Get to know MINING ENGINEERING TECHNOLOGY (BTech)

The Bachelor of Mining Engineering Technology (BTech) is a brand new degree program designed to meet the needs of the modern mining industry and of college-educated professionals looking to advance their career and 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 with team assignments, group projects, 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 enroll in the BTech program. Applications can be submitted using the webapp.

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

B Tech students will 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 (B.Tech) MAJOR MAP

**BRIDGE**

The program includes a customized ‘bridge’ 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

Courses vary depending on your selected stream.

**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 & LinkedIn to connect with peers, networks, and the community.

**GET THINKING GLOBALLY**

The Queen's University International Centre is your first stop to learn how to internationalize your degree or to leverage your existing cross-cultural experience.

Speak to a QUCIC advisor or get involved in their programs, events and training opportunities.

**GET READY FOR LIFE AFTER GRADUATION**

Explore different careers of interest by reading books in the Career Services Information Area, such as Career Success in Engineering.

For more information check out Career Cruising or by finding and training opportunities.

Are you a full-time student and see an internship in your future? Consider applying to do a 12-16 month QUIP internship between your third and fourth year.

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.

**YEAR 3**

Courses include:

- Technical Writing & Communication
- Engineering Physics, Engineering Chemistry
- Applied Metrology and Data Analyses
- Geomechanics and Ground Control
- Introduction to Mining

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

**YEAR 4**

Courses include:

- Safety & Occupational Health
- Engineering Economics
- Mining and Society
- Ore Body Modelling
- Business Law and Ethics
- Mineral Processing Unit Operations
- Mine Supervision and Project Management

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

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.

**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 metallurgist

Chief mine engineer

Drillers and blasters-surface Mining & quarrying and construction

Engineering managers

Environmental management

Equipment designer

Government (mine inspector, health and safety, environment)

Mineral and metal processing

Mineral processor, metallurgist

Mining consultant

Mining financial analyst

Mining supplier

Occupational health and safety

Petroleum and gas industry

Production managers

Project engineer

Renewable resources

Sales engineer - Industrial/Minning

Supervisors, mineral and metal processing & mining and quarrying

Supervisor, mining and quarrying

Sustainability

Waste management

*Some careers may require additional training*

Visit careers.queensu.ca/majormaps for the online version with links!
How to use this map

Use the 4 rows of the map to explore possibilities and plan for success in the four 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.

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.

What will I learn studying MINING ENGINEERING TECHNOLOGY (BTech)?

- 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. Articulate and justify technical solutions to diverse audiences.

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

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.

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.