

MECHANICAL ENGINEERING

uwaterloo.ca/mechanical-mechatronics-engineering

98% of Mechanical Engineering students found co-op jobs in 2019

Design and build a better world

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

In Waterloo's Mechanical Engineering program, you'll put the principles of physics to work, learning to design and manufacture anything that moves. This will prepare you to work in a wide variety of industries like manufacturing, robotics, aerospace, and automotive. You could be in charge of designing everything from life-saving robots and energy-efficient jet engines to adrenaline-pumping roller coasters.

In first year, you'll develop a strong foundation of basic engineering concepts. In upper years you'll dive deeper into mathematics and physics, with courses covering stress-strain, thermodynamics, composite materials, and electromechanical devices. Top it all 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 robots, green energy solutions, and hybrid engines.

YOUR FIRST YEAR

FIRST TERM

- > Mechanical Engineering Practice 1
- > Linear Algebra
- > Calculus 1
- > Mechanics
- > Chemistry

SECOND TERM

- > Mechanical Engineering Practice 2
- > Structure and Properties of Materials
- > Calculus 2
- > Electrical Circuits and Instrumentation
- > 1 Complementary Study Elective*

*Complementary studies electives offer instruction in the social sciences and humanities, building knowledge of the impact technology has on society.

KICK-START YOUR IDEAS DEMINE ROBOTICS

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

Mechanical Engineering student Richard grew up in Cambodia, where the fear of stepping on landmines was part of life. In GreenHouse, the social incubator on campus, Richard came up with the idea to build a robot capable of safely defusing landmines. Together with five classmates, Richard founded Demine Robotics, which got early startup support from the Velocity Fund, St. Paul's Social Impact Fund, and the Norman Esch Capstone Design Award. Richard also made the 2019 Forbes 30 Under 30 Asia list for his work with Demine Robotics.



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.

Mechanical Engineering has two co-op sequences you can choose from Stream 4 and Stream 8.

STREAM 4 AND 8 STUDY AND CO-OP SEQUENCES

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

OUT IN THE WORLD

Mechanical engineers are innovators – they're the minds behind so many technological advances of the 21st century. These engineers are the ones making breakthrough developments in hybrid vehicle technology, finding ways to harness clean energy, and implementing autonomous operation for space vehicles.

EXPLORE YOUR INTERESTS

Our program lets you specialize based on your interests:

- > Automation and control, robotics, and autonomous vehicles
- > Fluid mechanics, micro-fluidics, and fire safety
- > Materials engineering and processing, welding, and joining
- > Solid body mechanics and machine design
- > Thermal engineering, heat transfer and combustion, and green energy

EMPLOYMENT OPPORTUNITIES

- > Automotive manufacturing
- > Aerospace engineering
- > Medical device development
- > Robotics engineering
- > Wind turbine design

FACULTY OF ENGINEERING
UNDERGRADUATE ADMISSIONS

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