

Bachelor of Engineering

MECHANICAL

B.ENG.(MECH)

What is mechanical engineering?

Mechanical engineers are involved in the conception, design, implementation and operation of mechanical systems in many aspects of life, from bicycles and space shuttles to espresso machines. Their broad range of expertise, from thermodynamics and fluid flow to solid-state physics and fundamental electronics can be used in aerospace, energy, manufacturing, machinery and transportation.



Is this the program for me?

Mechanical engineers are curious about how things operate and enjoy the challenge of making them work better - or even developing new technologies that address new needs. They are creative and persistent in their search for solutions to problems. Mechanical engineers are good in math, physics and chemistry and working in teams.

What kinds of courses do students take?

The first year includes general sciences courses in math, chemistry and physics. Quebec CEGEP students typically receive one-year advanced standing. Then students take courses in experimental and design engineering where they learn how to apply their knowledge to practical problems in design, manufacture and experimentation. The department offers three areas of specialization:

- Design emphasizes problems involved in designing processes and products, especially for extreme environments.
- Aeronautics focuses on engineering issues within the aerospace industry.
- Mechatronics involves integrating mechanical engineering with electronic control and systems analysis in product and process designs.

In their final year, students work in teams within a major design course to develop a concept and carry it through to its construction and operational testing.

Why McGill?

The Department of Mechanical Engineering attracts many international students, giving students a chance to meet people from around the world. The McGill Association of Mechanical Engineers (MAME) organizes social events throughout the year, including events that help students and faculty get to know each other better.

For further information

Faculty of Engineering
www.mcgill.ca/engineering/

Department of Mechanical Engineering
www.mcgill.ca/mecheng/

How do I apply?

Admissions information:
www.mcgill.ca/engineering/future-students/how-apply



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What can I do when I graduate?

Mechanical engineers work in the design, manufacturing and operations stages of countless industries, including aerospace, automotive, biomechanics, energy and power conversion, robotics, manufacturing, food processing, pulp and paper, textiles, heavy machinery and household appliances. Mechanical engineers are also good project managers and executives.

Recent graduates in Mechanical Engineering have gone on to exciting careers in a wide variety of industries, here are just a few:

- **Aviya Technologies Inc.**, Jr. Systems Engineer
- **Bell Helicopter**, Associate Technical Specialist
- **Bombardier Aerospace**, Liaison Engineer
- **CAE**, System Software Specialist
- **Deloitte**, Business Analyst
- **Kiewit**, Field Engineer
- **Kinross Gold Corp.**, Mechanical Engineer
- **National Instruments**, Application Engineer
- **PCO Innovation**, CAD Consultant

Industries

Mechanical engineers are involved in the conception, design, implementation and operation of mechanical systems in many aspects of life, from bicycles and space shuttles. Their broad range of expertise, from thermodynamics and fluid flow to solid-state physics and fundamental electronics are highly valued.

- Aerospace
- Automotive
- Biomechanics
- Robotics
- Manufacturing
- Finance & Insurance
- Energy and Utilities: Hydro, Oil & Gas, Water
- Engineering and Management Consulting

Useful Resources

- **McGill Engineering Student Affairs Office (SAO)**
Housed in the Engineering Student Centre; Academic Advisors provide assistance and information on program planning and academic success
- **McGill Engineering Career Centre (ECC)**
Resources, information, job postings and links for engineering students
- **myFuture**
Job postings McGill students
- **The Engineering Institute of Canada**
Engineering Career Network
- **McGill Institute for Aerospace Engineering**
Promotes and coordinates collaboration between academic and industrial researchers; plans and initiates courses and encourages undergraduate students to engage in projects with aerospace companies

Professional Organizations

- **Engineers Canada**
The national organization of the 12 licensing bodies that regulate the practice of engineering in Canada
- **Ordre des ingénieurs du Québec**
The regulating body for Engineers in Quebec
- **Canadian Society for Mechanical Engineering**
Provides a wide range of activities for mechanical engineers with common fields of interest; these activities, which include social as well as technical occasions
- **Society of Manufacturing Engineers**
Source for manufacturing knowledge, education and networking

Student Life

The Department of Mechanical Engineering is one of the largest in the Faculty of Engineering. Getting involved in a club or other group is a great way to meet people and build your résumé.

- **Engineering Undergraduate Society (EUS)**
www.mcgilleus.ca/
- **Engineers Without Borders – McGill Chapter**
mcgill.ewb.ca/
- **McGill Association of Mechanical Engineers**
www.mamemcgill.com/
- **Mechanical Engineering Project Teams**

Join one of the many teams to build cars, robotics and more and compete internationally!

- **Promoting Opportunities for Women in Engineering (POWE)** www.mcgill.ca/engineering/current-students/undergraduate/student-life/powe



Contact Us

McGill Engineering Student Centre (MESC)
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www.mcgill.ca/engineering/current-students/undergraduate/mesc

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