Get to know
MINING ENGINEERING

Aside from the plant material we harvest, all of the raw material used by human society comes from minerals extracted from the earth. This program prepares you for careers in both the minerals industry and related environmental and technological fields. As a Mining Engineering student, you will study a broad range of disciplines involved in locating, extracting, refining, and disposing of mineral and metal products and byproducts. The program teaches students how these processes can be carried out efficiently and competitively, with a focus on sustainability and the environment.

Queen’s ADMISSIONS

Students apply to Queen’s Engineering (QE) 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. 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
Option in Mining / Minerals Processing and Environmental / Mine-Mechanical

Course HIGHLIGHTS

Mining 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:

- Mine Design and Planning
- Drilling and Blasting
- Mining and Sustainability
- Chemical Extraction of Metals
- Mineral Industry Economics
- Equipment Reliability and Maintenance

“Our program is designed to address the entire mine life-cycle, from exploration to mine closure and offer solutions that not only enhance the competitiveness of the mining industry but also ensures compatibility with evolving societal values.”
GET THE COURSES YOU NEED

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 Engineering Student Association (QESA).

Look for summer jobs by talking to the department or Career Services about work through SWEP or NSERC.

Research summer job opportunities within the mining industry and attend information sessions offered by various companies.

GET CONNECTED WITH THE COMMUNITY

Volunteer on or off campus with different community organizations such as Engineers without Borders (EWB).

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

Look in to membership in the following organizations within the mining community: Prospectors & Developers Association of Canada (PDAC), Canada, an Institute in Mining (CIM), and the Society for Mining/Geology and Exploration (SME).

Attend departmental and professional meetings and organizations.

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.

Get READY FOR LIFE AFTER GRADUATION

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

Get some help deciding by visiting Career Services.

2018-2019

MINING ENGINEERING MAJOR MAP *

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

1ST YEAR

Courses include: Solid Mechanics, Differential Equations, Mining & Mineral Processing, Computer Applications & Instrumentation in Mining, Engineering Economics, Electric Circuits & Machines, Numerical Methods and Underground Mining.

You will take the second EDPS course – APSC200.

Your other 3-4 courses depend on your option!

2ND YEAR


Your other 5 courses depend on your option!

3RD YEAR

Courses include: Reliability, Maintenance, & Risk Assessment, Mining & Sustainability, Occupational Health & Safety, as well as your 4th year project course.

Your other courses depend on your option!

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 Career Services workshops for help.

Investigate further through the PDAC conference for networking opportunities.

If you are not already a member, join professional associations like PDAC, CIM, SME and the International Society for Explosives Engineers (ISEE).

Join groups on LinkedIn reflecting specific career or topics of interest in Mining Engineering.

4TH OR FINAL YEAR

Courses include: Reliability, Maintenance, & Risk Assessment, Mining & Sustainability, Occupational Health & Safety, as well as your 4th year project course.

Your other courses depend on your option!

Apply to graduate on SOULS.

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.

Read trade journals like the Northern Miner to learn about issues affecting the mining industry.

Build your intercultural competence by getting involved with other cultures or by practicing or improving your language skills.

Develop your written and oral communication skills.

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 Career Services workshops for help.

Consider applying to a 12-16 month QUP internship. Consider a summer research position within the Mining Department.

Do some targeted networking with alumni working in careers of interest by joining the LinkedIn group Queen's Connects Career Network.

Continue to be involved with mining specific organizations through membership and by attending functions within these organizations.

Attend the CIM Conference and/or the PDAC conference for networking opportunities.

Investigate further through the PDAC conference for networking opportunities.

Consider attending the CIM Conference and/or the PDAC conference for networking opportunities.

International students interested in staying in Canada can speak with an International Student Advisor.

Apply to jobs or future education, or make plans for other adventures. Get help from Career Services with job searching, resumes, interviews, grad school applications, or other decisions.

Consider taking an M.Eng. or M. Asc to deepen your technical knowledge. Apply for EIT (Engineer-in-Training) status.

Employmability skills

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

• Proficiency in mathematics and physical sciences
• Proficiency in mining sciences
• Relevant analysis and designing skills
• Relevant work experience in mining engineering
• Working knowledge of design software for mining engineering
• Written and oral communication skills
• Time and resource management
• Ability to work independently and in a team on projects

Where could I go after graduation?

• Academia
• Banking and venture capital
• Business management (mine manager, director, vp, coo, ceo, president)
• Environmental management
• Equipment designer
• Government (mine inspector, health and safety, environment)
• Law
• Mine construction
• Mine engineer
• Mine planner and scheduler
• Mine supervisor
• Mineral exploration and processing
• Mining consultant
• Mining financial analyst
• Mining sales representative
• Mining supplier
• Occupational health and safety
• Petroleum and gas industry
• Project engineer
• Project manager
• Renewable resources
• Technical specialist
• Waste management

Take time to carefully consider all the options available, build experience, and network so you can have a smoother transition to the world of work after graduation.

* some careers may require additional training. Careers listed here are only suggestions.

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

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 UNIVERSITY TOWNS 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, and 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.