These are exciting times for biologists. In the past century, we have made amazing progress in understanding the workings of cells, organisms and populations. Today, biologists continue to unlock the DNA codes of organisms and develop new tools for DNA manipulation and analysis. These tools have a broad range of uses, from police applications of forensic science to the diagnosis of disease and the development of gene therapies.

The study of biodiversity is becoming increasingly important as human activity encroaches on the habitats of other organisms. In order to understand and measure the impact of human behaviour, pollution and urbanization, biologists identify and classify organisms and study the relationships of these organisms to their environments.

Many challenges of the future, and the tools needed to meet them, will be increasingly understood in their biological contexts.

The Carleton advantage

Laboratory, independent research and field course opportunities

Many of our courses feature instructional laboratories and extensive opportunities for hands-on work. As a result, our graduates are recognized for their excellence in laboratory and field skills.

All Honours students have the opportunity to develop research projects, working alongside a faculty advisor. You will graduate with both a defined area of expertise and valuable experience.

At Carleton, field and laboratory experiences are an integral part of our Biology courses. In addition, you will be able to choose optional, intensive field courses where you live on location.

Research facilities

The biology department is well-equipped with the latest technology, including a mass spectrometer; fluorescence and light microscopes; cell, tissue and bacterial culture facilities; a wide range of molecular biology equipment; sophisticated electronic sensors for physiological and behavioural studies; and computer laboratories.

The Nesbitt Biology Building, which serves as the central hub of the Biology program, houses controlled-environment rooms and growth chambers as well as extensive greenhouses. The National Wildlife Research Centre laboratories are also situated nearby on Carleton’s campus.
Co-op opportunities
The Bachelor of Science (BSc) Honours program in Biology includes a flexible co-operative education (co-op) option. Students can gain at least 12 months of practical work experience in settings such as government laboratories, Environment Canada, biotechnology companies and museums in the Ottawa area.

The capital advantage
The Ottawa area is home to numerous environmental and biotechnology companies. Several government departments based in Ottawa are involved with the research that leads to environmental legislation and regulations, and Ottawa is home to one of the nation’s significant clusters of companies conducting research in medical, agricultural and environmental biotechnology. Collaborations with these organizations, as well as with the National Capital Commission, national museums and the National Research Council Canada, provide an unparalleled background for your study in Biology.

Choosing the right program
At Carleton, most Biology programs are offered as a Bachelor of Science (BSc) program, though we do offer a Bachelor of Arts (BA) in Biology and a Bachelor of Humanities (BHum) in Humanities and Biology.

Bioinformatics – BSc (Honours)
Biology – BSc (Honours)
  ■ Concentration in Ecology, Evolution and Behaviour
  ■ Concentration in Health Science
  ■ Concentration in Molecular and Cellular Biology
  ■ Concentration in Physiology
Biology – BSc (Major and General)
Biology – BA (Honours, Combined Honours and General)
Biology and Biotechnology – BSc (Honours)
Biology and Earth Sciences – BSc (Combined Honours)
Biology and Physics – BSc (Combined Honours)
Neuroscience – BSc (Combined Honours)
Humanities and Biology – BHum (Combined Honours)
Bachelor of Science program in Bioinformatics
Bioinformatics involves the use of techniques from computer science to solve biological problems such as gene identification, protein structure determination, and gene expression profiling. You will take courses in several areas including bioinformatics, biology, biochemistry and computer science.

Bachelor of Science programs in Biology
Our science programs concentrate on courses in biology and other sciences, while allowing for a limited number of optional courses in the arts and social sciences. The four-year Honours program is strongly recommended if you are planning to continue studies at the graduate level, and is particularly appropriate for entry into professional programs in medicine, pharmacy, physiotherapy, veterinary sciences or teaching or for careers in biology. Choosing an Honours concentration allows you to structure your program according to your particular interests, but students may still pursue a Bachelor of Science (Honours) in Biology without concentrations.

The Major program is similar to the Honours program in that it requires the completion of 20 credits, but it involves fewer laboratory-based classes and does not require the completion of an Honours Thesis research project.

The department also offers a number of combined programs.

Kendra Young, Biology student
Biology at Carleton has been an awesome experience! The passion of the professors is infectious and inspiring no matter what their field. Although first year is structured to give students a solid background in all the core sciences, the program is set up in such a way as to allow students to explore and specialize in an area of personal interest. The initial learning curve from high school to university was actually easier to overcome than I’d originally expected, thanks to the numerous support services offered, such as the Science Student Success Centre and Peer Assisted Study Sessions.
The Honours program in Biology and Biotechnology offers a basic grounding in biology and biochemistry with additional specialization in courses related to biotechnology.

The Combined Honours program in Biology and Earth Sciences offers another group of interdisciplinary areas of exploration such as paleontology, biogeography and evolution.

The Combined Honours in Biology and Physics is an excellent choice for students interested in biomechanics, biophysics or medical physics.

Our popular Combined Honours BSc degree in Neuroscience is offered through the Department of Neuroscience and the Department of Biology.

First-year Seminar in Science course
First-year Bachelor of Science students are encouraged to enrol in our unique seminar course, (NSCI 1000), which is designed specifically to introduce you to the latest scientific issues and help you develop the kind of communication, analytical thinking and research skills you will need for your science studies and your career. If you choose this elective, you will attend several special lectures given by prominent Canadian researchers, as well as small group seminars led by a professor who acts as both your mentor and teacher.

A sample first year (BSc)
- 1.0 credit in Foundations of Biology I and II
- 1.0 credit in Elementary Chemistry I and II
- 1.0 credit in Elementary University Physics I and II
- 0.5 credit in Elementary Calculus I
- 0.5 credit in Linear Algebra I
- 0.5 credit in Seminar in Science (NSCI 1000)
- 0.5 credit in an approved arts and social sciences elective

Bachelor of Humanities program
Students can take a Combined Honours program in Humanities and Biology—a program designed especially for those interested in both arts and sciences. This program consists of twelve courses in humanities and eight courses in biology, chemistry and biochemistry.

Bachelor of Arts program in Biology
This program combines a liberal education in the arts and social sciences with increased depth of study in the life sciences. The program has a minimal requirement for courses from the physical sciences
and mathematics, allowing students to relate their special knowledge of biology to other disciplines in the social sciences and humanities.

First-year Seminar for Bachelor of Arts students
As a first-year Bachelor of Arts student at Carleton, you will benefit from one of our First-year Seminars. Experienced instructors teach small groups (around 30 students) and provide instruction in research, writing and study skills.

Future opportunities
The workplace
Carleton Biology graduates are well prepared for direct entry into careers in the life sciences. Many of our students go on to careers as biological consultants, wildlife and resource managers, and teachers. Some work as research technologists in a wide range of government and industrial research laboratories.

Graduate studies
Graduates of any of our Honours programs are well qualified to go on to graduate studies. If you think that you may wish to pursue an advanced degree, you are encouraged to investigate graduate programs early in order to ensure that your program is suited to meet the relevant graduate-level requirements.

Professional programs
A Biology degree provides a strong foundation for many professional programs, including medicine, dentistry, teaching and veterinary sciences.

FAQs
1. Why would I choose an Honours program?
Honours or four-year programs have many advantages including offering more courses in your chosen field and access to co-op and internship opportunities where available, as well as providing a more laboratory-intensive curriculum that prepares you for graduate studies, professional programs and employment.

2. Where can I go for academic advice?
Once you are studying at Carleton, you can arrange to meet with an academic advisor from the Department of Biology or you can visit our Student Academic Success Centre, which offers a range of services including academic advising and free study-skill development workshops.

[carleton.ca/sasc](carleton.ca/sasc)
You can also take advantage of our new Science Student Success Centre, which was created specifically to address the needs of science students. Personnel from the Centre advise students on how to manage their workload, prepare for class, take good notes and study for exams. carleton.ca/sssc

Admission requirements

For admission to the Bachelor of Science program in Biology, you must have the Ontario Secondary School Diploma (OSSD) or equivalent including a minimum of six 4 U/M courses. For the Honours program, your six 4 U/M courses must include Advanced Functions and two of Biology, Chemistry, Earth and Space Science or Physics. Also, Calculus and Vectors is strongly recommended. For the Major and General programs, your six 4 U/M courses must include Advanced Functions and two credits from Calculus and Vectors, Biology, Chemistry, Earth and Space Science or Physics.

For admission to the Bachelor of Humanities and Biology program, you must have the Ontario Secondary School Diploma (OSSD) or equivalent, including a minimum of six 4 U/M courses. Your six 4 U/M courses must include 4U Chemistry or 4U Biology.

For admission to the Bachelor of Arts in Biology program, you must have the Ontario Secondary School Diploma (OSSD) or equivalent, including a minimum of six 4 U/M courses. Your six 4 U/M courses must include 4U English (or Anglais) and Chemistry. Advanced Functions and Calculus and Vectors are recommended.

It is Carleton University policy to consider your best performance in any eligible course in the admissions assessment. Since the number of qualified applicants may be greater than the number of available spaces, cut-off averages and required marks may vary. Please refer to our website at admissions.carleton.ca/requirements for the current admission requirements.

For more information...about the Biology programs at Carleton, please visit carleton.ca/biology or consult the Carleton University Undergraduate Calendar website at carleton.ca/cuuc.
Do you want more information? Please contact us at:

**Department of Biology**  
Carleton University  
209 Nesbitt Biology Building  
1125 Colonel By Drive  
Ottawa ON K1S 5B6  
Canada  
Tel: 613-520-2478  
Fax: 613-520-3539  
Email: biology@carleton.ca  
Website: carleton.ca/biology

**Undergraduate Recruitment Office**  
Carleton University  
315 Robertson Hall  
1125 Colonel By Drive  
Ottawa ON K1S 5B6  
Canada  
Tel: 613-520-3663  
Toll-free in Canada: 1-888-354-4414  
Fax: 613-520-3847  
Email: liaison@carleton.ca  
Website: admissions.carleton.ca

This document is available in a variety of accessible formats upon request. A request can be made on the Carleton University website at: carleton.ca/accessibility/request.
For more information on all of Carleton’s undergraduate programs, visit

admissions.carleton.ca

where you can browse program descriptions, career possibilities, and electronic versions of all of our program guides. You can also check out financial aid options, book a tour, sign up for our monthly newsletter, watch Carleton videos, and connect with us on social media.

You may also wish to consult our current

Admissions Viewbook

We look forward to hearing from you!