

# ELECTRICAL ENGINEERING AT MCGILL

## Bachelor of Engineering in Electrical Engineering

### ▶ What is electrical engineering?

Our society is powered by electricity and electrical engineering can be found at the core of the rapidly evolving high-tech industry. Electrical engineers design, build, test, and supervise the manufacturing and operation of a variety of electrical devices: from the power generation and distribution networks that power our homes and industries to the microchips that control our computers, video games and hospital equipment; from mobile phones to the internet and fibre optic and satellite communications; from robots in spacecraft to cars and industrial systems.

### ▶ Is this the program for me?

Electrical engineers are versatile and creative thinkers who are good at math and physics and enjoy applying scientific knowledge to solve problems. Strong communication skills are very important, since electrical engineers often work in teams with people from other disciplines, such as biomedical, civil, material and mechanical engineers.

### ▶ What can I do when I graduate?

Electrical engineers are employed in many industries, including telecommunications, aerospace technologies, automotive, robotics, automation and control systems, microelectronics, energy, biomedicine, and manufacturing and processing.

### ▶ Why McGill?

The students of the Electrical Engineering program at McGill University are exposed to both theoretical and practical problems with great depth and breadth in few specialization areas. The department provides state-of-the-art laboratories and classroom teaching resources. Many of the graduates of the Department of Electrical and Computer Engineering have become internationally known leaders and pioneers in their careers, such as Julie Payette (astronaut) and Lorne Trottier (Co-founder and CEO of Matrox Company).

The Electrical engineering degree at McGill University is recognized by the Canadian Engineering Accreditation Board (CEAB) of the Canadian Council of Professionals Engineers (CCPE) and, through international agreements, is equally recognized by professional bodies in Australia, France, Hong Kong, Ireland, New Zealand, South Africa, the U.K. and the U.S.

### Faculty of Engineering

[www.mcgill.ca/engineering](http://www.mcgill.ca/engineering)

### Department of Electrical and Computer Engineering

[www.mcgill.ca/ece](http://www.mcgill.ca/ece)

### Electrical, Computer & Software Engineering Student Society (ExCESS)

[www.excess.ece.mcgill.ca](http://www.excess.ece.mcgill.ca)

### McGill Student Chapter of the Institute of Electrical and Electronics Engineers (IEEE)

[www.sb-ieee.ece.mcgill.ca](http://www.sb-ieee.ece.mcgill.ca)

### Engineering Undergraduate Society (EUS)

[www.mcgilleus.ca](http://www.mcgilleus.ca)

### Engineers Without Borders – McGill Chapter

[www.mcgill.ca/engineering/student/life/ewb](http://www.mcgill.ca/engineering/student/life/ewb)

### How do I apply?

#### Admissions information

[www.mcgill.ca/applying](http://www.mcgill.ca/applying)



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## ELECTRICAL ENGINEERING AT **McGILL**

### **What is student life like?**

The Electrical Engineering program at McGill University accepts students from around the world — so there are many opportunities to get together in a diverse community and enjoy yourself. There are several student organizations to help ensure that school life maintains a good mix of work and pleasure, such as the Electrical, Computer & Software Engineering Student Society (ExCESS), the Engineering Undergraduate Society (EUS), and the McGill Student Branch of the Institute of Electrical and Electronics Engineers (IEEE). McGill also has a student chapter of Engineers without Borders, which works to improve the quality of life for people in developing regions and nations.

### ▶ **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 electrical engineering courses. Later years offer a choice of courses in specialized areas such as:

- Telecommunications: data processing, storage and transmission.
- Photonics: developing ways of using light particles to convey information in areas such as the Internet and in biomedicine.
- Integrated circuits and electronics: designing and developing the core microchip components and circuits used in computers, mobile phones, medical equipment, video games, cars, and industrial plants.
- Control and automation: creating systems that enable machines to respond to stimuli and adjust their responses automatically.
- Power engineering: electrical power generation, transmission and distribution.

### ▶ **What our graduates are saying...**

“The strong analytical mindset that the McGill program instilled in me has been an important stepping stone to the management consulting world. The scientific and logical approach to problem solving that I developed in my McGill studies has allowed me to differentiate myself in a strongly competitive environment. Furthermore, the technical knowledge of the telecom industry, which I gathered during my undergrad, provided me with great insights that helped numerous telecom clients address their most challenging business issues.”

#### **Rabih Abouchakra, B.Eng.'95 (Electrical)**

Senior Associate  
Booz Allen Hamilton  
Dubai, United Arab Emirates