

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.



"Trained in both pure and applied chemical sciences, Engineering Chemists are well positioned to address some of societies most important technological challenges."

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, Advanced Functions 4U, Chemistry 4U, and Physics 4U are all required. A final competitive minimum grade of 80% must be obtained in all courses. 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. Queen's also offers Section 900, a special extended program for students struggling with

first year courses. Take things at a slower pace and recover in time for second year.

Course **HIGHLIGHTS**

The Engineering Chemistry curriculum combines chemistry and applied science courses, several of which are designed specifically for the program. These include:

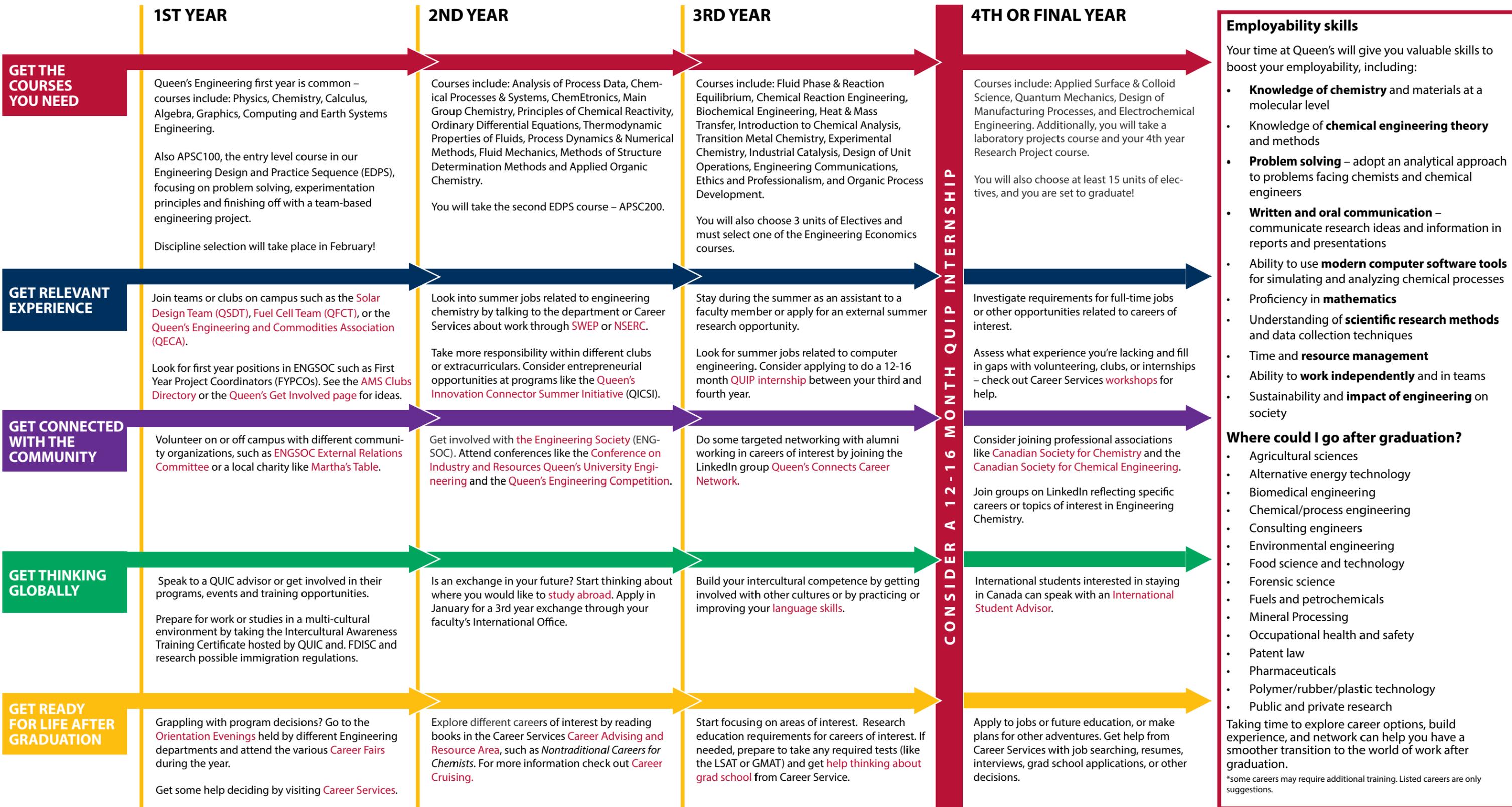
- Thermodynamics of Energy Conversion Systems
- Electrochemical Engineering
- Applied Surface and Colloid Science
- Design of Manufacturing Processes
- Organic Process Development
- Quantum Mechanics
- ChemEtronics
- 4th Year Independent Research Thesis

Acquire Skills. Gain Experience. Go Global.
That is a degree from Queen's. chemeng.queensu.ca

2020-2021 Engineering Chemistry MAJOR MAP*

BACHELOR OF APPLIED SCIENCE | BACHELOR OF APPLIED SCIENCE WITH PROFESSIONAL INTERNSHIP

The coronavirus pandemic may impact how some activities are delivered in 2020-2021. Please check directly with the host of any activity on the map for the latest information.



CONSIDER A 12-16 MONTH QUIP INTERNSHIP

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.

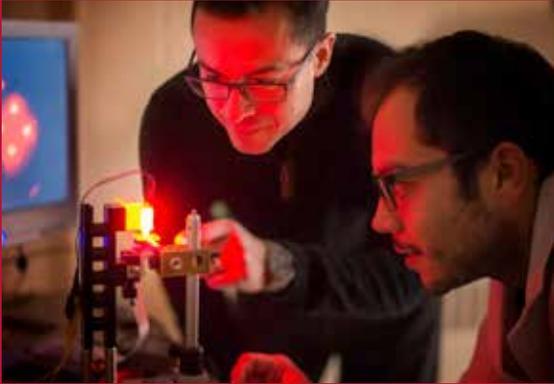
*some careers may require additional training. Listed careers are only suggestions.

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

* 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.

Engineering Chemistry

MAJOR MAP



How to use this map

Use the 5 rows of the map to explore possibilities and plan for success in the five overlapping areas of career and academics. The map just offers suggestions – you don't have to do it all! To make your own custom map, use the My [Major Map](#) tool.

Get started thinking about the future now – where do you want to go after your degree? Having tentative goals (like careers or grad school) while working through your degree can help with short-term decisions about courses and experiences, but also help you keep motivated for success.

Get the help you need

Queen's provides you with a broad range of support services from your first point of contact with the university through to graduation. At Queen's, you are never alone. We have many offices dedicated to helping you learn, think and do.

Ranging from help with academics and careers, to physical, emotional, or spiritual resources – our welcoming living and learning environment offers the programs and services you need to be successful, both academically and personally. Queen's wants you to succeed! Check out the [Student Affairs website](#) for available resources.

QUIP QUEEN'S UNDERGRADUATE INTERNSHIP PROGRAM

START DATES
in May, September,
or January

POSITIONS
are paid and
full-time

WORK TERMS
are 12-16 months
long

PROGRAM OVERVIEW

- Graduate with "Professional Internship" on your degree.
- Learn about current advances, practices and technologies in business and industry.
- Test drive a career, earn a competitive salary, and get real world experience.

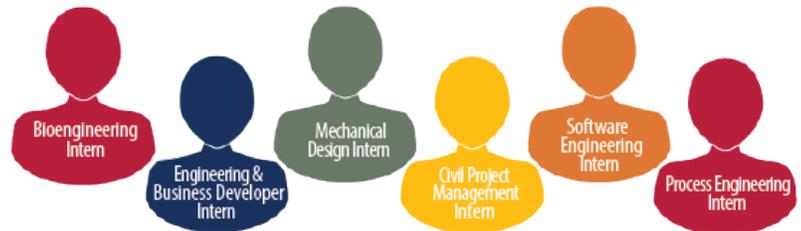
ELIGIBILITY

- 2nd or 3rd Year Students
- Minimum GPA of 1.9

WHY QUIP?

- Gain a year of career-related work experience.
- Build network connections.
- Receive support from Queen's staff in job search and during internship.

SAMPLE PAST INTERNSHIPS



For more information, contact quip@queensu.ca or visit the [Program Website](#).

Why study in Kingston?

For 175 years, our community has been more than a collection of bright minds – Queen's has attracted students with an ambitious spirit. Queen's has the highest retention rates, the highest graduation rates, and one of the highest employment rates among recent graduates. We are a research intensive university focused on the undergraduate experience. The BBC has identified Kingston as one of the GREATEST UNIVERSITY TOWNS in the world – and it is often awarded the safest city in Canada. It is a university city at the core; just a quick drive to Toronto, Montreal, Ottawa and even New York. A university with more clubs per capita than any other university in Canada, and a city with more restaurants per capita than any other city in North America – you will have the experience of a lifetime at Queen's – and graduate with a degree that is globally recognized among the best.

We're closer than you think



DEPARTMENT OF
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CHEMISTRY**

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