Get the help you need
Queen’s University provides a wide 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 websites 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.

Mining Engineering Technology (BTech)

Get to know MINING ENGINEERING TECHNOLOGY (BTech)
The Bachelor of Mining Engineering Technology (BTech) is a new degree program designed to meet the needs of the modern mining industry and of college-educated professionals looking to advance their career through education. Designed for engineering technologists and technicians, the program features customized bridge courses and two years of online university study, including on-site field placements in Kingston and Timmins, ON. The BTech program combines the history, expertise, reputation and connections of two prestigious mining institutions—Queen’s University’s Robert M. Buchan Department of Mining and Northern College’s Haileybury School of Mines. The program combines asynchronous online lectures, tutorials and webinars on professional responsibilities, group assignments, project proposals, and collaborative discussions. With a focus on Active Learning, Cooperative Learning, and Student-to-Professor Interactions, the BTech program is fully adaptable to your needs. Choose to study full-time, or work full-time and study part-time. This flexibility allows you to adjust your course load at any time during the program, in order to maintain a healthy balance between your personal and professional commitments. The hub for the interactive elements of the online courses is OnQ (Brightspace by Desire2Learn). It is an advanced integrated learning platform that brings together the ability to interact with your fellow classmates, access course resources, and get fast feedback—when you want it. Working with a Program Coordinator, you will build an Individual Learning Plan, customized to your needs. Regular check-ins will allow you the flexibility to adjust your course load in order to meet any changing job or family commitments.

Queen’s ADMISSIONS
Graduates of any Engineering Technology or Mining Engineering Technician program from college, or students who have completed a minimum of two years of study in a science program at a recognized university, and have completed their studies with a minimum 75% passing grade, are eligible to apply to the BTech program. Applications can be submitted using the webapp (webapp.queensu.ca/admission/apply/index.php).

Field SCHOOL
Years 3 and 4 of the BTech program each include an intensive, two-week field placement at Queen’s University in Kingston and at Northern College’s Haileybury School of Mines in Timmins, ON. You will learn practical, hands-on skills in the use of modern tools and equipment, data acquisition and interpretation, group work and report writing. A focus on occupational health and safety is emphasized throughout. Field School I includes an introduction to laboratory techniques and data analysis, rock mechanics, blasting technology, and mineral processing. Field School II includes a study of geology and rocks, mine ventilation, an introduction to metallurgical techniques, as well as surveying technologies.

Course HIGHLIGHTS
BTech students take a wide range of technical courses to help prepare them for the many possible career destinations available. Such courses include:
• Mine Supervision and Project Management
• Surface and Underground Mine Design
• Applied Metrology and Data Analysis
• Geomechanics and Ground Control
• Business Law and Ethics
• Engineering Economics
• Ore Body Modelling and Resource Estimation

That is a degree from Queen’s.
btech.engineering.queensu.ca
## Mining Engineering Technology (BTech) MAJOR MAP *

### BRIDGE

The program includes a customized curriculum designed to bridge the knowledge gap between your college diploma and university courses. It consists of 3-5 courses that could include:
- Foundational Mathematics
- Calculus
- Foundational Chemistry
- Foundational Physics
- Mining Geology
- Engineering Mathematics
- Surveying Principles
Courses vary depending on your selected stream.

### YEAR 3

Courses include:
- Introduction to Mining
- Technical Writing & Communication
- Engineering Physics, Engineering Chemistry
- Applied Metrology and Data Analysis
- Geomechanics and Ground Control
- Ore Body Modelling and Resource

Estimation Mineral Processing Unit Operations
- Drilling and Blasting
- Introduction to Programming
- Ventilation and Hydraulics
- Engineering Economics

At the end of Year 3 there is a two-week Field School.

### YEAR 4

Courses include:
- Surface Mine Design
- Underground Mine Planning
- Metal Extraction Processes
- Sustainability and the Environment
- Mine Supervision and Project Management
- Physical Asset Management for Mining Equipment Technology and Innovation
- Geomatics
- Business Law and Ethics
- Mine Health & Safety Capstone Project

At the end of Year 4 there is a two-week Field School.

### GET THE COURSES YOU NEED

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

### GET CONNECTED WITH THE COMMUNITY

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

Visit the program’s social media pages on Facebook and LinkedIn to connect with peers, networks, and the community.

### GET THINKING GLOBALLY

Are you a full-time student and see an internship in your future?

Consider applying to the 12-16 month Queen’s University Internship Program (QUIP) between your third and fourth year.

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

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

### ACCELERATE YOUR CAREER

Explore different careers of interest by reading books in the Career Services Career Advising and Resource Area, such as Career Success in Engineering. For more information check out Career Counseling or by finding and connecting with alumni on LinkedIn.

Need career advice? You can book a phone or Skype appointment with a career counsellor through MyCareer or call the Career Services reception at 613.533.2992.

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.

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.

### Employability skills

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

- Identify, formulate, analyze, and solve typical mining engineering problems using a balance of mathematics, physics, chemistry, and earth sciences.
- Conduct experiments, analyze and interpret data.
- Choose and implement sustainable methods for the safe extraction, handling, and processing of mineral resources to meet the technical, economic, and environmental needs of society.
- Employ modern engineering tools effectively for the purpose of mine planning and design, as well as for data visualization, analysis and interpretation.
- Value the mining industry’s unique characteristics in terms of its economic, legal, environmental and societal elements.
- Work professionally and communicate effectively in a team-based multi-disciplinary environment.

### Where could I go after graduation?

- Academia (college, university, research)
- Business management (mine manager, director, VP, COO, CEO, president)
- Control and process operators, mineral and metal processing
- Chief mine engineer
- Drillers and blasters-surface mining & quarrying and construction
- Environmental management
- Equipment designer
- Government (mine inspector, health and safety, environment)
- Mineral processor, metallurgist
- Mining consultant
- Mining supplier
- Occupational health and safety
- Petroleum and gas industry
- Project engineer
- Renewable resources
- Sales engineer - Industrial/Mining
- Supervisor, mining and quarrying
- Waste management

*Some careers may require additional training. Career paths are suggestions only.

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