentrated Honours program above for details.
- Required standing for graduation:  
GPA of 3.00 (3.70 for First Class) on courses in the honours subjects.
- May be combined with minor(s)

Bachelor of Science multidisciplinary honours subjects - at least 54 credit hours of the 120 selected must be from the following subjects: biochemistry, biology, chemistry, computer science, earth sciences, economics, environmental science, mathematics, microbiology and immunology, neuroscience, physics, psychology and statistics.

### **BSc Honours Science Co-op (120 Credit Hour)**

Requirements are as for appropriate honours program (described above) with the addition of the following:

- A minimum of three co-op work terms

### **Joint Honours: Dalhousie University - Mount Saint Vincent University**

Special arrangements exist under which students may be permitted to pursue an honours program jointly at Dalhousie and Mount Saint Vincent universities. Interested applicants should consult the appropriate department of their own university at the beginning of the second year. Prospective joint honours students must be accepted by the honours departments concerned at both institutions. These departments supervise the entire program of study of accepted applicants. Students should be aware that not all courses available for credit at Mount Saint Vincent University can be given credit at Dalhousie and vice versa. In order for students to gain a joint honours degree they must satisfy all requirements of both institutions.

## **College of Sustainability Degree Programs**

The College of Sustainability offers a Double Major and Combined Honours program with any subject in the College of Arts and Science. For complete details about the College, its programs, major/honours requirements and courses please see the [College of Sustainability section](#) of the Calendar.

## **Minor Programs**

Minor programs comprise a minimum of 18 and a maximum of 27 credit hours in a defined subject area, above the 1000 level. Students minoring in a Faculty of Science subject may take up to 36 credit hours in the minor subject. Minors can be added to any 120 credit hour BA, BMus, or BSc degree. If a minor is added to a double major or a combined honours program, students may find that they need to take more than 120 credit hours to complete all of their degree requirements. For BA students, when a minor subject is taken in conjunction with an honours program, grades in the minor subject must be "C" or better. Please note that a course cannot be used to satisfy both the major or honours subject requirement and the minor requirement.

## [List of Minors](#)

### BA/BSc (90 credit hour) Programs

#### BA with Minor

- First Year No more than 18 credit hour equivalents of the first 30 credit hours taken may be in a single subject
- 6 credit hours in a [writing course](#)
- 6 credit hours in one or more language/humanities subjects (see Section 1 of [Subject Groupings](#)).
- 6 credit hours in one or more social science subjects (see Section 2 of [Subject Groupings](#)).
- 6 credit hours in one or more life or physical science subjects (see Section 3 of [Subject Groupings](#)).
- 6 credit hours in a **single** language subject for (see [Language Course section](#))
- A minimum of 18, maximum of 27 credit hours in the minor subject at the 2000 level or higher.
- Within the last 90 credit hours, complete 6 credit hours in each of two subjects other than the minor
- Total credit hours required above 1000 level - 42
- Total credit hours required for degree - 90
- Required GPA for graduation - 2.00
- Graduation with distinction - 3.70

Bachelor of Arts minor subjects for the 90 credit hour degree: any of the following approved minors in either the Faculty of Arts and Social Sciences or the Faculty of Science:

- [Biochemistry and Molecular Biology](#)
- [Biology](#)
- [Canadian Studies](#)
- [Chemistry](#)
- [Classics](#)
- [Earth Science](#)
- [Economics](#)
- [English](#)
- [Environment, Sustainability and Society](#)
- [French](#)
- [Gender and Women's Studies](#)
- [German](#)
- [History](#)
- [International Development Studies](#)
- [Law, Justice and Society](#)
- [Mathematics](#)
- [Music](#)
- [Philosophy](#)
- [Physics](#)
- [Political Science](#)
- [Psychology](#)
- [Religious Studies](#)
- [Russian Studies](#)
- [Sociology and Social Anthropology](#)
- [Spanish](#)
- [Statistics](#)
- [Theatre](#)

#### BSc with Minor

- an approved [writing course](#)
- 6 credit hours in one or more language/humanities subjects (see Section 1 of [Subject Groupings](#)).
- 6 credit hours in one or more social science subjects (see Section 2 of [Subject Groupings](#)).
- 6 credit hours in math (see [Math Requirement](#)).
- Minimum of 18, maximum of 36 credit hours in the minor subject at the 2000 level or higher.
- Total credit hours required above 1000 level - 42



- Total credit hours required for degree - 90
- Required GPA for graduation - 2.00
- Graduation with distinction - 3.70

BSc (90 credit hour) degrees are available with the following Faculty of Science minors:

- [Biochemistry and Molecular Biology](#)
- [Biology](#)
- [Chemistry](#)
- [Earth Science](#)
- [Economics](#)
- [Mathematics](#)
- [Microbiology and Immunology](#)
- [Physics](#)
- [Psychology](#)
- [Statistics](#)

## Concurrent Programs

The Faculty of Engineering, the Faculty of Science, and the Faculty of Arts & Social Sciences (FASS) offer students the opportunity to combine their BEng degree with a BSc or BA degree. Students must meet the admission requirements for the BEng and the BSc or BA programs to be eligible for the concurrent degree option. Students must consult the Assistant Dean, Science, or the Assistant Dean, FASS, and the Associate Dean, Engineering, for assistance in developing a plan for their concurrent program.

Students normally complete the 90 credit hour BSc or BA, and the first two years of engineering studies that lead to the Diploma in Engineering (DEng), over a period of three calendar years. The BSc or BA degree and the Diploma are thus awarded to successful candidates at the end of the three year period.

To meet the BSc or BA 90 credit hour Minor requirements, **students complete 30 credit hours in addition to their Engineering requirements**: a minimum of 18 credit hours in an approved Minor subject at or above the 2000 level, and an additional 12 credit hours in Science or FASS courses. Students must select their courses such that they fulfill the *subject, language and writing requirements* for a BSc or BA degree.

Concurrent BEng/BSc or BEng/BA (Major or Honours) programs can also be designed for interested students. Consult with the Associate Dean, Engineering, and the Assistant Dean, Science or FASS.

### **BSc/BEng**

A BEng/BSc degree provides students with knowledge and credentials in Engineering and a Science subject, and may appeal to students with career objectives in multi-disciplinary fields such as biomedical engineering, environmental remediation, resource extraction industries, materials science, green technology, pharmaceuticals and other areas of applied physics or chemistry, or to students who want to further develop their expertise in project cost/benefit analysis and economic policy.

To meet the BSc 90 credit hour Minor requirements, students complete a minimum of 18 credit hours in an approved Science Minor subject at or above the 2000 level, and an additional 12 credit hours in Science/FASS courses, of which 6 credit hours must be social science/humanities subject courses.

The following general plan is appropriate for most BEng/BSc (90 credit hour) concurrent degrees. Subject-specific guidelines are available in Departmental calendar sections for some programs (Chemistry, Economics, Mathematics, Physics).

	Fall	Winter
<b>Registered in BEng</b>		
Year 1	CHEM 1021 Chemistry I MATH 1280 Engineering Math I ENGI 1103 Engineering Design I PHYC 1190 Physics I ENGM 1081 Computer Programming CPST 1103 Technical Communications I	CHEM 1022 Chemistry II MATH 1290 Engineering Math II ENGI 1203 Engineering Mechanics I: Statics PHYC 1290 Physics II ENGM 1041 Applied Linear Algebra CPST 1203 Technical Communications II
<b>Apply for admission into concurrent BEng/BSc <sup>a</sup></b>		
Year 2	ENGM 2101 Applied Vector Calculus ENGM 2032 Applied Probability & Statistics <sup>b</sup> Writing course (Humanities) <b>One Social Science course <sup>c</sup></b> <b>Two Science/FASS courses <sup>d</sup></b>	ENGM 2022 Applied Differential Equations HSTC 1801 History of Engineering II <sup>e</sup> One Engineering elective <b>One Social Science or Humanities course <sup>c</sup></b> <b>Two Science/FASS courses <sup>d</sup></b>
Year 3	IENG 2005 Engineering economics ECED 2000 Electric circuits ENGI 2102 Thermo-Fluid Engineering I <b>Two Science/FASS courses <sup>d</sup></b>	ENGI 2203 Engineering design <sup>e</sup> Two Engineering electives <b>Two Science/FASS courses <sup>d</sup></b>
<b>Graduate with Diploma in Engineering and BSc 90 credit degree</b>		
Year 4	Continue in BEng program	
Year 5	Complete BEng program	

<sup>a</sup> To complete BSc degree requirements within 3 years, students choosing one of the following BSc programs should consider taking the relevant first year science courses in the summer prior to Year 2.

- Biochemistry & Molecular Biology: BIOL 1020/BIOL 1021
- Biology or Marine Biology: BIOL 1020/BIOL 1021
- Microbiology & Immunology: BIOL 1020/BIOL 1021
- Earth Sciences: EARTH 1080/ERTH 1091
- Psychology or Neuroscience: PSYO 1030/PSYO 1031

<sup>b</sup> Writing requirement: choose from eligible writing courses in the humanities (CLAS, ENGL, GERM, HIST, PERF, PHIL, RELS, or RUSN) to fulfill writing and humanities requirements [College of Arts and Science]

<sup>c</sup> Choose from eligible **social science** courses and **humanities** courses [College of Arts and Science]

<sup>d</sup> Science and FASS courses must be selected such that they fulfill the requirements for a Minor subject. Eligible Minor subjects for a BSc 90 credit hour degree, and their requirements, can be found [here](#)

<sup>e</sup> See Discipline-specific electives in the Engineering section of the calendar for details

### BA/BEng

A BEng/BA degree may appeal to students who want to complement their Engineering degrees with a deeper understanding of a humanities or social science subject, or who would like to put their engineering knowledge into a broader societal context.

To meet the BA 90 credit hour Minor requirements, students complete a minimum of 18 credit hours in an approved Minor subject at or above the 2000 level, and an additional 12 credit hours in FASS or Science courses. Students must select their courses such that they fulfill the language, humanities, social science, and writing requirements for a BA degree.

The following general plan is appropriate for most BEng/BA (90 credit hour) concurrent degrees.

	Fall	Winter
<b>Registered in BEng</b>		
Year 1	CHEM 1021 Chemistry I MATH 1280 Engineering Math I ENGI 1103 Engineering Design I PHYC 1190 Physics I ENGM 1081 Computer Programming CPST 1103 Technical Communications I	CHEM 1022 Chemistry II MATH 1290 Engineering Math II ENGI 1203 Engineering Mechanics I: Statics PHYC 1290 Physics II ENGM 1041 Applied Linear Algebra CPST 1203 Technical Communications II
<b>Apply for admission into concurrent BEng/BA</b>		
Year 2	ENGM 2101 Applied Vector Calculus ENGM 2032 Applied Probability & Statistics Writing course <b>Three FASS/Science courses <sup>a</sup></b>	ENGM 2022 Applied Differential Equations HSTC 1801 History of Engineering II <sup>b</sup> One Engineering elective <b>Three FASS/Science courses <sup>a</sup></b>
Year 3	IENG 2005 Engineering economics ECED 2000 Electric circuits ENGI 2102 Thermo-Fluid Engineering I <b>Two FASS/Science courses <sup>a</sup></b>	ENGI 2203 Engineering design <sup>b</sup> Two Engineering electives <b>Two FASS/Science courses <sup>a</sup></b>
<b>Graduate with Diploma in Engineering and BA 90 credit degree</b>		
Year 4	Continue in BEng program	
Year 5	Complete BEng program	

<sup>a</sup> FASS and Science courses must be selected such that they fulfill the requirements for a Minor subject. Eligible Minor subjects for a BA 90 credit hour degree, and their requirements, can be found [here](#)

<sup>b</sup> See Discipline-specific electives in the Engineering section of the calendar for details

## Individual Programs

In cases where students feel their academic needs are not satisfied under the above requirements, individual programs may be submitted to the Academic Development Committee of the Faculty of Arts and Social Sciences or to the curriculum committee of the Faculty of Science prior to or during the student's second academic year. The Dean shall act as advisor for such students.

## Other Degree and Diploma Programs

### Bachelor of Music

For the requirements of this degree, see the entry for the [Fountain School of Performing Arts](#).

### Diploma in Costume Studies

Study for this credential is entirely within the [Fountain School of Performing Arts](#). See the entry for that department for detailed information.

### Diploma in Meteorology

Details of the requirements for this diploma may be found in the entry of the [Department of Physics and Atmospheric Science](#).

## Certificates

The certificates listed at the right are specific to the Faculty of Arts and Social Science and Faculty of Science.

Certificates are one way that Dalhousie recognizes graduating students who have achieved a level of proficiency or specialization in a particular area or subject. Certificates are awarded upon graduation from a degree program and will be recorded on the student's academic transcript.

Certificates vary in their goals and requirements. Many have a research or practicum component. Some are interdisciplinary, requiring work in more than one department, while others focus on a specialization within a single program. Some Certificates are designed for students enrolled in particular programs, while others are broadly applicable to students in any program.

### Certificate in Actuarial and Financial Mathematics

Offered by: Mathematics & Statistics

Coordinator: Dr. Toby Kenney ([tkenney@mathstat.dal.ca](mailto:tkenney@mathstat.dal.ca)) Mathematics and Statistics

This program provides many of the learning objectives and fundamental mathematical and statistical skills required to complete the classes (and examinations) of the Society of Actuaries accreditation program. Students who are interested in a career in actuarial science should consult the Basic Education Catalogue on the Society of Actuaries web page ([www.soa.org](http://www.soa.org)) or the Syllabus of Basic Education on the Casualty Actuaries website ([www.casact.org](http://www.casact.org)). This program also prepares students for employment in general financial institutions where modeling, quantitative risk analysis, management of investment instruments, asset and liability management, life contingencies and insurance assessment, and other complex financial calculations are required.