

# BACHELOR OF SCIENCE (B.SC.)

The University of Guelph offers general and honours programs leading to the B.Sc. degree. The general program consists of a minimum of 15.00 credits (usually 30 semester courses) involving normally 6 semesters of study. The requirements for the honours program is a minimum of 20.00 credits (usually 40 semester courses) which may be obtained over 8 semesters of study. Some majors may require more than 20.00 credits.

## The Three Semester System

Most of the B.Sc. programs operate on the three semester system. In this system each of the Fall, Winter and Summer semesters is of 12 weeks duration. Two semesters are equivalent to 1 academic year at a university on the traditional system. In the three semester system, students may vary their rate of progress towards graduation. However, since many science courses must be taken in a certain sequence and not all courses are offered each semester, most science students are required to proceed from semester to semester in restricted patterns. Furthermore, the majority of courses of the honours programs are offered only in the regular fall and winter semesters.

Additional information may be obtained from Admissions Services, Office of Registrarial Services. The three-semester system and the pass-by-course method of advancement allow considerable flexibility of program arrangement. In addition, a variety of program contents is available which the student may modify to meet individual requirements.

## Transfer from One B.Sc. Program to Another

On entrance to the B.Sc. program, the student may elect to follow an intended area of specialization or to postpone this decision until a later semester. The choice of a particular program of study may be most effectively made at the end of Semester 3 or 4. Judicious selection of courses in each and every semester will allow the easiest transfer between programs without incurring the need for additional semesters of study. The program counsellor of the particular college from which it is anticipated that the majority of science courses will be taken should be consulted for advice.

## Program Information

### B.Sc. Program Requirements

Regulations 1- 9 apply to all B.Sc. students.

#### 1. Entry Credits

In general, the 4U /grade 12 credit or its equivalent is required in a subject area to allow entrance to the initial university course. Students who lack this requirement can remedy the deficiency by successful completion of:

- BIOL\*1020 Introduction to Biology for students lacking biology
- CHEM\*1060 Introductory Chemistry for students lacking chemistry

If more than one of the above courses is taken, students are required to complete additional credits beyond the minimum total required for the degree.

#### 2. 1st Year Science Core

All majors within the B.Sc. degree are required to complete the first year core as outlined within their major. The core consists of courses in biology, chemistry, physics and mathematical science.

#### 3. 1000 Level Credits

If more than 7.00 credits at the 1000 level are completed, students are required to complete additional credits beyond the minimum total required for the degree.

#### 4. 3000 and 4000 Level Credits

There is a requirement for a minimum of 6.00 science credits at the 3000- and 4000-levels with a minimum of 2.00 credits at the 4000 level.

#### 5. Science Credits

A minimum of 16.00 science credits (usually 32 courses) is required for the honours major program. The inclusion of a minor in a non-science area involves the reduction to 14.00 science credits. A minimum of 12.00 science credits is required for the three year general B.Sc. degree. Acceptable science courses means "acceptable to the B.Sc. Program Committee". Lists of acceptable science courses are available at: [https://www.uoguelph.ca/bsc/Approved\\_electives](https://www.uoguelph.ca/bsc/Approved_electives) ([https://www.uoguelph.ca/bsc/Approved\\_electives/](https://www.uoguelph.ca/bsc/Approved_electives/)).

#### 6. Liberal Education Requirements

All majors within the B.Sc. degree require a specified number of liberal education credits. The goal of the liberal education requirement is to increase breadth by requiring credits that are outside the disciplines of science with a focus in at least one of the following areas:

- Policy, operational and management practices pertaining to a practical activity, or influence of social, cultural and economic environments on such activities.
- Personal or professional growth including ethical responsibility, leadership and communication.
- Development of historical, cultural, global, artistic, social, and language competencies.

A complete listing of acceptable courses can be found at: [https://bsc.uoguelph.ca/Approved\\_electives](https://bsc.uoguelph.ca/Approved_electives) ([https://bsc.uoguelph.ca/Approved\\_electives/](https://bsc.uoguelph.ca/Approved_electives/))

#### 7. Free Electives

All majors within the B.Sc. degree have a specified number of free electives. All courses available to B.Sc. students can be used to fulfill this requirement. Courses not eligible to B.Sc. students are clearly marked within their course description.

#### 8. Double-Counting of Credits

A maximum of 2.50 credits required in a major program may be applied to meet the requirements of a minor or an additional major.

For a completed minor in a non B.Sc. area, students can apply up to 1.00 credits at the 3000/4000 level from their minor towards the 6.00 credits at the 3000/4000 level required for the degree.

Students cannot declare a major or minor in the three year general B.Sc. degree.

#### 9. Continuation of Study

Students are advised to consult the regulations for continuation of study outlined in detail in Section VIII—Undergraduate Degree & Regulations.

## General Program Requirements

The general B.Sc. degree requires the successful completion of 15.00 credits. Normally 2.50 credits (usually 5 courses) are taken in each semester so that the degree may be completed in 6 semesters. The general science program is designed to give a broad general training in biological science, chemistry, physics and mathematical science. This is achieved by requiring each student to take a minimum of 1.00 credits in each of the above areas and an additional 0.50 credits in three of the four above areas. The courses to be taken in semesters 4 to 6 may be selected to allow a broad study of the sciences from the list of approved electives for B.Sc. students.

## Honours Program Requirements

In order to graduate from the honours program, students must fulfill all program requirements for the program and have achieved a 60%, or higher, cumulative average over all course attempts. Normally 2.50 credits (usually 5 courses) are taken in each semester so that the degree may be completed in generally 8 semesters. The following types of honours programs are offered:

### Honours Major Programs

- Major in a subject
- Major in a subject with a minor or a second major

### Honours Major

Majors permit a student to study science in greater depth than is permitted by the general program. The student is required to take a minimum of 1.00 credits (usually 2 courses) in each of biological science, chemistry, physics and mathematical science. In each of semesters 3 to 8, students complete science credits so that the total program provides a broad science training with concentration in an area of physical science or biological science.

A major normally consists of certain prescribed courses (minimum of 8.00 credits) and a number of elective courses to complete the requirements for the degree. The composition of science courses, core restricted electives and electives, must contain a sufficient number (minimum of 6.00 credits) of 3000 and 4000 level courses including a grouping (minimum of 2.00 credits) at the 4000 level. A major program may be studied in conjunction with a minor in an area of science, humanities, business, agriculture, or social science.

### Honours Minor

A minor is a group of courses which provides for exposure to and mastery of the fundamental principles of a subject. A minor consists of a minimum of 5.00 credits (normally 10 courses). It may also require courses from other areas to be taken along with the specified courses of the minor. A minor is taken in conjunction with a major.

Students should seek advice from the program counsellor in the Bachelor of Science Academic Advising Office <https://bsc.uoguelph.ca>.

## Special Study Options

### Study at Other Universities

Students contemplating study at another university for credit towards a Bachelor of Science degree at the University of Guelph should refer to the general regulations governing Letters of Permission in Section VIII–Degree Regulations & Procedures in this calendar. Students must obtain approval for the Letter of Permission prior to undertaking studies at another institution.

## Study Abroad

The University of Guelph offers Study Abroad and Exchange opportunities for students to enrich their learning experience. Bachelor of Science students are encouraged to participate in any of the diverse options available. Courses taken while on exchange or study abroad may be used as electives or core requirements pending appropriate approvals. For further information on the programs available, please refer to Section V - International Study. Students are advised to meet with the Centre for International Programs and B.Sc. Program Counsellor to discuss the feasibility of participating in an exchange or study abroad program.

## Doctor of Veterinary Medicine

Students in the B.Sc. program who intend to apply for admission to the Doctor of Veterinary Medicine program should register for the Major Biological Science or Major Physical Science program, or the major of their choice. Prospective candidates for the D.V.M. program should consult the admission requirements for the program. Students may obtain assistance in selecting a program that will meet the requirements for the Doctor of Veterinary Program and for continuation in biological or physical science programs by consulting the appropriate Program Counsellor.

## General Program (BSCG)

### Continuation of Study

Students are advised to consult the regulations for continuation of study within the program which are outlined in detail in Section VIII–Undergraduate Degree Regulations & Procedures.

### Conditions for Graduation

In order to qualify for graduation from the general program the student is required to attain a passing grade in a minimum of 15.00 required credits as outlined in the Total Course Requirements for all students in the General Science Program and have achieved a minimum cumulative average of 50%.

### Total Course Requirements for all Students in the General Science Program

Total of 15.00 credits as follows:

1. 4.00 credits from the first year science core - 1.00 credits beyond the 4U/ grade 12 level in each of biological science, chemistry, mathematical science, physics. Note: A maximum of 7.00 credits at the 1000 level may be used towards the degree requirements.
2. An additional 0.50 credits from at least 3 of the following subject areas: biological science, biochemistry/chemistry, mathematical science, physics.
3. 6.50 additional credits selected from the list of approved sciences electives for the B.Sc. degree program of which 2.50 credits must be at the 3000 or 4000 level. Note: One of: BIOL\*1020 Introduction to Biology, CHEM\*1060 Introductory Chemistry may be counted towards the degree requirements, counting as 0.50 credits in science.
4. 2.00 credits - Liberal Education electives selected from the B.Sc. list of Liberal Education electives.
5. 1.00 credits in electives.

## Recommended Schedule for Students in Biological Science Areas

Students lacking Grade 12 or 4U Biology, Chemistry or Physics should follow the revised schedule of study for this major found at [https://bsc.uoguelph.ca/revised\\_SS](https://bsc.uoguelph.ca/revised_SS) ([https://bsc.uoguelph.ca/revised\\_SS/](https://bsc.uoguelph.ca/revised_SS/))

Code	Title	Credits
<b>Semester 1</b>		
BIOL*1090	Introduction to Molecular and Cellular Biology <sup>1</sup>	0.50
CHEM*1040	General Chemistry I	0.50
MATH*1080	Elements of Calculus I	0.50
PHYS*1080	Physics for Life Sciences	0.50
0.50 Liberal Education electives		0.50

<b>Semester 2</b>		
BIOL*1070	Discovering Biodiversity <sup>1</sup>	0.50
CHEM*1050	General Chemistry II	0.50
PHYS*1070	Physics for Life Sciences II	0.50
0.50 Liberal Education electives		0.50
Select 0.5 credits from the following:		
CIS*1000	Introduction to Computer Applications	0.50
CIS*1200	Introduction to Computing	0.50
CIS*1500	Introduction to Programming	0.50
STAT*2040	Statistics I	0.50
MATH*1090	Elements of Calculus II	0.50

<b>Semester 3 to 6</b>		
A minimum of 2.50 credits in each semester, including at least 2.00 acceptable science credits per semester. For details consult 'Total Course Requirements'		10.00

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BIOL\*1080 Biological Concepts of Health is a prerequisite for some courses in the biological sciences. Students are strongly recommended to also complete this course by the end of the third semester.

## Recommended Schedule for Students in Physical Science Areas

Students lacking Grade 12 or 4U Biology, Chemistry or Physics should follow the revised schedule of study for this major found at [https://bsc.uoguelph.ca/revised\\_SS](https://bsc.uoguelph.ca/revised_SS) ([https://bsc.uoguelph.ca/revised\\_SS/](https://bsc.uoguelph.ca/revised_SS/))

Code	Title	Credits
<b>Semester 1</b>		
CHEM*1040	General Chemistry I	0.50
IPS*1500	Integrated Mathematics and Physics I	1.00
0.50 Liberal Education electives		0.50
Select 0.5 credits from the following:		
BIOL*1070	Discovering Biodiversity	0.50
BIOL*1080	Biological Concepts of Health	0.50
BIOL*1090	Introduction to Molecular and Cellular Biology	0.50
<b>Semester 2</b>		
CHEM*1050	General Chemistry II	0.50
IPS*1510	Integrated Mathematics and Physics II	1.00
0.50 Liberal Education electives		0.50
Select 0.5 credits from the following:		

BIOL*1070	Discovering Biodiversity	0.50
BIOL*1080	Biological Concepts of Health	0.50
BIOL*1090	Introduction to Molecular and Cellular Biology	0.50

### Semester 3 to 6

A minimum of 2.50 credits in each semester, including 2.00 acceptable science courses per semester. For details consult 'Total Course Requirements'.		10.00
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## Honours Programs (BSCH)

### Honours Program Majors

The following honours majors are available:

#### Biological Sciences

20.00 credits -Animal Biology (ABIO)
20.00 credits -Biochemistry (BIOC)
20.00 credits -Biodiversity (BIOD)
20.00 credits -Biological Science (BIOS)
20.00 credits -Bio-Medical Science (BIOM)
20.00 credits -Biomedical Toxicology (BTOX)
20.00 credits -Environmental Biology (ENVB)
20.00 credits -Food Science (FOOD)
20.00 credits - Human Kinetics (HK)
20.00 credits - Marine and Freshwater Biology (MFB)
20.00 credits - Microbiology (MICR)
20.00 credits - Molecular Biology and Genetics (MBG)
20.00 credits - Neuroscience (NEUR)
20.00 credits - Nutritional and Nutraceutical Sciences (NANS)
20.00 credits - Plant Science (PLSC)
20.00 credits - Wildlife Biology and Conservation (WBC)
20.00 credits - Zoology (ZOO)

#### Physical Sciences

20.00 credits - Biological and Medical Physics (BMPH)
20.00 credits - Biological and Pharmaceutical Chemistry (BPCH)
20.00 credits - Chemical Physics (CHPY)
20.00 credits - Chemistry (CHEM)
20.00 credits - Environmental Geomatics (EG)
20.00 credits - Mathematical Science (MSCI)
20.00 credits - Nanoscience (NANO)
20.00 credits -Physical Science (PSCI)
20.00 credits -Physics (PHYS)
20.00 credits -Theoretical Physics (THPY)

#### Co-operative Educational Programs

22.00 credits - Biochemistry (Co-op) (BIOC:C)
22.50 credits - Biological and Medical Physics (Co-op) (BMPH:C)
22.00 credits - Biological and Pharmaceutical Chemistry (Co-op) (BPCH:C)
22.00 credits - Biomedical Toxicology (Co-op) (BTOX:C)
22.50 credits - Chemical Physics (Co-op) (CHPY:C)
22.00 credits - Chemistry (Co-op) (CHEM:C)
22.00 credits - Environmental Geomatics (Co-op) (EG:C)
22.00 credits - Food Science (Co-op) (FOOD:C)
22.50 credits - Marine and Freshwater Biology (Co-op) (MFB:C)
22.00 credits - Microbiology (Co-op) (MICR:C)
22.00 credits - Molecular Biology and Genetics (Co-op) (MBG:C)
22.50 credits - Nanoscience (Co-op) (NANO:C)
22.50 credits - Physics (Co-op) (PHYS:C)
22.50 credits - Plant Science (Co-op) (PLSC:C)

## Honours Program Minors

Minors are available in the following science areas with the particular credit requirements being given (additional minors are available from the B.Sc. Program Counsellor (<https://bsc.uoguelph.ca/>) and the College of Social and Applied Human Sciences (<https://csahs.uoguelph.ca/>)). A minor may include additional prerequisites - consult with the appropriate faculty advisor.

### Biological Sciences

- 5.00 credits - Biology (BIOL)
- 5.00 credits - Biochemistry (BIOC)
- 5.00 credits - Biotechnology (BIOT)
- 5.00 credits - Microbiology (MICR)
- 5.00 credits - Molecular Biology and Genetics (MBG)
- 5.00 credits - Neuroscience (NEUR)
- 5.00 credits - Nutritional and Nutraceutical Sciences (NANS)
- 5.00 credits - Plant Science (PLSC)
- 5.00 credits - Zoology (ZOO)

### Physical Sciences

- 5.00 credits - Chemistry (CHEM)
- 5.00 credits - Physics (PHYS)

### Environmental Sciences

- 5.00 credits - Ecology (ECOL)
- 5.00 credits - Applied Geomatics (AG)

### Mathematical Sciences

- 5.00 credits - Computing and Information Science (CIS)
- 5.00 credits - Mathematical Science (MSCI)
- 5.00 credits - Mathematics (MATH)
- 5.00 credits - Statistics (STAT)

### Additional Disciplines

- 5.00 credits - Business Economics (BECN)

## Continuation of Study

Students are advised to consult the regulations for continuation of study within the program which are outlined in detail in Section VIII—Undergraduate Degree Regulations & Procedures.

## Conditions for Graduation

### Schedules 1 and 2

In order to qualify for graduation from the honours program, the student must fulfill all program requirements and have achieved 60%, or higher, cumulative average in all course attempts.

**Note:** A student registered in an honours program who has successfully completed all required courses and the specified total number of credits for the program but does not have a cumulative average of 60%, or higher, may apply to graduate from the general program.

## Co-operative Education Program

Admission to the Co-operative Education program may be granted on entry to the University or by application normally before the conclusion of Semester 1. Application forms can be obtained from the Coop Education and Career Services website <https://www.recruitguelph.ca/cecs/>.

## Conditions for Graduation From the B.Sc. Co-operative Education Program

Conditions for graduation are the same as the corresponding regular B.Sc. program. In addition, all work reports and work performance evaluations must have a grade of satisfactory or better.

## B.Sc. Programs

- Animal Biology (ABIO) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/animal-biology-abio/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/animal-biology-abio/))
- Applied Geomatics (AG) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/applied-geomatics-ag/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/applied-geomatics-ag/))
- Bio-Medical Science (BIOM) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/bio-medical-science-biom/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/bio-medical-science-biom/))
- Biochemistry (BIOC) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biochemistry-bioc/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biochemistry-bioc/))
- Biochemistry Co-op (BIOC:C) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biochemistry-co-op-biocc/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biochemistry-co-op-biocc/))
- Biodiversity (BIOD) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biodiversity-biod/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biodiversity-biod/))
- Biological and Medical Physics (BMPH) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biological-medical-physics-bmph/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biological-medical-physics-bmph/))
- Biological and Medical Physics Co-op (BMPH:C) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biological-medical-physics-co-op-bmphc/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biological-medical-physics-co-op-bmphc/))
- Biological and Pharmaceutical Chemistry (BPCH) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biological-pharmaceutical-chemistry-bpch/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biological-pharmaceutical-chemistry-bpch/))
- Biological and Pharmaceutical Chemistry Co-op (BPCH:C) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biological-pharmaceutical-chemistry-co-op-bpchc/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biological-pharmaceutical-chemistry-co-op-bpchc/))
- Biological Science (BIOS) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biological-science-bios/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biological-science-bios/))
- Biology (BIOL) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biology-biol/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biology-biol/))
- Biomedical Toxicology (BTOX) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biomedical-toxicology-btox/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biomedical-toxicology-btox/))
- Biomedical Toxicology Co-op (BTOX:C) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biomedical-toxicology-co-op-btoxc/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biomedical-toxicology-co-op-btoxc/))
- Biotechnology (BIOT) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biotechnology-biot/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/biotechnology-biot/))
- Business Economics (BECN) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/business-economics-becn-bsc/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/business-economics-becn-bsc/))
- Chemical Physics (CHPY) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/chemical-physics-chpy/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/chemical-physics-chpy/))
- Chemical Physics Co-op (CHPY:C) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/chemical-physics-co-op-chpyc/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/chemical-physics-co-op-chpyc/))
- Chemistry (CHEM) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/chemistry-chem/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/chemistry-chem/))
- Chemistry Co-op (CHEM:C) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/chemistry-co-op-chemc/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/chemistry-co-op-chemc/))
- Computing and Information Science (CIS) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/computing-information-science-cis-bsc/](https://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/computing-information-science-cis-bsc/))

- Ecology (ECOL) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/ecology-ecol-bsc/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/ecology-ecol-bsc/))
- Environmental Biology (ENVB) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/environmental-biology-envb/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/environmental-biology-envb/))
- Environmental Geomatics (EG) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/environmental-geomatics-eg/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/environmental-geomatics-eg/))
- Environmental Geomatics Co-op (EG:C) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/environmental-geomatics-co-op-egc/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/environmental-geomatics-co-op-egc/))
- Food Science (FOOD) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/food-science-food/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/food-science-food/))
- Food Science Co-op (FOOD:C) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/food-science-co-op-foodc/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/food-science-co-op-foodc/))
- Human Kinetics (HK) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/human-kinetics-hk/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/human-kinetics-hk/))
- Marine and Freshwater Biology (MFB) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/marine-freshwater-biology-mfb/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/marine-freshwater-biology-mfb/))
- Marine and Freshwater Biology Co-op (MFB:C) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/marine-freshwater-biology-co-op-mfbc/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/marine-freshwater-biology-co-op-mfbc/))
- Mathematical Science (MSCI) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/mathematical-science-msci-bsc/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/mathematical-science-msci-bsc/))
- Mathematics (MATH) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/mathematics-math-bsc/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/mathematics-math-bsc/))
- Microbiology (MICR) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/microbiology-micr/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/microbiology-micr/))
- Microbiology Co-op (MICR:C) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/microbiology-co-op-micrc/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/microbiology-co-op-micrc/))
- Molecular Biology and Genetics (MBG) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/molecular-biology-genetics-mbg/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/molecular-biology-genetics-mbg/))
- Molecular Biology and Genetics Co-op (MBG:C) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/molecular-biology-genetics-co-op-mbg-c/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/molecular-biology-genetics-co-op-mbg-c/))
- Nanoscience (NANO) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/nanoscience-nano/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/nanoscience-nano/))
- Nanoscience Co-op (NANO:C) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/nanoscience-nanoc/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/nanoscience-nanoc/))
- Neuroscience (NEUR) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/neuroscience-neur/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/neuroscience-neur/))
- Nutritional and Nutraceutical Sciences (NANS) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/nutritional-nutraceutical-sciences-nans/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/nutritional-nutraceutical-sciences-nans/))
- Physical Science (PSCI) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/physical-science-psci/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/physical-science-psci/))
- Physics (PHYS) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/physics-phys/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/physics-phys/))
- Physics Co-op (PHYS:C) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/physics-co-op-physc/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/physics-co-op-physc/))
- Plant Science (PLSC) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/plant-science-plsc/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/plant-science-plsc/))
- Plant Science Co-op (PLSC:C) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/plant-science-co-op-plsc-c/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/plant-science-co-op-plsc-c/))
- Statistics (STAT) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/statistics-stat-bsc/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/statistics-stat-bsc/))
- Theoretical Physics (THPY) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/theoretical-physics-thpy/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/theoretical-physics-thpy/))
- Wildlife Biology and Conservation (WBC) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/wildlife-biology-conservation-wbc/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/wildlife-biology-conservation-wbc/))
- Zoology (ZOO) ([calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/zoology-zoo/](http://calendar.uoguelph.ca/undergraduate-calendar/programs-majors-minors/zoology-zoo/))