Admission Requirements

Environmental Science (BSc)
Physical Sciences Stream

Prerequisite Requirements for BSc:
• ENG4U, MHF4U, MCV4U, SCH4U, SPH4U

Expected minimum admission average: low-to-mid 80s

If you major in the Physical Sciences stream your courses in first year will probably be:
• Chemistry
• Physics
• Physical Geography
• Calculus
• Linear Algebra
• Computer Programming
• General Education Course

In second year you will probably take:
• The Hydrosphere
• Vegetation and Soils
• Introductory Meteorology
• Inorganic Chemistry
• Mechanics of Fluids and Solids
• Electricity and Magnetism
• Calculus
• Geomorphology
• General Education Course

Career options for Environmental Science majors include:
• Environmental Consultant
• Environmental Pollution Assessment and Control
• Natural Resource Conservation
• Air Quality Specialist
• Education – elementary, high school, college, university
• Postgraduate Studies/Academic Career

Courses you might take in upper years include:
• Water Quality and Stream Ecosystems
• Applied Plant Ecology
• Ecological Climatology
• Remote Sensing of the Earth’s Surface
• Climate and Climate Change
• Desert Ecosystems
• Physical Hydrology and Water Resource
• Dynamics of Snow and Ice
• Fluvial Geomorphology
• Pollutants, Invaders and Global Change
• Terrestrial Ecosystems
• Rivers: Environment and Process
• Hydrometeorology
Why study Environmental Science at York?

Studying Environmental Science at York equips you with a unique set of multidisciplinary science and technical skills that will prepare you to understand and resolve complex environmental problems in Canada and throughout the world. York’s Environmental Science program offers a rigorous science education based on the four objectives of providing a solid scientific training in the environmental sciences, building strong communication skills to deal with complex environmental issues, offering hands-on experience in environmental research, and developing strong technical skills. Your studies in Environmental Science at York will help prepare you for leadership roles in environmental fields of critical and increasing global demand.

Program Overview

York’s Environmental Science program offers a multidisciplinary four-year Specialized Honours degree organized around the major interacting systems of the atmosphere, water, living organisms, landforms, and the effects of human activities on these systems. The rigor and structure of the Honours program ensure that students graduate with the breadth of knowledge and in-depth skills and expertise required to understand complex, interrelated environmental problems and function as environmental scientists at high levels of responsibility and expertise. With these objectives in mind, your studies in Environmental Science at York will begin with foundation courses in science which will prepare you for advanced study in one of the two streams offered: Life Sciences or Physical Sciences.

Studies in the Life Sciences stream integrate physical geography with ecology and population biology, and focus on the environmental problems which affect water, air, aquatic sediments and soils, and plants and animals. Because environmental issues involve complex interactions between biotic and physical environments, studies in the Life Sciences stream build knowledge and field expertise on the biological dynamics of plant and animal communities and their relationships with landforms, soils, and energy, water and nutrient movement in the landscape. The Life Sciences stream offers significant opportunities for field study, including field courses, as well as mapping, surveying, and GIS and RS (Geographical Information Systems & Remote Sensing).

The Physical Sciences stream integrates atmospheric sciences with surface water hydrology, hydro climatology, and landforms.

Because environmental problems such as climate change, ozone depletion, acid rain, and the pollution of rivers and lakes involve interactions between the atmosphere and the land surface, studies in the Physical Sciences stream focus on the linkages between atmospheric processes and surface physical geography. Like the Life Sciences stream, the Physical Sciences stream emphasizes field work, and offers multiple opportunities for field study and the development of technical expertise.

As part of pursuing your degree in Environmental Science at York, you may also choose to complete a Certificate in Geographic Information Systems (GIS) and Remote Sensing. Geographic Information Systems (GIS) analyze and display diverse types of environmental data in interactive maps, while remote sensing uses data gathered by instruments mounted on orbiting satellites or aircraft to measure and monitor environmental change. Both GIS and remote sensing are powerful tools for environmental analysis and management, and completion of the Certificate will significantly augment your Environmental Science studies at York and your ultimate career prospects.
Facilities and Opportunities at York and Beyond

In addition to offering challenging and useful academic courses in the physical and environmental sciences, York’s Environmental Science program offers numerous opportunities to gain laboratory experience and develop your hands-on field work expertise. Outstanding Environmental Science students also have opportunities to participate in the diverse research projects of our faculty members, who conduct research on:

- Arctic climate
- Hydrology
- Nutrient cycling
- Bees
- Forest and agricultural hydrology
- Invasive species
- Plant evolution
- Atmospheric dynamics
- Air quality

Research Opportunities

Advance your knowledge by gaining research experience outside the classroom. Students are able to learn advanced lab skills, use sophisticated lab equipment, interact with graduate students, gain in-depth knowledge in a particular field, and actually contribute to the advancement of scientific knowledge.

Here are just a few of the companies you could have the opportunity to work for:
- Sanofi Pasteur
- Health Gene Corporation
- Parks Canada
- City of Toronto
- Grande Prairie Regional College

Visit /science.yorku.ca/current-students/ee/ for more information

Experiential Education

The Faculty of Science provides a rich diversity of opportunities for undergraduate students to engage in Experiential Education. Students can explore the ideas covered in class through a variety of experiences – whether they are in the classroom, in a lab, working in a community organization or a private sector firm.

Above all, your Environmental Science studies at York equip you to make a difference to understanding and managing environmental conditions in Canada and the world. Environmental Science graduates go on to a diverse array of environmental careers in both the public and private sectors, including environmental assessment and risk management, natural research conservation, environmental planning and policy work, and academic careers in teaching and research.