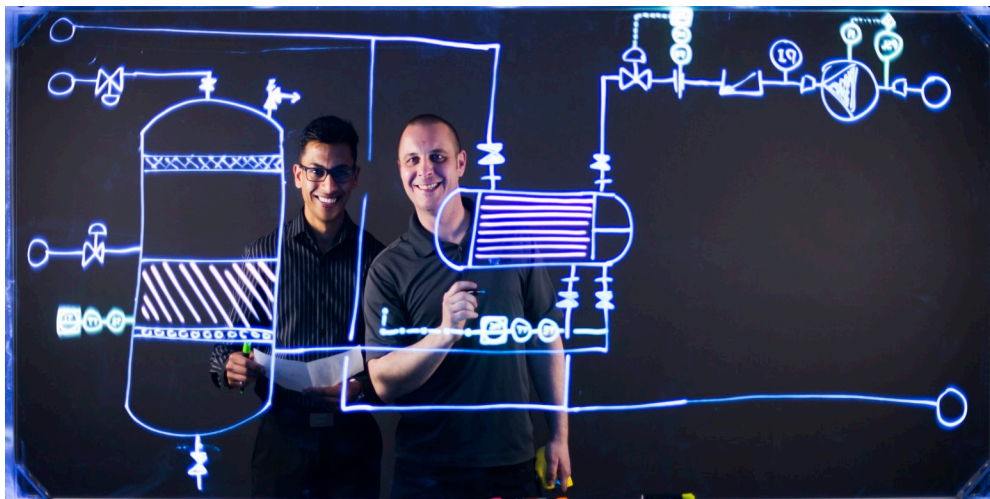


Chemical Engineering

Get to know CHEMICAL ENGINEERING

Society relies daily on products such as fuel, pharmaceuticals, advanced composites, semiconductors, magnetic and optical storage devices, diagnostic devices and systems, agricultural products, light-weight materials, coatings, synthetic fibers, and personal care products. Chemical Engineers develop new advanced materials and design the processes that convert raw materials into value-added products.

Chemical Engineering is a broadly based engineering discipline, which combines the study of mathematics, chemistry, physics and biology, with engineering science, design, and economics. You will learn how to design safe, efficient, environmentally-friendly and economical processes. You will also acquire direct experience with pilot-scale chemical process equipment and simulators. Queen's Chemical Engineering offers options in Chemical Process Engineering and in Biochemical Engineering. Areas of specialization through choice of electives: biochemical, biomedical, environmental, process systems engineering, energy, and materials.



"Semiconductor production, microchips, metals, mineral processing, paper products, petroleum and petrochemicals, plastics, forest products, pharmaceuticals and foods are just some of the sectors in which chemical engineers work."

Queen's ADMISSIONS

Students apply to Queen's Engineering (QE) through the OUAC (Ontario University Application Centre) website. Secondary School prerequisites include these five 4U courses, English 4U, Calculus and Vectors 4U, Advanced Functions 4U, Chemistry 4U, and Physics 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. 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.

Degree OPTIONS

Bachelor of Applied Science in Engineering

Bachelor of Applied Science in Engineering with Professional Internship

Option in Bioengineering / Process Engineering

Course HIGHLIGHTS

Chemical Engineering students have the opportunity to take a wide range of technical courses to help prepare them for the many possible career destinations available. Such courses include:

- Design of Unit Operations
- Technology, Engineering and Management
- Process Dynamics and Control
- Mitigation of Industrial Pollution
- Engineering Innovation & Entrepreneurship
- Biomedical Engineering
- Pharmaceutical Technology
- Bioremediation
- Polymer Formulations and Processing Technology



Acquire Skills. Gain Experience. Go Global.

That is a degree from Queen's.

smithengineering.queensu.ca/chee

Chemical Engineering MAJOR MAP

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



CONSIDER A 12-16 MONTH QUIP INTERNSHIP

Knowledge & Workplace Skills

Your time at Queen's will give you valuable skills to boost your employability, including:

- Knowledge of **chemical engineering theory** and methods
- Proficiency in mathematics
- Ability to apply **physics, chemistry, and biology principles** to practical engineering projects
- Experience working on **hands-on engineering projects**
- Technical knowledge - use software to create **mathematical models** and analyze data
- **Research skills** - conduct research and collect data
- **Complex problem solving** - approach problems from various perspectives
- Ability to **work independently** and in teams
- **Written and oral communication** - write reports and give presentations to a knowledgeable audience
- Time and **resource management**
- Sustainability and the **impact of engineering** on society

Career Possibilities

- Agricultural sciences
- Biochemistry
- Biomedical engineering
- Chemical process engineering
- Cytotechnology
- Environmental management
- Fluid dynamics - aerospace
- Finance & financial analysis
- Food industry, nutrition & dietetics
- Mineral processing
- Nanotechnology
- Patent law
- Pharmaceutical engineering
- Planning urban and regional
- Polymer/rubber/plastic technology
- Radiology
- Toxicology

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.

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.

Chemical Engineering



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.



Faculty of Engineering and Applied Science
Dupuis Hall, Room 201
19 Division Street
(613) 533-2765
chemeng.queensu.ca

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
- Explore a career path, earn a salary, and build workplace skills

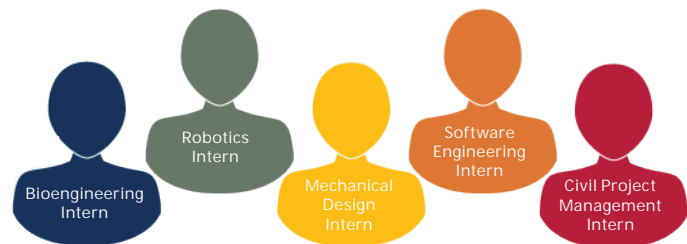
ELIGIBILITY

- Complete 1st year before you register
- Complete 2nd or 3rd year before your internship
- Minimum GPA of 1.9
- Return to Queen's after your internship to finish your degree

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



Why study in Kingston?

Since 1841, 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 identified as 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. At a university with more clubs per capita than any other university in Canada, and in 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.

