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.

“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.”

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
### GET THE COURSES YOU NEED

1. **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!

2. **2ND YEAR**
   - Courses include: Solid Mechanics, Differential Equations, Mining & Mineral Processing, Computer Applications & Instrumentation in Mining, Engineer- ing 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.

3. **3RD YEAR**
   - Your other 5 courses depend on your option!

4. **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 SOLUS.

### GET RELEVANT EXPERIENCE

1. **JOIN TEAMS OR CLUBS ON CAMPUS**
   - Join teams or clubs on campus such as the Queen's University Experimental Sustainability Team (QUEST).
   - See the AMS Clubs Directory or the Queen's Get Involved page for more ideas.

2. **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.

3. **GET THINKING GLOBALY**
   - Speak to a QUIC advisor or get involved in their programs, events, and training opportunities.
   - Prepare for work or study in a multi-cultural environment by taking QUIC's Intercultural Competency Certificate, and research possible immigration regulations.

4. **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.

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### WHERE COULD I GO AFTER GRADUATION?

- **Academia**
  - Banking and venture capital
  - Business management (mine manager, director, vp, ceo, president)
  - Environmental management
  - Equipment designer
  - Government (mine inspector, health and safety, environment)
  - International development
  - Law
  - Mine construction
  - Mine engineer

- **Mining**
  - Mine planner and scheduler
  - Mine supervisor
  - Mineral exploration
  - Mineral processing
  - Metallurgist
  - Mining consultant
  - Mining financial analyst
  - Mining sales representative
  - Occupational health and safety
  - Petroleum and gas industry
  - Project engineer
  - Project manager
  - Renewable resources
  - Sustainability
  - Technical specialist
  - Waste management

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

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

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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

It is important to develop a balanced skillset. Take the time to think about the unique skills you have developed at Queen’s, starting with the ones listed 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 MINING ENGINEERING?

• 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

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.