

Mechanical Engineering

Get to know **MECHANICAL ENGINEERING**

The domain of mechanical engineers is truly vast because they are needed everywhere machines are, and at every stage of design, manufacturing, construction, and research. In this program you will study basic engineering courses as well as practical courses in machine design, robotics, and manufacturing methods. Hands-on design is integral to this program. You may be involved in designing artificial joints, or even a Formula race car, depending on your specialization. If you choose the Materials option, you'll study the exciting developments in materials and nanotechnology.

Queen's **ADMISSIONS**

Students apply to Queen's Engineering (QE) through the OUAC (Ontario



"Students are encouraged to participate in national design competitions in order to broaden their educational experience including the solar design team, the Formula racing car, the Mini Baja all terrain vehicle and the Aerodesign cargo aircraft, and others."

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 General / Materials /
Biomechanical Engineering***

Course **HIGHLIGHTS**

Mechanical 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:

- Biomechanical Product Development
- Computer-Aided Design
- Bio-Materials
- Mechatronics Engineering
- Airplane Aerodynamics
- Musculoskeletal Biomechanics
- Nano-Structured Materials

Mechanical Engineering MAJOR MAP

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



Knowledge & Workplace Skills

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

- Ability to apply science fundamentals to **practical problems**
- Proficiency in **mathematics and quantitative analysis**
- **Innovation and implementation skills** embodied in the CDIO paradigm: Conceive, Develop, Implement, and Operate
- **Time and resource management**
- Excellent **technical writing and communication skills**
- **Engineering design skills**
- Experience and capability in employing **various information sources** for solving engineering problems
- Ability to **work independently and in a team** on a project

Career Possibilities

Your degree could take you in lots of interesting directions including:

- Biomechanics
- Biomedical technology
- Business administration and management
- Consulting
- Design optimization
- Industrial engineering
- Information technology
- Materials engineering
- Mechatronics
- Metallurgical engineering
- Nuclear engineering
- Occupational health and safety
- Product design
- Renewable resources and sustainability
- Robotics
- Sound engineering
- Structural analyst

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. Careers listed here 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.

Mechanical 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.



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QUIP

QUEEN'S UNDERGRADUATE INTERNSHIP PROGRAM

START DATES

May, September, or January

POSITIONS

are paid and full-time

WORK TERMS

are 12-16 months long

PROGRAM OVERVIEW

- Graduate with a "Professional Internship" 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.

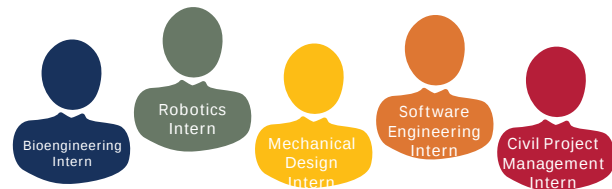
ELIGIBILITY

- 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 the job search and during the internship.

Sample Past Internships



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

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.

