



# SOFTWARE ENGINEERING

[uwaterloo.ca/software-engineering](http://uwaterloo.ca/software-engineering)

**99.4%** of Software Engineering students found co-op jobs in 2019

## *Lead tomorrow's software development*

All around the world, people interact with software on a daily, meaning the impact that software engineers have on society is monumental. At Waterloo, you'll apply engineering practices to computer science and learn to develop complex software systems. You'll analyze software architecture, apply algorithms, and design human-computer interfaces. By graduation, you'll have the technical skills you need to lead major programming projects.

In first year, you'll develop a strong foundation in mathematics, natural sciences, and computer science, while taking courses in software design, circuits, and programming. In upper years, you'll tackle user interfaces, feedback control and networks, and develop practical skills for your career with our project-intensive curriculum. Top it all off with hands-on labs, two years of work experience, and a fourth year design project, and your résumé will be packed with experience by the time you graduate.

### YOUR FIRST YEAR

#### FIRST TERM

- > Methods of Software Engineering
- > Programming Principles
- > Calculus 1
- > Linear Algebra
- > Algebra for Honours Mathematics (Algebraic Proofs)
- > Classical Mechanics

#### SECOND TERM

- > Data Abstraction and Implementation
- > Digital Circuits and Systems
- > Linear (Analog) Circuits
- > Calculus 2
- > Electricity and Magnetism

#### KICK-START YOUR IDEAS

##### UBIQ

We provide the support you need to bring your ideas to life. This includes the Sedra Student Design Centre, Velocity, and vast entrepreneurial funding opportunities.

Software Engineering students were part of the team that founded Ubiq, a revolutionary presentation tool. Using wireless technology, Ubiq can transfer any kind of content between devices. With help from the Velocity Fund, Ubiq won the financial resources to take their business to the next level. They also participated in the prestigious Y Combinator program!



UNIVERSITY OF  
**WATERLOO**



Waterloo offers the

# WORLD'S LARGEST CO-OP PROGRAM

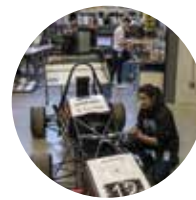
## CO-OP AT WATERLOO = REAL WORLD EXPERIENCE

You'll have an unrivaled opportunity to gain paid work experience before you even graduate. We'll help you navigate job applications, résumés, and interviews; plus, professional development is built right into your first-year courses. It all adds up to a competitive advantage after graduation. Software Engineering students are part of the Stream 8 sequence.

## STREAM 8 STUDY AND CO-OP SEQUENCE

| YEAR | TERM   | STREAM 8   |
|------|--------|------------|
| 1    | Fall   | Study (1A) |
|      | Winter | Study (1B) |
|      | Spring | Work       |
| 2    | Fall   | Study (2A) |
|      | Winter | Work       |
|      | Spring | Study (2B) |
| 3    | Fall   | Work       |
|      | Winter | Study (3A) |
|      | Spring | Work       |
| 4    | Fall   | Study (3B) |
|      | Winter | Work       |
|      | Spring | Study (4A) |
| 5    | Fall   | Work       |
|      | Winter | Study (4B) |

Fall term: September to December  
Winter term: January to April  
Spring term: May to August



There's no shortage of ways to get involved – you'll have both an outstanding education, as well as a vibrant student experience.

## BEYOND THE CLASSROOM

As a Waterloo Engineer, it's easy to get in on the action. You can join the Engineering Society, make a difference with Engineers Without Borders, or apply your studies with a student design team. As a Software Engineering student, you'll also be part of the Faculty of Mathematics; take advantage of MathSoc's games collection or help edit MathNEWS! If you have any questions about student life or want to shadow a current student for a day, our ambassadors can help!

[uwaterloo.ca/engineering-student-ambassadors](http://uwaterloo.ca/engineering-student-ambassadors)

## OUT IN THE WORLD

Complex software systems have become a necessity in today's technology-driven society - they impact how we communicate, work, and ultimately live our day-to-day lives. The work of software engineers has been a driving force in the creation of everything from social networks, to life-saving medical tools and critical advancements in artificial intelligence.

## YOU NAME IT, SOFTWARE ENGINEERS DEVELOP IT

Our grads have created impressive things:

- > Online retail software for multimillion-dollar businesses
- > Sophisticated smartphone interfaces
- > Software for Internet of Things (IoT) devices
- > Next-generation telecommunication systems

## TOP LOCATIONS FOR CO-OP

- > Greater Toronto Area
- > Vancouver
- > Seattle
- > San Francisco Bay Area

FACULTY OF ENGINEERING  
UNDERGRADUATE ADMISSIONS

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UWaterlooEngineering



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