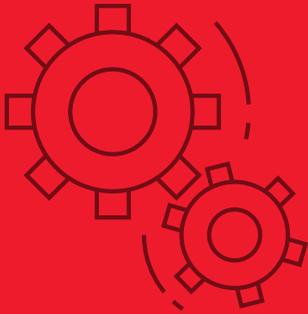


Bachelor of Engineering

Mechanical Engineering

Faculty of Engineering



What is mechanical engineering?

Mechanical engineers work on the conception, design, and use of systems in many aspects of life—from aircrafts and space shuttles to bicycles and espresso machines. Typical application areas include aerospace, energy, manufacturing, machinery, and transportation. The broad nature of the discipline leads to a high demand for mechanical engineers, but some mechanical engineers later follow other career paths, including sales, finance, and management.

Is this program for me?

Mechanical engineers are curious about how things work and how to make them work better. This includes devices—anything from airplanes to mechanical hearts—but also processes like energy conversion or manufacturing systems. They typically enjoy design, working in

teams, and using mathematics and physics to find creative new solutions to the problems around them.

Coursework and research areas

To prepare the mechanical engineer for a wide range of career possibilities, the program curriculum emphasizes the fundamental analytical disciplines—mathematics, physics, dynamics, thermodynamics—balanced by more experimental and design engineering courses. Later courses include practice in design, manufacturing, and experimentation, where students learn how to apply their analytical skills to solving practical problems. In their final year, students work in teams to develop a concept and carry through to its construction and operational testing.

The Honours program has a greater emphasis on research and prepares student for future graduate studies. Faculty members operate in a wide

range of research areas, including aeronautics, energy conversion, and mechatronics.

Why McGill?

McGill's Department of Mechanical Engineering is the top-ranked mechanical engineering department in Canada (QS World University Rankings). It attracts students from around the world, allowing for a diverse experience and community. The undergraduate program is known for its strong analytical foundation that provides students with the problem-solving skills required by numerous careers. The in-class training is complemented by a host of extra-curricular opportunities through which students pursue their individual interests.



McGill

Faculty of Engineering



Prof. Yaoyao Fiona Zhao

Associate Professor, Department of Mechanical Engineering

Prof. Fiona Zhao is an Associate Professor in the Department of Mechanical Engineering, a William Dawson Scholar, and the director of the Additive Design and Manufacturing Laboratory (ADML). Her research expertise is in the general field of design and manufacturing, including the exploration of new design methods for additive manufacturing and sustainable manufacturing, developing computational and data analytic tools to improve manufacturing intelligence and cognition. Her team is at the cutting edge of research in design for additive manufacturing with the development of new design methods and tools to achieve lightweight, multi-functionalities, lower part count, better performance, and better sustainability performance.



How do I apply?

Admissions information:

www.mcgill.ca/engineering/future-students/how-apply

What can I do when I graduate?

Mechanical engineers work in the design, manufacturing, and operations groups of countless industries, including aerospace, automotive, biomechanics, energy and power conversion, robotics, manufacturing, pulp and paper, heavy machinery and household appliances. Mechanical engineers often go on to become excellent project managers or company executives.

Recent graduates from the program have gone on to careers in a variety of industries including:

Bell Helicopter

Helicopter design/manufacturing

Bombardier Aerospace

Software Development Engineer

CAE

Design/manufacturing of flight and other simulators

Deloitte

Financial consultant

Kiewit

Construction engineering

Kinova Robotics

Robot design/manufacturing

Kinross Gold Corp

Construction engineering

National Instruments

Data acquisition hardware/software

Pratt & Whitney Aircraft

Gas turbine engine design/manufacturing

Student life and engagement

The Faculty of Engineering provides several opportunities to participate in a variety of clubs, activities, and student government. Below are a few groups students can join to connect with others and enhance their life outside of the classroom:

- ▲ McGill Association of Mechanical Engineers (MAME)

- ▲ Engineering Undergraduate Society (EUS)
- ▲ Engineers Without Borders
- ▲ Promoting Opportunities for Women in Engineering (POWE)

In addition, many students participate in extra-curricular design teams, such as Aerospace Design, Formula Electric, Racing, Rocketry, and Robotics. Some students also choose to pursue a study term abroad.

Contact us

Department of Mechanical Engineering
Macdonald Engineering Building, Room 270
817 Sherbrook Street West
ugrad.mecheng@mcgill.ca
www.mcgill.ca/mecheng

McGill Engineering Student Centre (MESC)

Frank Dawson Adams Building, Room 22
3450 University Street
info.faceng@mcgill.ca
www.mcgill.ca/engineering/students/undergraduate/mesc

Engineering Career Centre (ECC)

Frank Dawson Adams Building, Room 22
3450 University Street
careers4engineers@mcgill.ca
www.mcgill.ca/careers4engineers

