

# Bachelor of Engineering

## Engineering Systems & Computing



### ABOUT THE PROGRAM

Engineering Systems and Computing at the University of Guelph is a unique program offering a combination of computer, electrical and mechanical systems engineering. The focus on design, teamwork and communication produces specialists who incorporate computers into engineered systems and products. In addition to basic engineering skills, you will have the ability to identify application areas where computer technology represents the optimal solution, specify appropriate software for process control, and integrate computers into the overall application of these complex systems.

### 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 Engineering Systems & Computing 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	

## SAMPLE JOBS

Below are some examples of past Engineering Systems & Computing co-op positions.

### Control Systems Engineering Student

You will contribute to all aspects of automation projects from concept, design and detailing, through manufacturing, building and commissioning. You will have the opportunity to communicate with other departments and with customers to fully understand the system's needs including function, performance, durability and maintainability.

### Software Developer Co-op

You will be designing and developing software used for the backup and restore of applications and databases such as D2B, Linux, Oracle, SAP, Sybase and Informix. This includes designing and coding software modules, debugging, and participating in design reviews and code walk-throughs.

### Firmware Student

This unique position involves working with a fire and security solutions organization addressing system design, production and monitoring. In this role, you will work closely with firmware designers and assist in the development of software-based diagnostics and testing embedded firmware designs.

Additional Sample Jobs: Robotics Intern, Automation Engineering Student, Embedded Software Engineering Co-op, Developer/Technical Support Specialist, Hardware & Systems Developer, IT Service Desk Technician, Web Accessibility Project Manager, Research Assistant, and more.

## SAMPLE EMPLOYERS\*

- ATS Automation
- Laborie Medical Technologies
- IBM Canada Ltd.
- Rockwell Automation

\*Sample co-op employer list only. Employers will vary depending on recruitment needs. Students are encouraged to be actively engaged during a job search by applying to various job opportunities through the Experience Guelph job posting system. In addition, students 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

- Ability to design, document, implement and manage projects
- Solid knowledge of structure and application of computers, systems and program development, as well as systems interfacing and data structures
- Strong research, analytical, and report writing skills
- Advanced technical programming skills