

# COMPUTER ENGINEERING

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

**98.5%** of Computer Engineering students found co-op jobs in 2019

**OVER 7,000** co-op employers from around the globe

## *The best of both worlds: hardware and software*

Computer engineering combines computer science and electrical engineering to innovate today's digital technology, networking systems, and computers. You'll gain technical expertise in hardware, software, and how the two interact and integrate seamlessly. This breadth of knowledge prepares you for a variety of careers: from creating gaming software to designing the latest tablet, or even developing a mobile app.

In first year, you'll develop a strong foundation in mathematics, science, and computing with a focus on engineering science and design. In upper years, you'll dive deeper into these concepts with courses in embedded systems, software systems, databases, and networks. Top it off with two years of work experience and a fourth year design project, and you'll be graduating with a comprehensive résumé and valuable, real-world experience.

### YOUR FIRST YEAR

#### FIRST TERM

- › Fundamentals of Programming
- › Classical Mechanics
- › Communication in the Engineering Profession
- › Engineering Profession and Practice
- › Linear Algebra
- › Calculus 1

#### SECOND TERM

- › Electricity and Magnetism
- › Discrete Mathematics and Logic 1
- › Digital Circuits and Systems
- › Linear Circuits
- › Engineering Economics and Impact on Society
- › Calculus 2

#### KICK-START YOUR IDEAS

We provide the support you need to bring your ideas to life. This includes the Sedra Student Design Centre, the world's largest free incubator space (Velocity), our fourth-year Capstone Design project, the Enterprise Co-op program, and funding opportunities to help get your business off the ground.



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; you'll have the added benefit of trying out different roles and/or industries to find the one that fits you while building your work experience and reinforcing your in-class learning out in the real world. It all adds up to a competitive advantage after graduation. Computer Engineering has two co-op sequences you can choose from: Stream 4F and Stream 8.

## STREAM 4F AND 8 STUDY AND CO-OP SEQUENCES

YEAR	TERM	STREAM 4F	STREAM 8
1	Fall	Study (1A)	Study (1A)
	Winter	Work	Study (1B)
	Spring	Study (1B)	Work
2	Fall	Work	Study (2A)
	Winter	Study (2A)	Work
	Spring	Work	Study (2B)
3	Fall	Study (2B)	Work
	Winter	Work	Study (3A)
	Spring	Study (3A)	Work
4	Fall	Study (3B)	Study (3B)
	Winter	Work	Work
	Spring	Study (4A)	Study (4A)
5	Fall	Work	Work
	Winter	Study (4B)	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. If you have any questions about student life or want to shadow a current student for a day, our Engineering Ambassadors can help!

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

## OUT IN THE WORLD

As technology becomes more ingrained in our daily lives, the impact that computer engineers have on society becomes greater each day. The work of these engineers can be seen everywhere. They're doing everything from developing self-driving cars leveraging computer vision to using diagnostic machine learning to treat and cure diseases faster than ever.

## EXPLORE YOUR INTERESTS

Our program lets you specialize based on your interests:

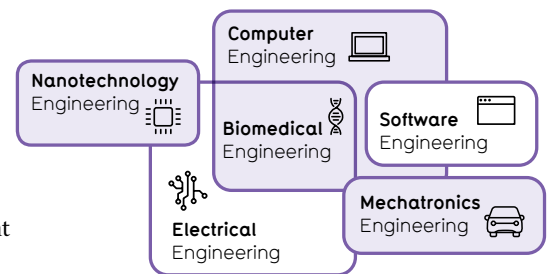
- > Computer architectures and embedded systems
- > Software design and architecture
- > Software security and embedded software
- > Communications and wireless systems
- > Control and robotics
- > Networks and distributed computing
- > Signal processing and computational intelligence
- > Electric energy systems

Relationship between Computer Engineering and other engineering disciplines



## EMPLOYMENT OPPORTUNITIES

- > Robotics engineering
- > Wireless network development
- > Microprocessor design
- > Operating system programming
- > Computer application development



FACULTY OF ENGINEERING  
UNDERGRADUATE ADMISSIONS

[enginfo@uwaterloo.ca](mailto:enginfo@uwaterloo.ca)



UWaterlooEngineering



@WaterlooEng



@UWaterlooEng

UNIVERSITY OF WATERLOO

200 UNIVERSITY AVE. W., WATERLOO, ON, CANADA N2L 3G1

[uwaterloo.ca/future-students](http://uwaterloo.ca/future-students)