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

What can I learn studying ENGINEERING PHYSICS?
- Proficiency in mathematics and numerical modeling with courses in math and physics
- Time and resource management - taught formally in class and then applied in your projects
- Work independently and in a team on a project – a group design project is undertaken every year and a thesis in the final year
- Able to solve complex problems using your broad scientific knowledge
- You gain practical skills as an engineer, and back them up with the deep knowledge of a scientist
- Ability to make careful measurements with sophisticated equipment in laboratory classes
- Proficiency with modern physics allowing you to work with tomorrow’s technologies

Take the time to think about the unique skills you have developed and start thinking about your goals.

Degree OPTIONS
Bachelor of Science in Engineering
Bachelor of Science in Engineering with Professional Internship
Specialization in Mechanical / Computing / Electrical / Materials 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.

Qualifications
- 4U. Applicants outside of Ontario may have additional requirements.
- Grade of 70% must be obtained in English 4U.

That is a degree from Queen’s.
### 1st Year

- **Engineering Physics First Year is common – courses include:** Physics, Chemistry, Calculus, Algebra, Graphics, Computing and Earth Systems Engineering.
- Also APSC 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!

### 2nd Year

- You will take a second engineering design course - APSC 300 - where we connect the physics you learn to the technology that helps society. More hands-on experience comes in laboratory and data management classes.
- You start taking courses in your option: Mechanical, Materials, Electrical or Computer engineering alongside your courses in physics.

### 3rd Year

- Courses deepen your knowledge of physics from both a theoretical and practical side. Your third EDPS design course (ENPH 354) deepens your ability to work as a team taking on technical challenges.
- Take 5-6 courses with engineering students in your chosen option. Courses range from digital communications to materials processing. From operating systems to heat transfer, depending on your chosen option.
- Consider applying to the Accelerated Master’s program. In this program, students start research in the summer after their third year, and take graduate courses concurrently with the fourth year program.

### 4th or Final Year

- All Eng Phys students participate in the “capstone” EDPS team-based project course – ENPH454, in addition to an individual engineering thesis, an advanced laboratory course, and a high-level electromagnetic theory course.
- Choose technical elective courses from a huge range, including Laser Optics, Robotics, Computer Vision, Nuclear Reactors, Aerodynamics and General Relativity.

### Where could I go after graduation?

- Acoustics
- Aerospace engineer
- Astronaut
- Automotive industry
- Astrophysics
- Atmospheric science
- Biophysics
- Computer engineering
- Education
- Engineering consulting
- Energy (nuclear, solar, wind, etc.)
- Entrepreneurship
- Environmental management
- Environmental conservation
- Financial modelling
- Forensic science
- Geophysics
- Imaging
- Patent law
- Management consulting
- Medical physicist
- Medicine
- Nanotechnology
- Nuclear engineering
- Oceanography
- Occupational health and safety
- Radiology
- Remote sensing
- Semiconductors and electronics
- Software engineering

*Some careers may require additional training.*

### Consider a 12-16 month QUIP internship

- Investigate requirements for full-time jobs or other opportunities related to careers of interest.
- Assess what experience you’re lacking and fill in gaps before getting into the workforce.
- Find volunteering opportunities or start your own ventures.
- Visit careers.queensu.ca/majormaps for the online version with links!