Engineering Chemistry

Get to know Engineering Chemistry

In existence since 1895, the Engineering Chemistry program is renowned for producing graduates that have a firm grasp of fundamental science as well as the engineering tools that are needed to put this knowledge into practice. Accreditation by the Canadian Engineering Accreditation Board (CEAB) as an engineering program, and the Canadian Society for Chemistry (CSC) as a chemistry program, allows graduates to pursue professional careers in both disciplines – a truly unique benefit of an Engineering Chemistry degree.

The curriculum will provide you with the in-depth understanding of organic, physical and analytical chemistry that is needed for early-stage design activities, when knowledge of basic principles is needed to create and/or advance new technology. The extensive training you acquire in core engineering principles such as fluid mechanics, thermodynamics and engineering economics will ensure that you can contribute equally well to late-stage design activities that involve detailed equipment specifications and financial analyses.

Degree OPTIONS

Bachelor of Applied Science in Engineering Bachelor of Applied Science in Engineering with Professional Internship

Queen’s ADMISSIONS

Students apply to Queen’s Engineering (QE) through the OUAC (Ontario University Application Centre) website. Secondary School prerequisites include five 4U and 4M courses, one of which must be English 4U. Calculus and Vectors 4U, Chemistry 4U, and Physics 4U are all required along with one of Advanced Functions 4U, Biology 4U, Data Management 4U, Computer Science 4U, Earth and Space Science 4U. A final grade of 70% must be obtained in English 4U. Applicants outside of Ontario may have additional requirements.

A Common START

Queen’s is unique in offering a common First Year along with an open discipline choice. When you do choose your program, you don’t have to worry about caps or quotas. Provided you pass all of your First Year courses, you are guaranteed a place in your engineering program of choice.

Acquire Skills. Gain Experience. Go Global. That is a degree from Queen’s.

chemeng.queensu.ca
1ST YEAR
Queen’s Engineering first year is common – courses include: Physics, Chemistry, Calculus, Algebra, Graphics, Computing and Earth Systems Engineering.
Also APSC100, the entry level course in our Engineering Design and Practice Sequence (EDPS), focusing on problem solving, experimentation principles and finishing off with a team-based engineering project.
Discipline selection will take place in February!

2ND YEAR
You will take the second EDPS course – APSC200.

3RD YEAR
You will also choose 3 units of Electives and must select one of the Engineering Economics courses.

4TH OR FINAL YEAR
Courses include: Applied Surface & Colloid Science, Quantum Mechanics, Design of Manufacturing Processes, and Electrochemical Engineering. Additionally, you will take a laboratory projects course and your 4th year Research Project course.
You will also choose at least 15 units of Electives, and you are set to graduate!

Employability skills
Your time at Queen’s will give you valuable skills to boost your employability, including:
- Knowledge of chemistry and materials at a molecular level
- Knowledge of chemical engineering theory and methods
- Problem solving – adopt an analytical approach to problems facing chemists and chemical engineers
- Written and oral communication – communicate research ideas and information in reports and presentations
- Ability to use modern computer software tools for simulating and analyzing chemical processes
- Proficiency in mathematics
- Understanding of scientific research methods and data collection techniques
- Time and resource management
- Ability to work independently and in teams
- Sustainability and impact of engineering on society

Where could I go after graduation?
- Agricultural sciences
- Alternative energy technology
- Biomedical engineering
- Chemical/process engineering
- Consulting engineers
- Environmental engineering
- Food science and technology
- Forensic science
- Fuels and petrochemicals
- Mineral Processing
- Occupational health and safety
- Patent law
- Pharmaceuticals
- Polymer/rubber/plastic technology
- Public and private research
- Taking time to explore career options, build experience, and network can help you have a smoother transition to the world of work after graduation.

*This map is intended to provide suggestions for activities and careers, but everyone’s abilities, experiences, and constraints are different. Build your own Major Map using our online My Major Map tool.

Visit careers.queensu.ca/majormaps for the online version with links!