Bachelor of Engineering

Biological Engineering



ABOUT THE PROGRAM

Biological Engineering students combine their knowledge of life sciences with engineering principles to design and control biological processes and systems. You work independently, and in multi-disciplinary teams, with the aim of enriching lives and maintaining a sustainable environment. You will learn the foundations and build on the skills necessary to positively impact industrial process design and quality control in the agricultural, environmental, food and pharmaceutical sectors. As a biological engineering student, you will have the option to specialize your degree through elective courses in the areas of bioprocessing, biological and environmental waste management, human factors and food engineering.

WHY CO-OP?

As a co-op student, you will gain relevant work experience, build professional networks, and develop essential interpersonal skills needed to succeed in the workplace, all while getting paid and earning your university degree. Guelph's co-op program is unique due to the exceptional level of support provided throughout the co-op experience. Students will complete a comprehensive course preparing them for the co-op employment process, and will receive guidance from a knowledgeable team of staff dedicated to their development and success.

COURSE SEQUENCING

In the Biological Engineering co-op program, you will participate in five co-op work terms in addition to eight academic semesters throughout your five years at the University of Guelph. This sequencing is viewable below:

YEAR	FALL	WINTER	SUMMER
ONE	Academic	Academic	Off
TWO	Academic	Academic	Work
THREE	Academic	Work	Work
FOUR	Academic	Academic	Work
FIVE	Work	Academic	

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SAMPLE JOBS

Below are some examples of past Biological Engineering co-op positions.

Continuous Improvement Analyst

This position gives you the opportunity to take responsibility for the management of a variety of projects and develop skills in critical thinking and presentation delivery. You will be involved in conducting product trials, evaluating equipment efficiencies, sampling, and consolidating data results.

Safety, Environment and Security Technician Student

This Safety, Environment, and Security role consists of tracking energy use and implementing energy reduction projects, conducting weekly plant inspections, and facilitating health and safety programs. This includes monitoring all health and safety documentation, assisting with internal audits, and monitoring equipment.

Laboratory Assistant

This role consists of reviewing and processing laboratory drawings, attending project meetings, and developing technical reports to the Pathogen Regulation division. This includes researching biocontainment engineering literature and reviewing mechanical drawings and specifications.

SAMPLE EMPLOYERS*

- Environment and Climate Change Canada
- RWDI
- WSP
- Various Regional Municipalities an Conservation Authorities

*This shows a sample of recent co-op employers, and will vary depending on employer recruitment needs. During a job search, students are encouraged to be actively engaged and are supported in establishing and maintaining their own personal contacts.

SALARY INFORMATION

Students receive compensation from their employer for co-op work terms. The rate of pay will vary depending on a number of factors including the industry, the student's program of study, and work term level. For your reference, a **Co-operative Education Salary Guide** is available on our website, which provides hourly rates (averages and ranges) for each degree program.

SKILLS & KNOWLEDGE ACQUIRED

- Strong laboratory techniques and computing skills
- Fundamental knowledge of engineering concepts, as well as physical, mathematical and biological sciences
- Strong independent research skills developed through the design process, management and financial feasibility analysis
- Participation in design groups develops effective problem solving communication and teamwork skills
- Well-developed attention to detail