## Open Studies

This section presents the requirements for programs in:

- Open Studies Program Requirements B.A.
- Open Studies Program Requirements B.Sc.


## Open Studies Program Bachelor of Arts

Students can find it difficult to decide which thematic or discipline-specific program they want to take for their academic studies. The Open Studies program typically enables students to begin their studies with a broad set of topics to help them narrow their focus and transition into a thematic or discipline-specific program. The recommended course pattern for students is outlined below. Students are normally expected to apply to enter a thematic or discipline-specific program before beginning their second year of study and will be required to meet with an academic advisor at the Academic Advising Centre who will offer support in making this decision.

Advanced standing entry into the B.A. Open Studies program is restricted. Please consult with an academic advisor for more information.

## Academic Standing for Open Studies Programs

For purposes of Academic Performance Evaluation, students in Open Studies programs are assessed using only the Overall CGPA.

## First-year Course Selection for B.A. Open Studies Students

To give themselves the greatest range of choices and transition to a more specific program, first-year Open Studies B.A. students should conform to the following guidelines in selecting their initial courses.

Open Studies B.A. students should register in:

1. A B.A. First-year seminar (FYSM);
2. Courses in at least three different disciplines leading to programs within the Faculty of Arts and Social Sciences or the Faculty of Public Affairs.

## Open Studies Program Requirements B.A. (15.0 credits)

Enrolment in the B.A. Open Studies program is restricted.
Please consult with an academic advisor for more information.

| 1. 6.0 credits from disciplines in the Faculty of Arts and | 6.0 |
| :--- | ---: |
| Social Sciences or the Faculty of Public Affairs |  |
| 2. 9.0 credits in free electives | 9.0 |
| Total Credits | 15.0 |

## Notes:

1. Students must complete 2.0 credits at the 3000 level or above;
2. Subject to individual program restrictions, students may be eligible to declare a Minor.

In addition to the requirements presented here, students must satisfy the Bachelor of Arts regulations, including
the Breadth Requirement, and University regulations common to all undergraduate students, including the Minimum Number of Carleton Credits (Residency and Advanced credits), the Maximum Number of Credits Below the 2000-level, and the process of Academic Performance Evaluation (consult the Academic Regulations of the University section of this Calendar).

## Open Studies Program Bachelor of Science

Students can find it difficult to decide which thematic or discipline-specific program they want to take for their academic studies. The Open Studies program enables students to begin their studies with a broad set of topics to help them narrow their focus and transition into a thematic or discipline-specific program. The recommended course pattern for students is outlined below. Students are normally expected to apply to enter a thematic or discipline-specific program before beginning their second year of study and will be required to meet with an academic advisor at the Academic Advising Centre who will offer support in making this decision.

Advanced standing entry into the B.Sc. Open Studies program is restricted. Please consult with an academic advisor for more information.

## Academic Standing for Open Studies Programs

For purposes of Academic Performance Evaluation, students in Open Studies programs are assessed using only the Overall CGPA.

## First-year Course Selection for B.Sc. Open Studies Students

To give themselves the greatest range of choices and transition to a more specific program, first-year Open Studies B.Sc. students should conform to the following guidelines in selecting their initial courses.

Open Studies B.Sc. students should register in:

1. 2.0 credits in Experimental Science 2.0
2. $\mathbf{1 . 0}$ credit in Mathematics 1.0
3. $\mathbf{1 . 0}$ credit in Mathematics, Experimental Science or 1.0 Computer Science
4. 1.0 credit chosen from: 1.0

NSCI 1000 [0.5] Seminar in Science
and/or approved courses outside the faculties of
Science and Engineering and Design
Total Credits

## Course Categories

Experimental Science Courses
Biology
BIOL 1103 [0.5] Foundations of Biology I
BIOL 1104 [0.5] Foundations of Biology II
Chemistry
CHEM 1001 [0.5] General Chemistry I
CHEM 1002 [0.5] General Chemistry II
CHEM 1005 [0.5] Elementary Chemistry I
CHEM 1006 [0.5] Elementary Chemistry II
Earth Sciences
ERTH 1006 [0.5] Exploring Planet Earth

| ERTH 1009 [0.5] | The Earth System Through Time |
| :---: | :--- |
| Physics |  |
| PHYS 1001[0.5] | Foundations of Physics I |
| PHYS 1002[0.5] | Foundations of Physics II |
| PHYS 1003[0.5] | Introductory Mechanics and <br> Thermodynamics |
| PHYS 1004[0.5] | Introductory Electromagnetism and <br>  <br> Wave Motion |
| PHYS 1007[0.5] | Elementary University Physics I |
| PHYS 1008[0.5] | Elementary University Physics II |

Appropriate Mathematics Courses
Calculus
MATH 1007 [0.5] Elementary Calculus I
Algebra
MATH 1107 [0.5] Linear Algebra I

## Appropriate Computer Science Courses

COMP 1005 [0.5] Introduction to Computer Science I
COMP 1006 [0.5] Introduction to Computer Science II

## Approved Courses Outside the Faculties of Science and Engineering and Design

Approved courses outside the faculties of Science and Engineering and Design are specified in the Academic Regulations for the Bachelor of Science Degree section of this Calendar.

## Open Studies Program Requirements B.Sc. (15.0 credits)

Enrolment in the B.Sc. Open Studies programs is restricted. Please consult with an academic advisor for more information.

| 1. 6.0 credits from disciplines in the Faculty of Science or | 6.0 |
| :--- | ---: |
| the Faculty of Engineering and Design |  |
| 2. 9.0 credits in free electives | 9.0 |
| Total Credits | 15.0 |

## Notes:

1. Students must complete 2.0 credits at the 3000 level or above;
2. Subject to individual program restrictions, students may be eligible to declare a Minor.
In addition to the requirements presented here, students must satisfy the Bachelor of Science regulations, including the Breadth and Experimental Science Requirements, and University regulations common to all undergraduate students, including the Minimum Number of Carleton Credits (Residency and Advanced credits), the Maximum Number of Credits Below the 2000-level, and the process of Academic Performance Evaluation (consult the Academic Regulations of the University section of this Calendar).

## B.A. Regulations

The regulations presented below apply to all Bachelor of Arts programs. In addition to the requirements presented here, students must satisfy the University regulations common to all undergraduate students including the process of Academic Performance Evaluation (consult
the Academic Regulations of the University section of this Calendar).

## First-Year Seminars

B.A. degree students are strongly encouraged to include a First-Year Seminar (FYSM) during their first 4.0 credits of registration. Students are limited to 1.0 credit in FYSM and can only register in a FYSM while they have firstyear standing in their B.A. program. Students who have completed the Enriched Support Program (ESP) or who are required to take a minimum of one English as a Second Language (ESLA) credit are not permitted to register in a FYSM.

## Breadth Requirement

Among the credits presented at graduation, students in both the B.A. General and the B.A. Honours degrees and B.Co.M.S. are required to include 3.0 breadth credits, including 1.0 credit from each of three of the four Breadth Areas identified below. Credits that fulfil requirements in the Major, Minor, Concentration or Specialization may be used to fulfil the Breadth Requirement.

Students admitted with a completed university degree are exempt from breadth requirements.
Students in the following interdisciplinary programs are exempt from the B.A. breadth requirement.

- African Studies
- Criminology and Criminal Justice
- Environmental Studies
- Human Rights
- Human Rights and Social Justice


## Breadth Area 1: Culture and Communication

American Sign Language, Art History, Art and Culture, Communication and Media Studies, Comparative Literary Studies, Digital Humanities, English, Film Studies, French, Journalism, Media Production and Design, Music, Performance in Public Sphere, and Languages (Arabic, English as a Second Language, German, Greek, Hebrew, Indigenous Languages, Italian, Japanese, Korean, Latin, Mandarin, Portuguese, Russian, Spanish)
Subject codes: ARAB, ARTH, ASLA, CHIN, CLST, COMS, DIGH, ENGL, ESLA, FILM, FINS, FREN, GERM, GREK, HEBR, ITAL, JAPA, JOUR, KORE, LANG, LATN, MPAD, MUSI, PIPS, PORT, RUSS, SPAN

## Breadth Area 2: Humanities

African Studies, Applied Linguistics and Discourse Studies, Archaeology, Canadian Studies, Child Studies, Classical Civilization, Directed Interdisciplinary Studies, Disability Studies, European and Russian Studies, History, Human Rights, Humanities, Indigenous Studies, Latin American and Caribbean Studies, Linguistics, Medieval and Early Modern Studies, Philosophy, Religion, Sexuality Studies, South Asian Studies, and Women's and Gender Studies.

Subject codes: AFRI, ALDS, ARCY, CDNS, CHST, CLCV, DBST, DIST, EURR, HIST, HUMR, HUMS, INDG, LACS, LING, MEMS, PHIL, RELI, SAST, SXST, WGST

## Breadth Area 3: Science, Engineering, and Design

Architecture, Biology, Chemistry, Computer Science, Earth Sciences, Engineering, Environmental Science, Food Science and Nutrition, Health Sciences, Industrial Design, Information Resource Management, Information Technology (BIT), Information Technology (ITEC), Interactive Multimedia and Design, Mathematics, Neuroscience, Network Technology, Optical Systems and Sensors, Photonics, Statistics, Physics, and Technology, Society, Environment.
Subject codes: AERO, ARCC, ARCH, ARCN, ARCS, ARCU, BIOC, BIOL, BIT, CHEM, CIVE, CMPS, COMP, ECOR, ELEC, ENSC, ENVE, ERTH, FOOD, HLTH, IDES, IMD, IRM, ISCI, ISCS, ISYS, ITEC, MAAE, MATH, MECH, NET, NEUR, NSCI, OSS, PHYS, PLT, SREE, STAT, SYSC, TSES

## Breadth Area 4: Social Sciences

Anthropology, Business, Cognitive Science, Criminology and Criminal Justice, Economics, Environmental Studies, Geography, Geomatics, Global and International Studies, Global Politics, Interdisciplinary Public Affairs, International Affairs, Law, Migration and Diaspora Studies, Political Management, Political Science, Psychology, Public Administration, Public Affairs and Policy Management, Social Work, Sociology/Anthropology, Sociology
Subject codes: ANTH, BUSI, CGSC, CRCJ, ECON, ENST, GEOG, GEOM, GINS, GPOL, INAF, IPAF, LAWS, MGDS, PADM, PAPM, POLM, PSCI, PSYC, SOCI, SOWK

## Declared and Undeclared Students

Degree students are considered "Undeclared" if they have been admitted to a degree but have not yet selected and been accepted into a program within that degree. The status "Undeclared" is available only in the B.A. and B.Sc. degrees. See the Open Studies program section of this Calendar for recommended registration information. Normally, Undeclared students are required to be eligible to enter a program within their degree before reaching second year standing. Undeclared students should consult Academic Advising Centre for guidance in planning their studies prior to registration.

## Change of Program Within the B.A. Degree

Students may transfer to a program within the B.A. degree, if upon entry to the new program they would be in Good Standing. Other applications for change of program will be considered on their merits; students may be admitted to the new program in Good Standing or on Academic Warning. Students may apply to declare or change their program within the B.A. Degree at the Registrar's Office according to the published deadlines. Acceptance into a program or into a program element or option is subject to any enrollment limitations, specific program, program element or option requirements, as published in the relevant Calendar entry.

## Minors, Concentrations and Specializations

Students may apply to the Registrar's Office to be admitted to a minor, concentration or specialization during their first or subsequent years of study. Acceptance into a minor, concentration or specialization is subject to any
specific requirements of the intended Minor, Concentration or Specialization as published in the relevant Calendar entry. Acceptance into a Concentration or Specialization requires that the student be in Good Standing.

## Mention : Français

Students registered in certain B.A. programs may earn the notation Mention : Français by completing part of their requirements in French and by demonstrating a knowledge of the history and culture of French Canada.
The general requirements are listed below. For more specific details consult the departmental program entries.

Students in a B.A. Honours program must present:

1. 1.0 credit in French language;
2. 1.0 credit devoted to the history and culture of French Canada;
3. 1.0 credit at the 2000 - or 3000 -level and 1.0 credit at the 4000 -level in the Honours discipline taken in French.
Students in a B.A. General program must present:
4. 1.0 credit in advanced French;
5. 1.0 credit devoted to the history and culture of French Canada;
6. 1.0 credit at the 2000- or 3000-level in the Major discipline taken in French.
Students in Combined Honours programs must fulfil the Mention : Français requirement in both disciplines.
Courses taught in French (Item 3, above) may be taken at Carleton, at the University of Ottawa on the Exchange Agreement, or at a francophone university on a Letter of Permission. Students planning to take courses on exchange or on a Letter of Permission should take careful note of the residence requirement for a minimum number of Carleton courses in their programs. Consult the Academic Regulations of the University section of this Calendar for information regarding study on Exchange or Letter of Permission.

## B.Sc. Regulations

The regulations presented in this section apply to all Bachelor of Science programs. In addition to the requirements presented here, students must satisfy the University regulations common to all undergraduate students including the process of Academic Performance Evaluation (see the Academic Regulations of the University section of this Calendar).

## Breadth Requirement for the B.Sc.

Students in Bachelor of Science Honours, Major, or General programs must present the following credits at graduation:

[^0]2. 2.0 credits in courses outside of the faculties of Science and Engineering and Design (but may include NSCI 1000)

In most cases, the requirements for individual B.Sc. programs, as stated in this Calendar, contain these requirements, explicitly or implicitly.

Students admitted to B.Sc. programs by transfer from another institution must present at graduation (whether taken at Carleton or elsewhere):

1. 2.0 credits in courses outside of the faculties of Science and Engineering and Design (but may include NSCI 1000) if, on transfer, the student received credit for fewer than 10.0 credits.
2. 1.0 credit in courses outside of the faculties of Science and Engineering and Design (but may include NSCl 1000) if, on transfer, the student received credit for 10.0 or more credits.

## Declared and Undeclared Students

Students who are registered in a program within the degree are called Declared students. Most students designate a program of study when they first apply for admission and so begin their studies as Declared students. Students may also choose to begin their studies within the B.Sc. degree without being registered in a program. These students are referred to as Undeclared students. The recommended course pattern for Undeclared students is provided in the Undeclared entry of the Programs section of this Calendar. Undeclared students normally must apply to enter a program before beginning their second year of study. The Science Student Success Centre (SSSC) provides Undeclared students guidance to the appropriate support services in making this decision.

## Change of Program within the B.Sc. Degree

Students may transfer to a program within the B.Sc. degree if upon entry to the new program they would be in good academic standing.
Other applications for change of program will be considered on their merits; students may be accepted in the new program in Good Standing or on Academic Warning.
Applications to declare or change their program within the B.Sc. Degree must be made online through Carleton Central by completing a Change of Program Elements (COPE) application form within the published deadlines. Acceptance into a program or into a program element or option is subject to any enrolment, and/or specific program, program element or option requirements as published in the relevant Calendar entry.

## Minors, Concentrations and Specializations

Students may add a minor, concentration or specialization by completing a Change of Program Elements (COPE) application form online through Carleton Central. Acceptance into a minor, concentration or specialization requires that the student be in Good Standing and is subject to any specific requirements of the intended

Minor, Concentration or Specialization as published in the relevant Calendar entry.

## Experimental Science Requirement

Students in B.Sc. Honours, Major, or General degree programs must present at graduation at least two full credits of experimental science chosen from two different departments or institutes from the list below:

| Approved Experimental Science Courses |  |
| :---: | :---: |
| Biochemistry |  |
| BIOC 2200 [0.5] | Cellular Biochemistry |
| BIOC 4001 [0.5] | Methods in Biochemistry |
| BIOC 4201 [0.5] | Advanced Cell Culture and Tissue Engineering |
| Biology |  |
| BIOL 1103 [0.5] | Foundations of Biology I |
| BIOL 1104 [0.5] | Foundations of Biology II |
| BIOL 2001 [0.5] | Animals: Form and Function |
| BIOL 2002 [0.5] | Plants: Form and Function |
| BIOL 2104 [0.5] | Introductory Genetics |
| BIOL 2200 [0.5] | Cellular Biochemistry |
| BIOL 2600 [0.5] | Ecology |
| Chemistry |  |
| CHEM 1001 [0.5] | General Chemistry I |
| CHEM 1002 [0.5] | General Chemistry II |
| CHEM 1005 [0.5] | Elementary Chemistry I |
| CHEM 1006 [0.5] | Elementary Chemistry II |
| CHEM 2103 [0.5] | Physical Chemistry I |
| CHEM 2203 [0.5] | Organic Chemistry I |
| CHEM 2204 [0.5] | Organic Chemistry II |
| CHEM 2302 [0.5] | Analytical Chemistry I |
| CHEM 2303 [0.5] | Analytical Chemistry II |
| CHEM 2800 [0.5] | Foundations for Environmental Chemistry |
| Earth Sciences |  |
| ERTH 1006 [0.5] | Exploring Planet Earth |
| ERTH 1009 [0.5] | The Earth System Through Time |
| ERTH 2102 [0.5] | Mineralogy to Petrology |
| ERTH 2404 [0.5] | Engineering Geoscience |
| ERTH 2802 [0.5] | Field Geology I |
| ERTH 3111 [0.5] | Vertebrate Evolution: Mammals, Reptiles, and Birds |
| ERTH 3112 [0.5] | Vertebrate Evolution: Fish and Amphibians |
| ERTH 3204 [0.5] | Mineral Deposits |
| ERTH 3205 [0.5] | Physical Hydrogeology |
| ERTH 3806 [0.5] | Structural Geology |
| Food Sciences |  |
| FOOD 3001 [0.5] | Food Chemistry |
| FOOD 3002 [0.5] | Food Analysis |
| FOOD 3005 [0.5] | Food Microbiology |
| Geography |  |
| GEOG 1010 [0.5] | Global Environmental Systems |
| GEOG 3108 [0.5] | Soil Properties |
| Neuroscience |  |
| NEUR 3206 [0.5] | Sensory and Motor Neuroscience |
| NEUR 3207 [0.5] | Systems Neuroscience |
| NEUR 4600 [0.5] | Advanced Lab in Neuroanatomy |


| Physics |  |
| :--- | :--- |
| PHYS 1001[0.5] | Foundations of Physics I |
| PHYS 1002[0.5] | Foundations of Physics II |
| PHYS 1003[0.5] | Introductory Mechanics and <br> Thermodynamics |
| PHYS 1004[0.5] | Introductory Electromagnetism and <br> Wave Motion |
| PHYS 1007[0.5] | Elementary University Physics I |
| PHYS 1008[0.5] | Elementary University Physics II |
| PHYS 2202[0.5] | Wave Motion and Optics |
| PHYS 2604[0.5] | Modern Physics I |
| PHYS 3007[0.5] | Third Year Physics Laboratory: <br> Selected Experiments and |
| PHYS 3606[0.5] | Seminars |
| PHYS $3608[0.5]$ | Modern Physics II |

## Course Categories for B.Sc. Programs

Science Geography Courses

| GEOG 1010 [0.5] | Global Environmental Systems |
| :---: | :---: |
| GEOG 2006 [0.5] | Introduction to Quantitative Research |
| GEOG 2013 [0.5] | Weather and Water |
| GEOG 2014 [0.5] | The Earth's Surface |
| GEOG 3003 [0.5] | Quantitative Geography |
| GEOG 3010 [0.5] | Field Methods in Physical Geography |
| GEOG 3102 [0.5] | Geomorphology |
| GEOG 3103 [0.5] | Watershed Hydrology |
| GEOG 3104 [0.5] | Principles of Biogeography |
| GEOG 3105 [0.5] | Climate and Atmospheric Change |
| GEOG 3106 [0.5] | Aquatic Science and Management |
| GEOG 3108 [0.5] | Soil Properties |
| GEOG 4000 [0.5] | Field Studies |
| GEOG 4005 [0.5] | Directed Studies in Geography |
| GEOG 4013 [0.5] | Cold Region Hydrology |
| GEOG 4017 [0.5] | Global Biogeochemical Cycles |
| GEOG 4101 [0.5] | Two Million Years of Environmental Change |
| GEOG 4103 [0.5] | Water Resources Engineering |
| GEOG 4104 [0.5] | Microclimatology |
| GEOG 4108 [0.5] | Permafrost |
| Science Psychology Courses |  |
| PSYC 2001 [0.5] | Introduction to Research Methods in Psychology |
| PSYC 2002 [0.5] | Introduction to Statistics in Psychology |
| PSYC 2700 [0.5] | Introduction to Cognitive Psychology |
| PSYC 3000 [1.0] | Design and Analysis in Psychological Research |
| PSYC 3506 [0.5] | Cognitive Development |
| PSYC 3700 [1.0] | Cognition (Honours Seminar) |
| PSYC 3702 [0.5] | Perception |
| PSYC 2307 [0.5] | Human Neuropsychology I |
| PSYC 3307 [0.5] | Human Neuropsychology II |

## Science Continuation Courses

A course at the 2000 level or above may be used as a Science Continuation credit in a B.Sc. program if it is not in the student's major discipline, and is chosen from the following:
BIOC (Biochemistry)
BIOL (Biology)
CHEM (Chemistry)
COMP (Computer Science) A maximum of two
half-credits at the 1000-level in COMP, excluding
COMP 1001 may be used as Science Continuation
credits.
ERTH (Earth Sciences), except ERTH 2415 which
may be used only as a free elective for any B.Sc.
program. Students in Earth Sciences programs may
use ERTH 2401, ERTH 2402, and ERTH 2403 only as
free electives.
Engineering. Students wishing to register in
Engineering courses must obtain the permission of the
Faculty of Engineering and Design.
ENSC (Environmental Science)
FOOD (Food Science and Nutrition)
GEOM (Geomatics)
HLTH (Health Sciences)
MATH (Mathematics)
NEUR (Neuroscience)
PHYS (Physics), except PHYS 2903
Science Geography Courses (see list above)
Science Psychology Courses (see list above)
STAT (Statistics)
TSES (Technology, Society, Environment) except
TSES 2305. Biology General, Major, and Honours
students may use these courses only as free electives.
Integrated Science and Environmental Science
students may include these courses in their programs
but may not count them as part of the Science
Sequence.

## Science Faculty Electives

Science Faculty Electives are courses at the 1000-4000 level chosen from:

BIOC (Biochemistry)
BIOL (Biology) Biology \& Biochemistry students may use BIOL 1010 and BIOL 2005 only as free electives CHEM (Chemistry) except CHEM 1003, CHEM 1004 and CHEM 1007
COMP (Computer Science) except COMP 1001
ERTH (Earth Sciences) except ERTH 1010, ERTH 1011 and ERTH 2415. Earth Sciences students may use ERTH 2401, ERTH 2402, and ERTH 2403 only as free electives.
Engineering
ENSC 2001
FOOD (Food Science and Nutrition)
GEOM (Geomatics)
HLTH (Health Science)
MATH (Mathematics)
NEUR (Neuroscience)
PHYS (Physics) except PHYS 1901, PHYS 1902,
PHYS 1905, PHYS 2903
Science Geography (see list above)

Science Psychology (see list above)
STAT (Statistics)
TSES (Technology, Society, Environment) Biology
General, Major and Honours students may use these courses only as free electives.

## Advanced Science Faculty Electives

Advanced Science Faculty Electives are courses at the 2000-4000 level chosen from the Science Faculty Electives list above.

## Approved Courses Outside the Faculties of Science

 and Engineering and Design (may include NSCI 1000)All courses offered by the Faculty of Arts and Social Sciences, the Faculty of Public Affairs, and the Sprott School of Business are approved as Arts or Social Sciences courses EXCEPT FOR: All Science Geography courses (see list above), all Geomatics (GEOM) courses, all Science Psychology courses (see list above). NSCI 1000 may be used as an Approved Course Outside the Faculties of Science and Engineering and Design.

Free Electives
Any course is allowable as a Free Elective providing it is not prohibited (see below). Students are expected to comply with prerequisite requirements and enrolment restrictions for all courses as published in this Calendar.
Courses Allowable Only as Free Electives in any

## B.Sc. Program

CHEM 1003 [0.5] The Chemistry of Food, Health and Drugs
CHEM 1004 [0.5] Drugs and the Human Body
CHEM 1007 [0.5] Chemistry of Art and Artifacts
ERTH 1010 [0.5] Our Dynamic Planet Earth
ERTH 1011 [0.5] Evolution of the Earth
ERTH 2415 [0.5] Natural Disasters
ISCI 1001 [0.5] Introduction to the Environment
ISCI 2000 [0.5] Natural Laws
ISCI 2002 [0.5] Human Impacts on the Environment
MATH 0107 [0.5] Algebra and Geometry
PHYS 1901 [0.5] Planetary Astronomy
PHYS 1902 [0.5] From our Star to the Cosmos
PHYS 1905 [0.5] Physics Behind Everyday Life
PHYS 2903 [0.5] Physics Towards the Future

## Prohibited Courses

The following courses are not acceptable for credit in any
B.Sc. program:

COMP 1001 [0.5] Introduction to Computational Thinking for Arts and Social Science Students
MATH 0005 [0.5] Precalculus: Functions and Graphs
MATH 0006 [0.5] Precalculus: Trigonometric Functions and Complex Numbers
MATH 1009 [0.5] Calculus: with Applications to Business
MATH 1119 [0.5] Linear Algebra: with Applications to Business
MATH 1401 [0.5] Elementary Mathematics for Economics I

MATH 1402 [0.5] Elementary Mathematics for Economics II

## Admissions Information

Admission Requirements are for the 2020-21 year only, and are based on the Ontario High School System. Holding the minimum admission requirements only establishes eligibility for consideration. The cut-off averages for admission may be considerably higher than the minimum. See also the General Admission and Procedures section of this Calendar. An overall average of at least $70 \%$ is normally required to be considered for admission. Some programs may also require specific course prerequisites and prerequisite averages and/or supplementary admission portfolios. Higher averages are required for admission to programs for which the demand for places by qualified applicants exceeds the number of places available. The overall average required for admission is determined each year on a program by program basis. Consult admissions.carleton.ca for further details.

Note: Courses listed as recommended are not mandatory for admission. Students who do not follow the recommendations will not be disadvantaged in the admission process.

## Admission Requirements <br> Degrees

## - Bachelor of Arts (B.A.)(Honours)

- Bachelor of Arts (B.A.)(General)


## First Year

For B.A. (General) and B.A. (Honours)
The Ontario Secondary School Diploma (OSSD) or equivalent including a minimum of six 4 U or M courses. The six 4 U or M courses must include a 4 U course in English (or anglais ). For applicants whose first language is not English, the requirement of English can also be met under the conditions outlined in the section "English Language Requirements" in the Admissions Requirements and Procedures section of this Calendar.

The cut-off average for admission will be set annually and will normally be above the minimum requirement. Applicants falling slightly below the cut-off average will be considered on an individual basis to determine whether there are special circumstances that would permit their admission. Students who feel that their high school grade average does not reflect their potential may apply to the Enriched Support Program (see the Enriched Support Program section of this Calendar).

## Advanced Standing

## B.A. (General and Honours) Program

Applications for admission to the second or subsequent years will be assessed on their merits. Advanced standing will be granted only for those courses that are determined to be appropriate.

## Admissions Information

Admission Requirements are for the 2020-21 year only, and are based on the Ontario High School System.

Holding the minimum admission requirements only establishes eligibility for consideration. The cut-off averages for admission may be considerably higher than the minimum. See also the General Admission and Procedures section of this Calendar. An overall average of at least $70 \%$ is normally required to be considered for admission. Some programs may also require specific course prerequisites and prerequisite averages and/or supplementary admission portfolios. Higher averages are required for admission to programs for which the demand for places by qualified applicants exceeds the number of places available. The overall average required for admission is determined each year on a program by program basis. Consult admissions.carleton.ca for further details.

Note: Courses listed as recommended are not mandatory for admission. Students who do not follow the recommendations will not be disadvantaged in the admission process.

## Degrees

- B.Sc. (Honours)
- B.Sc. (General)
- B.Sc. (Major)


## Admission Requirements

## Honours Program

## First Year

The Ontario Secondary School Diploma (OSSD) or equivalent including a minimum of six 4 U or M courses. For most programs including Biochemistry, Bioinformatics, Biotechnology, Chemistry, Combined Honours in Biology and Physics, Chemistry and Physics, Computational Biochemistry, Food Science, Nanoscience, Neuroscience, Neuroscience and Mental Health, and Psychology, the six 4 U or M courses must include Advanced Functions and two of Biology, Chemistry, Earth and Space Sciences or Physics. (Calculus and Vectors is strongly recommended)

## Specific Honours Admission Requirements

For the Honours programs in Earth Sciences, Environmental Science, Geomatics, Interdisciplinary Science and Practice, and Physical Geography, Calculus and Vectors may be substituted for Advanced Functions.

For the Honours programs in Physics and Applied Physics and for double Honours in Mathematics and Physics, Calculus and Vectors is required in addition to Advanced Functions and one of 4 U Physics Chemistry, Biology, or Earth and Space Sciences. For all programs in Physics, 4 U Physics is strongly recommended.

For the Combined Honours program in Chemistry and Computer Science, 4 U Chemistry and Calculus and Vectors are strongly recommended.

For Honours in Psychology, a 4U course in English is recommended.

For Honours in Environmental Science, a 4U course in Biology and Chemistry is recommended.

## Advanced Standing

For entry to an Honours program after the completion of 5.0 included credits, a student must have a major CGPA of 5.50 or higher, an overall CGPA of 4.50 or higher and the recommendation of the Honours department or committee. A student beginning the final 10.0 credits towards an Honours degree must present a major CGPA of 6.00 or higher, an overall CGPA of 5.00 or higher and the recommendation of the Honours department or committee. A student beginning the final 5.0 credits towards an Honours degree must present a major CGPA of 6.50 or higher and an overall CGPA of 5.00 or higher, as calculated for graduation. Advanced standing will be granted for studies undertaken elsewhere when these are recognized as the equivalent of subjects offered at Carleton University.

## Major Program

## General Program

## First Year

The Ontario Secondary School Diploma (OSSD) or equivalent including a minimum of six 4 U or M courses. The six 4 U or M courses must include Advanced Functions and two of Calculus and Vectors, Biology, Chemistry, Earth and Space Science or Physics (Calculus and Vectors is strongly recommended). For the B.Sc. Major in Physics. 4U Physics is strongly recommended. Equivalent courses may be substituted between the old and new Ontario mathematics curriculum.

## Advanced Standing

For entry to a General or Major program after the completion of 5.0 included credits, a student must have a major and core CGPA of 3.50 or higher and an overall CGPA of 3.50 or higher. A student beginning the final 5.0 credits towards a General or Major degree must present a major and core CGPA of 4.00 or higher and an overall CGPA of 4.00 or higher, as calculated for graduation. Advanced standing will be granted for studies undertaken elsewhere when these are recognized as the equivalent of subjects offered at Carleton University.

## Co-op Option

## Direct Admission to the First Year of the Co-op Option

Applicants must:

1. meet the required overall admission cut-off average and prerequisite course average. These averages may be higher than the stated minimum requirements;
2. be registered as a full-time student in the Bachelor of Science Honours program;
3. be eligible to work in Canada (for off-campus work placements).

Note that meeting the above requirements only establishes eligibility for admission to the program. The prevailing job market may limit enrolment in the co-op option.

Note: continuation requirements for students previously admitted to the co-op option and admission requirements for the co-op option after beginning the program are
described in the Co-operative Education Regulations section of this Calendar.


[^0]:    1. 2.0 credits in Science Continuation courses not in the major discipline; students completing a double major are considered to have completed this requirement providing they have 2.0 credits in science continuation courses in each of the two majors
