

# NIPISSING

U N I V E R S I T Y

North Bay

[www.nipissingu.ca](http://www.nipissingu.ca)

Biology  
Environmental Biology and Technology



## Program Descriptions

Biology is the scientific study of all living organisms – from the microscopic to the gigantic. Both of our programs will provide you with a comprehensive background as you investigate theoretical topics like evolution by natural selection, biological classification, inheritance, cells, bioenergetics, homeostasis, and ecosystems. Additional interdisciplinary and practical studies in health sciences, chemistry, environmental science, ecology, genetics, geography, human biology and technical statistics will satisfy learning outcomes from multiple perspectives. Through the Biology program you will have opportunity to earn both your Honours Bachelor of Science degree as well as a Certificate in Neuroscience. If you choose to take the Environmental Biology and Technology program, you will earn an Honours Bachelor of Science degree from Nipissing University, an Environmental Technician Diploma from Canadore College, and a number of valuable certificates.

## Our Teaching Approach

Our Biology department is collaborative and student-oriented. With small class sizes, you will engage in lively discussions and debate course content with your peers and professors who will know you by name, care about your progress, and help you develop to your full potential.

Our supportive and accessible professors take a hands-on approach to learning, with an open door policy that welcomes students during and often outside of office hours when extra help is required.

Field trips are a key component of our Biology programs, and almost every course includes a combination of lecture and laboratory hours. You will study in state-of-the-art facilities, including research labs, a fish lab, a herbarium, a roof-top greenhouse, and a wide range of aquatic and forest environments. In addition, our new research wing includes a Central Analytical Facility featuring cutting-edge equipment for isolating and identifying extremely minute quantities of chemicals, from those found in the environment to genes and DNA.

The mix of theory and practical hands-on lab work helps to support the knowledge gained from text books and classes, while providing opportunity to integrate real-world applications.



*A Thesis course or an Internship course is an excellent way to gain specialized training for a specific goal, such as preparing for a Veterinary career.*

## Programs and Faculty

### Bachelor of Science (BSc) in Biology

- Honours Specialization
- Specialization
- Major
- Minor

As a Biology student, you likely have an innate desire to learn about life, the science behind it, and its many forms. You may be driven by a desire to go to medical school, disturbed by the rate of plant and animal extinction, or fascinated by forestry and ecology. Whatever future you want to pursue, Nipissing offers strong and well-rounded programs that provide you with a solid jump-start.

Faculty at Nipissing bring unique and diverse research interests to teaching that enrich student learning. Our professors have studied and published in a wide range of academic topics, won research grants, written textbooks, worked with various industries, advised governments, and been honoured with teaching awards.

If this is your first year, you can expect to take two introductory courses—Molecular and Cell Biology, and Organismal and Evolutionary Biology. These core courses will form the foundation for the rest of your learning. You will also choose other courses such as chemistry, math, or social sciences. Our professors are renowned for their skill in engaging students just like you and helping to ignite your passion for the specific areas of biology you love.

In upper years, you can choose from a range of courses focusing on ecology and evolution, and biomedical studies. In the fourth year of the Honours program, you will have access to an intensive field camp experience—a week-long excursion to sample, collect, and identify organisms and data leading to a major report and presentation. The Honours degree also includes significant faculty-supervised field or laboratory research and the option of writing a thesis. Your Fourth-year thesis project will involve working under the supervision of a faculty member to conduct original—and often publishable—research. In fact, you may be eligible for job opportunities as a researcher, field or lab assistant, which will definitely give you an advantage if you plan to go on to graduate school. You will be encouraged to present your work at undergraduate conferences that profile the work of Biology students from across the country. Small class sizes will maximize your learning, and your professors will be available to provide you with the guidance and support you need as you complete your final year.

### Certificate in Neuroscience

If you are interested in studying the brain and nervous system functions, and complete specific courses within the Honours BSc in Biology program, you can earn a Certificate in Neuroscience. The required courses provide you with an opportunity for interdisciplinary research that explores the processes of the brain at all phylogenetic levels and help to prepare you for graduate school in Neuroscience or a related field.



### Certificate in Forest Resource Management and Conservation

If you are interested in learning more about forests and how to manage their wide range of resources, you would plan to take the courses and options required to earn this certificate.

### Minor in Environmental Science

Students in Biology or other disciplines may wish to accumulate some additional expertise in Environmental Science. In that case, they would plan to take the specific courses and options described in the Academic Calendar.

### Minor in Chemistry

Chemistry can be extremely useful to Biologists and to students interested in a wide range of topics. A Minor in Chemistry, based on 18 credits of CHEM courses, is currently available.

### Bachelor of Science in Environmental Biology and Technology (BSc) –

- Single Major

Our Environmental Biology and Technology (ENBT) program specializes in providing the knowledge and skills required to study Environmental Biology from many perspectives. You will receive the double-benefit of combining the academic education provided by Nipissing University with the practical and technical skills taught by our colleagues at Canadore

College. All courses are completed within four years, and students emerge with both a university degree and a college diploma. Just as with the BSc Degree in Biology program, you will have opportunity to secure research opportunities with your professors that are typically reserved for graduate students at other institutions. It comes as no surprise that Nipissing alumni are quick to report that their early exposure to research and investigative techniques provides a significant edge when applying to graduate school and later in their chosen careers.

### Bachelor of Education: The Schulich School of Education

If you want to earn a Bachelor of Education (BEd) degree, you can choose from the Concurrent route (available with all honours undergraduate programs except Nursing), or the Consecutive Program (once you've completed your undergraduate degree). The Schulich School of Education is one of the best education programs in Ontario. It will prepare you to teach in both traditional and non-traditional environments, and you'll gain communication and collaborative skills that can be used in any career.

Our long tradition of teacher education, combined with our mobile technology iTeach experience, will give you a distinct advantage. You will have continuous access to teaching materials and information on the Internet and your laptop, whether you're on campus, in class, or at your practice teaching placement. And you'll develop expertise with digital resources that will help you become a leading-edge educator.



### I'm satisfied with my decision to attend this university (Strongly Agree/Agree)

<b>NIPISSING</b> .....	<b>98%</b>
Laurier .....	95%
Carleton .....	94%
Waterloo .....	94%
Brock .....	92%
Lakehead .....	91%
Ryerson .....	91%
York .....	88%

CUSC survey as published in Maclean's February 2014 (Ontario Universities)



*There are plenty of fascinating outdoor opportunities in the programs we offer.*

## Master of Environmental Sciences (MESc)/Master of Environmental Studies (MES)

Our Master of Environmental Sciences (MESc)/Master of Environmental Studies (MES) graduate programs take a unique interdisciplinary approach by integrating ideas and methodologies from the humanities, social sciences, and natural sciences to explore and address environmental issues. The programs consist of course work plus a Major Research Paper (one-year program) or course work plus a Thesis (two-year program), and are offered on a full-time or part-time basis. Offered jointly with the Geography and History departments, these graduate-level programs offer training and development to graduates who want to contribute to the study of the environment, environmental issues, and environmental problem solving.

### Why Nipissing?

You will feel right at home the minute you step onto campus. Becoming a part of our community is just one of the many perks of attending Nipissing. You will also benefit from small class sizes where you will have a name and a voice. You will enjoy the interactive, hands-on, learn-by-doing methods that are employed in many of your classes. Should you need help, you will have access to our supportive professors, even outside of classroom hours.

Nipissing is focused on student success. So you will have access to a full range of student services that will help you succeed academically, financially, and personally.

In addition, we have some of the best residences in Canada, with a guaranteed private room for all first-year students coming directly from high school.

We encourage you to come and see for yourself why you belong at Nipissing.

### Where Can I Go From Here?

Whatever Biology program you choose at Nipissing University will more than prepare you for successful employment or further education. Graduates have gone on to successful careers in teaching, research, medicine, consulting, wildlife management, public health, and forestry.

Our students have won prestigious scholarships, published thesis work in international scientific journals, and accepted awards at international conferences. Our students also have a high success rate in applying for postgraduate studies and receiving highly competitive scholarships. In fact, Nipissing graduates have an edge over many other graduate applicants because of the intensive research experiences they are able to complete as undergraduates.

For further information visit: [www.nipissingu.ca/biology](http://www.nipissingu.ca/biology)



ONE STUDENT AT A TIME

Student Recruitment Office, 100 College Drive, Box 5002, North Bay, ON P1B 8L7  
tel: (705) 474-3450 ext. 4200 • toll free (within Ontario): (800) 655-5154 • tty: (877) 688-5507  
nuinfo@nipissingu.ca • www.nipissingu.ca • www.facebook.com/NipissingU • @NipissingU @NURecruitment

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