

What can you do with a degree in... Chemical Engineering?



What is Chemical Engineering?

Chemical engineers design processes and systems that produce everything from plastics and paper to pharmaceuticals, processed foods and advanced materials. What a chemist might produce in a test tube, chemical engineers produce by the ton. This requires efficient and effective systems. They also apply their knowledge of scientific processes to such diverse fields as manufacturing and bioengineering.

To do well in chemical engineering, you should be good at math, physics and chemistry, and also have a creative side. Chemical engineering is all about designing processes and systems, so you must be interested in exploring how to transform something from one state to another and to think about new ways of solving problems. Because chemical engineering involves teamwork, you should have good communication skills and enjoy working with others. Finally, you must be mentally agile — chemical engineers, after all, must be flexible thinkers who can find opportunities where others see obstacles.

Where do graduates work?

Chemical engineers work in many different fields, including biomedical engineering, alternative energy, advanced materials, food and beverage processing, petrochemicals, and production and manufacturing. They are involved in creating processes that are efficient, safe, and environmentally sustainable. This includes creating processes that don't spill pollutants into our rivers, treating wastes, and developing cleaner burning fuels that are more energy efficient and less polluting.

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

Airboss Defense, Polymer Research Engineer
The Boston Consulting Group, Business Associate
Hatch, Process Engineer Consultant
Schlumberger, Field Engineer
Shell Canada, Drilling Engineer-in-Training
SNC-Lavalin, Jr. Process Engineer



Industries

A degree in chemical engineering will provide you with the skills and experience to design and optimize all kinds of “systems”, these can range from production and manufacturing systems to corporate, financial and economic systems. These are some common industries that require chemical engineers:

- Energy and Utilities: Alternative Energy, Hydro, Oil & Gas, Water
- Engineering and Management Consulting
- Pharmaceuticals, Biotechnology and Medical Devices
- Scientific and Technical Services
- Finance & Insurance
- Food & Beverage Production
- Manufacturing & Processing
- Mining
- Agriculture
- Chemicals

Useful Resources

Career Resources

McGill University's Engineering Career Centre (ECC)

- Resources, information, job postings and links for engineering students

myFuture

- Job postings for McGill students

CHEmploy

- Career website for chemical professionals

American Institute of Chemical Engineers

- Career Management Centre

The Engineering Institute of Canada

- Engineering Career Network

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

Chemical Institute of Canada

- Umbrella group for the Canadian Society for Chemistry, Canadian Society for Chemical Engineering and the Canadian Society for Chemical Technology



Student Life

Chemical engineering students work closely with each other throughout their degree and are a very tight knit group. You will have the opportunity to participate in a variety of clubs, activities and student government. Getting involved in a club or other group is a great way to meet people and build your résumé.

Engineering Undergraduate Society (EUS)

Canadian Society for Chemical Engineers (CSCe) Undergraduate Chapter

Promoting Opportunities for Women in Engineering (POWE)

Engineers Without Borders

Student Affairs Office

- Housed in the Engineering Student Centre; Academic Advisors provide assistance and information on program planning and academic success.

Salary Information*

Starting salaries will vary according to location, industry and employer.

Average annual salaries for new graduates

Canada: \$48,000 - \$75,000

United States: \$65,466

Internship Salaries

\$15 - \$26 per hour

* Sources include: CACEE Campus Recruitment and Benchmark Survey (2011), NACE Salary Survey 2009, RIQ Enquete sur la rémunération directe des ingénieurs salariés du Québec (2012)



Contact Us

McGill Engineering Student Centre (MESC)

Career Centre, Student Affairs Office & Peer Tutoring Services

Frank Dawson Adams Building, room 22

3450 University Street

Montreal, Quebec H3A 0E8

Telephone: 514-398-8100

Email: careers4engineers@mcgill.ca

www.mcgill.ca/careers4engineers