Science Co-op



Our Program

The Bachelor of Science degree at the University of Guelph offers a non-departmentalized program structure that exposes our students to the multidisciplinary nature of science. Students choose from a combination of traditional and non-traditional science disciplines and benefit from the integration of experimental design and teamwork throughout their program. Our program disciplines are:

- Biochemistry
- Biological & Medical Physics
- Biological & Pharmaceutical Chemistry
- Biomedical Toxicology
- Chemical Physics
- Chemistry
- Environmental Geomatics
- Food Science
- Marine and Freshwater Biology
- Microbiology
- Nanoscience
- Physics

University of Guelph Advantage

- Students begin their first work term after completing 1.5 or 2 years of their program.
- Students learn from some of the world's most respected scientists, teachers, and researchers, and have access to outstanding research and teaching facilities.
- Common first year core courses give students a solid foundation of knowledge in the biological, physical, chemical, computing, and mathematical sciences.
- Students complete a mandatory one semester course that prepares them for their job search and work terms.
- Students are available for employment for 4, 8, or 12-month work terms depending on the program.

Recruitment timelines: Our co-op program functions on an on-going basis with job postings accepted throughout the semester. We encourage employers to post at the beginning of our recruitment cycle to ensure a large pool of candidates are available. Employers can begin posting in May for a September start date, in September for a January start date, and January for work terms beginning in May.

Student Strengths

- Practical laboratory skills in a multitude of disciplinary areas, including chemical/biological bench techniques, analytical instrumentation, sampling methods, and more
- Strong analytical/critical thinking and problem-solving proficiency
- Effective oral and written communication skills gained through formal course assignments, seminar discussions and writing of laboratory reports

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Our Disciplines

Biochemistry
Offers multidisciplinary curriculum, providing a broad exposure to the life sciences with specific attention paid to the physical and chemical of biomolecular systems.

Biological & Medical Physics
Emphasizes the application of physics to biology and medicine. It provides an excellent background for careers in the expanding interdisciplinary research laboratories of government and industry, as well as a starting point for a career in medical physics.

Biological & Pharmaceutical Chemistry
Allows students to explore biological processes through the deeper insight and molecular understanding that chemistry provides. Through hands-on laboratory training, students develop a strong foundation in chemistry, including synthetic and analytical chemistry, combined with biochemistry and microbiology.

Biomedical Toxicology
Students build a strong foundation in science disciplines including biochemistry, chemistry, molecular biology, physiology, and risk assessment. The program studies the toxic impact on the wider environment, whole body systems and organs at the molecular and biochemical level.

Chemical Physics
Recognizes the close link between many areas of physics and chemistry. This program has an emphasis on laboratory work, and trains students in the use of x-ray diffraction to determine molecular structure.

Chemistry
Focuses on the study of the structure and behaviour of molecules. Students receive up-to-date laboratory training and have the opportunity to participate in research projects with faculty who are at the forefront internationally with their research in areas such as electrochemistry and laser spectroscopy.

Environmental Geomatics
Combines physical geography and field research with computer-aided spatial analysis (e.g., geographic information systems; aerial and satellite image analysis) to study the natural and human-induced forces that are shaping our planet.

Food Science
Concerned with the processing and development of food products and processes, including food safety and quality. Programming includes courses in chemistry, microbiology and physics, in addition to covering aspects of law, health, nutrition, communication and security.

Marine and Freshwater Biology
Provides a broad perspective on aquatic environments based on the physical as well as the biological sciences. Students study freshwater and marine environments and work with aquatic organisms experimentally in the field and in the lab.

Microbiology
Involves the study of medical, industrial and environmental implications. Students benefit from the cutting-edge research of faculty in areas such as antibiotic resistance, vaccines, immunization, microbial ecology and viruses.

Nanoscience
A highly multidisciplinary field drawing upon biology, chemistry, physics, material science and mechanical and electrical engineering. Students learn to control the atom-by-atom assembly of matter, form quantum dots and nanowires, and analyze structures and devices whose dimensions lie in the nanometer range.

Physics
Covers the fundamentals of mechanics, electromagnetism, quantum physics, and subatomic particles. Senior students work on lab projects as part of cutting-edge faculty research and undertake specialized study in such areas as solid state, atomic, molecular and subatomic physics.