Mining Engineering 
GRAD MAP FOR MASc STUDENTS

## Why GRADUATE STUDIES in MINING ENGINEERING?

Mining is the foundation of industrial civilization. It is the process of extracting minerals like gold, silver, copper, nickel and uranium (metallic) and salt, potash, coal, limestone aggregate and oil (non-metallic) formations that concentrate naturally in the earth. It may surprise you, but other than agricultural products, the raw ingredients for everything else in our modern lives comes from mining.

Mining Engineering is one part technical design and one part business management. Mining engineers are responsible for deciding how valuable a mineral deposit is and how best to mine it, for planning the day-to-day schedule and path of mining to maximize extraction and profit, and for ensuring the safety of people and equipment through applications in areas such as mine ventilation and rock mechanics.

Check out [whygradstudies.ca](http://whygradstudies.ca) for more reasons to choose graduate studies in engineering.

## Why QUEEN’S?

As a Master’s student in Mining Engineering at Queen’s you are part of one of the most research intensive universities in Canada. Our research program is internationally renowned with a wide range of research activities in all of the major specialization areas of mining engineering.

Queen’s Mining Engineers work in metals and industrial minerals, with consulting companies, geotechnical groups, environmental groups, heavy and light equipment manufacturing companies, computer software and hardware development organizations, banks, government institutions and university organizations. We are at the forefront in developing computer applications for engineering design in mineral extraction and work in close contact with the mineral industry.

### Program STRUCTURE

**MASc (2 years):** Course work, seminar, and research thesis.

### RESEARCH Areas

- Mining Engineering
- Mine-Mechanical
- Mineral Processing

### Areas of SPECIALIZATION

- Management of Social Risk & Community Relations
- Mineral Planning & Design of Mechanical Systems
- Mineral Processing
- Geotechnical, Environmental, Sustainability, & Mineral Economics
- Geostatistics & Geometallurgy
- Occupational Health and Safety & Rock Mechanics
- Reliability, Maintenance, & Risk Assessment

We encourage you to identify an area of research interest and contact a potential supervisor before applying.

Visit the Mining Engineering website to read faculty profiles and learn more about faculty members research areas. When you find a faculty member with similar research interests to yours, contact him/her and tell them about your interest in graduate work and related experience.

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**What about FUNDING?**

Mining Engineering Master’s students have a minimum funding level of $16,800. In addition to the minimum funding package, you may serve as a Teaching Assistant for at least one term per year and gain additional pay for this service. When necessary, serving as a Teaching Assistant for a second term will result in an increase in your funding package equivalent to half the value of the second TAship.

Apply for external funding from OGS, NSERC and other sources. Queen’s will automatically issue a $5,000 top-up to Masters winners of federal government Tri-Council awards. For more information, see the School of Graduate Studies’ information on awards and scholarships.

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**Where can I get help?**

Queen’s provides you with a broad range of support services from your first point of contact with the university through to graduation. Ranging from help with academics and careers, to physical, emotional or spiritual resources – our welcoming environment offers the programs and services you need to be successful, both academically and personally. Check out the [SGS HABITAT](https://sgs.habitat.queensu.ca) for available resources.

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**What is the community like?**

At Queen’s, graduate students from all disciplines learn and discover in a close-knit intellectual community. You will find friends, peers and support among the graduate students enrolled in Queen’s more than 130 graduate programs within 50+ departments & research centres.

With the world’s best scholars, prize-winning professional development opportunities, excellent funding packages and life in the affordable, historic waterfront city of Kingston, Queen’s offers a wonderful environment for graduate studies. Queen’s is an integral part of the Kingston community, with the campus nestled in the core of the city, only a 10-minute walk to downtown with its shopping, dining and waterfront. For more about Kingston’s history and culture, see Queen’s University’s Discover Kingston page.

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**Application FAQs**

**What do I need to know to APPLY?**

**ACADEMIC REQUIREMENTS**

- A Bachelor’s degree in Mining, Mechanical Engineering, Chemical Engineering or other related engineering fields. Many of our students come from industrial backgrounds. Anyone without academic prerequisites will be placed on probation and required to take additional courses before initiating a MASc program of study.
- Grade requirements: B (70%) average.

**ADDITIONAL REQUIREMENTS**

- If English is not a native language, prospective students must meet the English language proficiency requirements in writing, speaking, reading, and listening. The School of Graduate Studies requires the following minimum scores: TOEFL (paper-based): 550, (2) TOEFL iBT: Writing (24/30), Speaking (22/30), Reading (22/30), Listening (20/30), for a total of 88/120 (applicants must have the minimum score in each test as well as the minimum overall score), or (3) IELTS: 7.0 (academic module overall band score), or (4) PTE Academics: 65.

**KEY DATES & DEADLINES**

- Application deadline: March 1st.
- Notification of acceptance: April 30th.

Before you start your application, please review the [Graduate studies application process](https://www.queensu.ca/sgs/services/financial-aid-grad-study/applying-graduate).
GETTING STARTED

- Start with key priorities like developing your relationship with your supervisor, forming your committee, and doing your coursework.
- Consider how your course choices can contribute to your research thesis.
- Find your way through the academic process with help from departmental and Expanding Horizons professional development workshops, the department Grad Chair and the SGS Habitat.

MAXIMIZE RESEARCH IMPACT

- Start to think about the audiences for your research.
- If you will be continuing graduate studies, apply for NSERC and OGS funding.

BUILD SKILLS AND EXPERIENCE

- Consider positions in student services, the SGPS, or media outlets like the Queen’s Journal, CPRI, and the SGS Blog. Look in the AMS Clubs Directory for more ideas.
- Serve on departmental, faculty or university committees. Talk to the Society of Graduate and Professional Students (SGPS) for tips on getting involved.
- See professional development workshops from Expanding Horizons.

ENGAGE WITH YOUR COMMUNITY

- Explore how you can connect with your community through experiential opportunities on- and off-campus.
- Consider volunteering with different community organizations, such as the Engineering Society Design Teams.

LAUNCH YOUR CAREER

- Finding a career that fits starts with knowing yourself. Get help by taking a Career Services career planning workshop or meeting with a career counselor. Check out books like So What Are You Going to do With That? for advice on various career options.
- Start reading publications like University Affairs and the Chronicle of Higher Education. Browse non-academic labour market websites. Stay on the lookout for special events like Graduate Student Career Forum to explore your career pathways.
- Check admission test deadlines if needed for further studies.

INTERMEDIATE STAGE

- Complete your coursework, begin to research and write your thesis.
- Complete the AODA 800 non-credit course in Accessible Customer Service.
- Become a Teaching Assistant.
- Attend the graduate seminar series (MINE 897).
- Take the non-credit course on laboratory safety (CHEM 801) or (MINE 862).

WRAPPING UP

- Present your research to Mining Engineering graduate students and faculty in the graduate seminar (MINE 897).
- Complete and defend your Master’s research thesis (MINE 899).

WHAT WILL I LEARN?

A graduate degree in Mining Engineering can equip you with valuable and versatile skills, such as:

- Knowledge and technical skills
- Effective communication skills in multiple forms for diverse audiences
- Information management: prioritize, organize and synthesize large amounts of information
- Time management: Meet deadlines and manage responsibilities despite competing demands
- Project management: develop ideas, gather information, analyze, critically appraise findings, draw and act on conclusions
- Creativity and Innovation
- Perseverance
- Independence and experience as a collaborative worker
- Awareness, an understanding of sound ethical practices, social responsibility, responsible research and cultural sensitivity
- Professionalism in all aspects of work, research, and interactions
- Leadership: initiative and vision leading people and discussion

WHERE CAN I GO?

A Master’s degree in Mining Engineering can take your career in many directions. Many of our MASc students choose to continue their academic inquiry with a PhD. Our Master’s students are equipped with a strong foundation for careers in:

- Academia and Research
- Consulting
- Mining Companies
- Mining Equipment and Technology Providers
- Non-Governmental Organizations
- Financial Institutions
- Taking time to explore career options, build experience, and network can help you have a smooth transition to the world of work after graduation.

* This map is intended to provide suggestions for activities and careers, but everyone’s abilities, experiences, and constraints are different. Build your own Grad Map using our online My Grad Map tool.