MECHATRONICS ENGINEERING

Create the future's smart machines. Build the technologies of tomorrow using the latest in sensing, computing, and communication devices. In Waterloo's Mechatronics Engineering program, you'll cover a multidisciplinary blend of topics, from mechanical and electrical design, to computer programming and automation technology.

In first year, you'll develop a strong foundation in basic engineering concepts. By fourth year, you'll delve into electro-mechanical technologies, with specialized courses available in fluid mechanics, computer networks, neurobiological simulation, robotics, and artificial intelligence. Top it off with hands-on labs, two years of work experience, and a fourth year design project, and you'll be ready to create the next generation of electric cars, smart televisions, and biomedical instruments.

uwaterloo.ca/mme/mechatronics-engineering

96.6% of Mechatronics Engineering students found co-op jobs in 2021

7,000+ co-op employers from around the globe

YOUR FIRST YEAR

FIRST TERM

› Mechatronics Engineering
› Digital Computation
› Linear Algebra
› Calculus 1
› Chemistry

SECOND TERM

› Circuits
› Structure and Properties of Materials
› Statistics
› Calculus 2
› Algorithms and Data Structures

KICK-START YOUR IDEAS – PHONIC

In 2019, a group of mechatronics students took their startup to the Hult Prize challenge – the world's largest student social entrepreneurship competition. They developed their initial business concept while taking a course through the Conrad School of Entrepreneurship and Business, growing it into a powerful, AI-driven market research platform. After joining the Hult Prize Startup Accelerator in England, they were selected to compete as a finalist at the United Nations in New York City for a $1 million prize.

UNIVERSITY OF WATERLOO

CO-OP

Waterloo offers the

WORLD'S LARGEST CO-OP PROGRAM

CO-OP AT WATERLOO = REAL WORLD EXPERIENCE

You'll have an unrivalled 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. Mechatronics Engineering has two co-op sequences you can choose from: Stream 4 and Stream 8X.

STREAM 4 AND 8X STUDY AND CO-OP SEQUENCES

YEAR	TERM	STREAM 4	STREAM 8X
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	Work	Study (3B)
	Winter	Study (3B)	Work
	Spring	Work	Work
5	Fall	Study (4A)	Study (4A)
	Winter	Study (4B)	Study (4B)

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

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

OUT IN THE WORLD

Mechatronics is one of the most diverse and disruptive areas of engineering – it can be applied to everything from Mars rovers to smart thermostats. Mechatronics engineers today are changing the world by developing advanced prosthetics for amputees, creating Internet of Things (IOT) devices, and leveraging artificial intelligence in autonomous vehicles and robotics.

EXPLORE YOUR INTERESTS

Our program lets you specialize based on your interests:

› Autonomous robotics
› Mechanical systems
› Image processing
› Robotics kinematics, dynamics, and control
› Autonomous mobile robotics

EMPLOYMENT OPPORTUNITIES

› Computer system design
› Artificial intelligence research and development
› Computer-integrated manufacturing
› Software development
› Automotive manufacturing and engineering

MITCHELL CATOEN, RECENT GRADUATE AND PHONIC CO-FOUNDER

"As mechatronics engineers, we are very, very cross-disciplinary. Our background helps us to think outside the box to what new problems exist and how to solve them uniquely."

CONNECT WITH US

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