Succeed in the workplace

What employers want
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 the Career Services skills workshop.

What can I learn studying MECHANICAL ENGINEERING?
Proficiency in mathematics and quantitative analysis
- Become a balanced engineer by developing a set of 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
- Ability to apply science fundamentals to practical problems of mechanical engineering
- Experience and capability in employing various information sources for solving engineering problems
- Ability to work independently and in a team on a project

How to use this map
Use the 5 rows of the map to explore possibilities and plan for success in the five overarching areas of care 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.

A balanced approach leads to long-term success. While you will learn a lot from your studies, taking time to get relevant experience outside of the classroom, build your network, and gain international experience, will position you to be more competitive in your job search or grad school applications.

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—we welcoming living and learning environment offer 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.

Get to know MECHANICAL ENGINEERING
The domain of mechanical engineers is truly vast because they are needed wherever 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.

Degree OPTIONS
Bachelor of Science in Engineering
Bachelor of Science in Engineering with Professional Internship
Option in General / Materials / Biomechanical Engineering

Queen’s ADMISSIONS
Students apply to Queen’s Engineering (QE) through the OUAC (Ontario University Application Centre) website. Secondary School prerequisites include six 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. Queen’s also offers J-Section, 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
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
- Turbomachinery
- Mechatronics Engineering
- Airplane Aerodynamics
- Musculoskeletal Biomechanics
- Nano-Structured Materials
BACHELOR OF APPLIED SCIENCE | BACHELOR OF APPLIED SCIENCE WITH PROFESSIONAL INTERNSHIP

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!

GET RELEVANT EXPERIENCE
Join teams or clubs on campus such as the Queen's Project on International Development or the First Robotics Competition.
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 Engineers without Borders (EWB).

GET THINKING GLOBALLY
The Queen's University International Centre is your first step to learn how to internationalize your degree or to leverage your existing cross-cultural experience. Speak to a QUIC advisor or get involved in their programs, events and training opportunities.

GET READY FOR LIFE AFTER GRADUATION
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 deciding by visiting Career Services.

2ND YEAR
You will take the second EDPS course — APSC 200 Students decide to enroll into one of the following options: ME1 – General, ME2 – Materials, or ME3 – Biomechanical

GET THE COURSES YOU NEED

3RD YEAR
Your other 4 courses will depend on your option!

Where could I go after graduation?
Acoustics
Aviation and aircraft management
Automotives
Biomechanics
Biomedical technology
Business administration and management
Communications
Construction
Economics
Education
Electrical services
Environmental sustainability
Industrial engineering
Information technology
International development
Manufacturing
Materials engineering
Market data analysis
Medicine
Metallurgical engineering
Nuclear engineering
Occupational health and safety
Product design
Renewable resources and sustainability
Research analyst
Robotics
Sound engineering
Structural analyst
Transportation
Quality assurance
Ventilation

Some careers may require additional training

4TH OR FINAL YEAR
Courses include either Team Project: Conceive & Design or Multi-disciplinary Industry Engineering Design Project. ME3 students will also take the Team Project: Implement & Operate course.

Choose another 7 or 8 technical courses depending on your option, three complementary studies courses, and you are set to graduate!

Investigate requirements for full-time jobs or other opportunities related to careers of interest.
Assess what experience you're lacking and fill in gaps with volunteering, clubs, or internships – check out the Career Services skills workshops for help.

Consider joining professional associations like Professional Engineers Ontario (PEO), Canadian Society of Mechanical Engineers (CSME), Society of Manufacturing Engineers (SME).
Join groups on LinkedIn reflecting specific careers or topics of interest in Mechanical Engineering.

Consider a 12-16 month QUIP internship between your third and fourth year.
Stay during the summer as an assistant to a faculty member or apply for external research opportunities. Apply for NSERC USRA positions in the department of Mechanical and Materials Engineering.
Consider applying to do a 12-16 month QUIP internship.

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