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, and Queen’s wants you to succeed! Check out the Student Affairs website for available resources.

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 us as one of the GREATEST UNIVERSITIES in the world — and is often awarded the safest city in Canada. We are 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. You will also 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 Manufacturing processes
- Technology, Engineering and Management
- Process Dynamics and Control
- Mitigation of Industrial Pollution
- Engineering Innovation & Entrepreneurship
- Biomedical Engineering
- Pharmaceutical Technology, Intermediation
- Polymer Formulations and Processing Technology

That is a degree from Queen’s.

Succeed in the workplace
What employers want
The Canadian Council of Chief Executives list the top 6 skills sought by employers as:
1. People skills
2. Communication skills
3. Problem-solving skills
4. Analytical abilities
5. Leadership skills
6. Industry-specific knowledge

Take the time to think about the unique skills you have developed at Queen’s, starting with the skills list here for ideas. Explaining your strengths with compelling examples will be important for applications to employers and further education. For help, check out Career Services workshops.

What can I learn studying CHEMICAL ENGINEERING?
- 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

Get to know CHEMICAL ENGINEERING
Society relies daily on products such as fuel, pharmaceuticals, advanced composites, semiconductors, magnetic and optical storage devices, 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.

Degree OPTIONS
Bachelor of Applied Science
Bachelor of Applied Science with Professional Internship
Option in Bioengineering / Process Engineering

Queen's ADMISSIONS
Students apply to Queen’s Engineering (BE) 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.

Applications 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
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 Manufacturing processes
- Technology, Engineering and Management
- Process Dynamics and Control
- Mitigation of Industrial Pollution
- Engineering Innovation & Entrepreneurship
- Biomedical Engineering
- Pharmaceutical Technology, Intermediation
- Polymer Formulations and Processing Technology

"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."

That is a degree from Queen’s.
Chemical Engineering MAJOR MAP *

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

GET THE COURSES YOU NEED

1ST YEAR

Queen's Engineering first year is common – courses include Physics, Chemistry, Calculus, Algebra, Graphics, Computing and Earth Systems Engineering. Also APSCI 100, 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!


You will also take the second EDPS course – APSCI 200, as well as a laboratory project course and one additional course based on your option.

GET RELEVANT EXPERIENCE

Join teams or clubs on campus such as the Queen's Solar Design Team, Fuel Cell Team or the Chemical Engineering Club.

See the AMS Clubs Directory or the Queen's Get Involved page for more ideas.

GET CONNECTED WITH THE COMMUNITY

Volunteer on or off campus with different community organizations, such as Let's Talk Science (LTS) and Women in Science and Engineering.

Consider joining an intramural sports or an athletics team. Check out the Athletics & Recreation site.

GET THINKING GLOBALLY

Speak to a QUIC advisor or get involved in their programs, events and training opportunities.

Prepare for work or studies in a multi-cultural environment by taking QUIC's Intercultural Competency Certificate, and research possible immigration regulations.

Grappling with program decisions? Go to the Orientation Evenings held by different Engineering departments and attend the various Career Fairs during the year.

Get some help wondering about career options from Career Services.

Is an exchange in your future? Start thinking about where you would like to study abroad. Apply in January for a 3rd year exchange through your faculty's International Office.

Explore different careers of interest by reading books in the Career Services Information Area, such as Nontraditional Careers for Chemists. For more information check out Career Cruising or by finding and connecting with alumni on LinkedIn.

Start focusing on areas of interest. Research education requirements for careers of interest. If needed, prepare to take any required tests (like the LSAT or GMAT) and get help thinking about grad school from Career Services.

GET READY FOR LIFE AFTER GRADUATION

Nontraditional Careers for Chemists

Agricultural sciences
Agrochemicals
Biochemistry
Biomedical engineering
Business administration and management
Chemical process engineering
Consulting
Cytotechnology
Environmental management
Fluid dynamics - aerospace
Finance & financial analysis
Food industry, nutrition & dietetics
Fuels and petrochemicals
Government
International chemicals
International development
Manufacturing
Medical technology
Mineral processing
Nanotechnology
Occupational health and safety
Oil and gas, alternative energy sources
Patent law
Pharmaceutical engineering
Planning - urban and regional
Polymer/rubber/plastic technology
Private and public research
Pulp and paper
Radiology
Tissue engineering
Toxicology
Waste management
Water conservation

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

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