

Bachelor of Engineering

Civil Engineering and Applied Mechanics

Faculty of Engineering



Guy Mailhot Chief Engineer, Samuel-De Champlain Bridge Corridor, Infrastructure Canada, B.Eng., M.Eng. Civil Engineering McGill University

What is civil engineering?

Civil engineers create the infrastructure of modern society—from roadways to water management to the buildings we live in. Environmental engineers ensure sustainable development of water, land, and air resources while minimizing impact on our environment, climate, and public health. Geotechnical engineers study the behaviour of soils under the influence of loading forces to stabilize foundations. Water resources engineers quantify and manage components of the hydrologic cycle such as precipitations, river flows, and groundwater dynamics. Structural engineers conceive, analyse, design, and construct buildings and bridges capable of resisting loads arising from internal and external forces. Transportation engineers plan, design, build, operate, and maintain transportation systems ensuring the safe, efficient, and convenient movement of people and goods.

Is this program for me?

Civil engineering provides students with a strong foundation in math, chemistry, and physics that can be applied to solving a wide range of problems. The complex challenges faced by civil engineers require interdisciplinary solutions and strong communication skills for related fields such as financial engineering and the public health sector.

There are opportunities for students to spend a semester at a university abroad, or to obtain in-depth practical and professional experience by participating in the Engineering Internship Program. Minor programs are available in areas such as construction project management, environmental engineering, management, and software engineering.

Coursework and research areas

The first year includes general science courses in math, chemistry, and physics. Québec CEGEP students typically receive one-year advanced standing. In second and third years, students take courses in general engineering and civil engineering before choosing courses for their fourth-year specialization in one of the five main areas of civil engineering: environmental, geotechnical, water resource, structural, or transportation engineering. In their final semester, students participate in a design project course and gain hands-on practical experience working on a real-world project under the guidance of professionals. Past topics range from working with a water treatment plant to designing structures to planning transport routes.



McGill

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Sylvana Hochet

B.Eng. 2009, M.Eng. 2013

Sylvana, alumna of the Department of Civil Engineering and Applied Mechanics, currently works at Arup as Senior Infrastructure Engineer. Some of her engineering projects include the New Bridge for the St. Lawrence (Montreal, QC), Stormwater Management of the Edmonton Valley Line LRT (Edmonton, AB), VIA Rail Station Development (Ottawa, ON) and Bowery Bay Right-of-Way Green Infrastructure (New York, NY).



Why McGill?

It's an exciting time to be in the Undergraduate Program in Civil Engineering at McGill. As the world population and urban areas continue to grow and as natural resources become more limited, the role of the civil engineering has never been more vital. Through their work in developing solutions to these global challenges, civil engineers are leading major changes in energy, transportation, water management and treatment, sustainable construction and materials, and adaptation to climate change.

How do I apply?

Admissions information:

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

What can I do when I graduate?

Civil engineering graduates use and develop modern technology to meet the needs of our changing society. Concerns for environmental quality, climate change, energy conservation, infrastructure restoration, waste reduction, and public safety now shape the role of civil engineers. As a result, civil engineers work in a variety of fields, including construction, transportation, alternative energy, manufacturing and processing, material science, financial services, and municipal engineering. Their problem-solving and communication skills make civil engineers excellent consultants, entrepreneurs, managers, and executives.

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

WSP

Transportation Planner

Inspec-Sol

Geotechnical Project Coordinator

SNC-Lavalin

Jr. Structural Engineer

Hatch

Information Manager

CIMA+

Project Engineering-Water

GBI

Project Manager

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:

- ▲ Civil Engineering Undergraduate Society (CEUS)
- ▲ Engineering Undergraduate Society (EUS)
- ▲ CSCE Canadian Society for Civil Engineering Student Chapter
- ▲ Bridge Building, Concrete Canoe
- ▲ McGill Engineers in Action
- ▲ Promoting Opportunities for Women in Engineering

Contact us

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McGill Engineering Student Centre (MESC)

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www.mcgill.ca/engineering/students/undergraduate/mesc

Engineering Career Centre (ECC)

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