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 for more reasons to choose graduate studies in engineering.

RESEARCH Areas

- Blasting, Mine to Downstream Operations
- Data analytics
- Geomechanics, Seismicity, Geodynamics
- Geostatistics, Geometallurgy
- Hydrometallurgy, Biohydrometallurgy, Environmental
- Health and Safety
- Mining Engineering
- Mine-Mechanical
- Mineral Processing
- Pyrometallurgy, Microwaves in metal extraction
- Reliability, Maintenance and Risk Assessment
- Social Risk and Community Relations
- Ventilation

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.

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.

As technology evolves and the global economy changes, our students and researchers play a key role in defining the state of the art in mining. In close collaboration with industry partners, our faculty and students work to make mining operations safer, more efficient, more productive, less impactful on the natural environment, and more cost effective.

Program STRUCTURE

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

School of Graduate Studies
Create an impact

www.queensu.ca/sgs
Mining Engineering
MASc Map *

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 website.
- Consider volunteering with different community organizations, such as the Society of Graduate and Professional Students (SGPS) or the AMS Clubs Directory for more ideas.

INTERMEDIATE STAGE

- Complete your coursework, begin to research and write your thesis.
- Attend the graduate seminar series (MINE 897).
- Take the non-credit course on laboratory safety (CHEM 801) or (MINE 862).
- Serve on departmental, faculty or university committees. Talk to the AMS Clubs Directory for tips on getting involved.
- Consider positions in student services, the SGPS, or media outlets like the Queen’s Journal, CFCF, and the SGS Blog. Look in the AMS Clubs Directory for more ideas.
- See professional development workshops from Expanding Horizons.

WRAPPING UP

- Present your research to Mining Engineering graduate students and faculty in the graduate seminar (MINE 897).
- Complete your coursework; begin to research and write your thesis.
- Attend or present at a conference such as the Canadian Institute of Mining (CIM) Annual Meeting.
- Consider participating in the 1 Minute Thesis (1MT) competition.
- Expand your research audience through social media such as Twitter or a blog.
- Practice articulating the skills you have been developing in settings outside the university, such as casual conversation, networking, and interviews. Get help from a Career Services workshop.
- Investigate internships from MITACS and other sources.
- Check out opportunities for extra training through CTL, Expanding Horizons, MITACS, or other sources to boost your skills.

MAXIMIZE RESEARCH IMPACT

- Start keeping an eportfolio of your skills, experiences and competencies.
- For help with teaching, get support from the Centre for Teaching and Learning. Enroll in SG3962 or the PTLU Certificate.
- Collaborate with other departments, such as Geological, Mechanical, Chemical, and Civil Engineering.
- Start thinking about the audiences for your research. Consider how your course choices can contribute to your research.
- Consider how you can connect with your community through experiential opportunities on- and off-campus.
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- Participate in your graduate and professional community through activities such as graduate student outreach programs, organizing conferences, and research groups.
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ENGAGE WITH YOUR COMMUNITY

- Prepare for work or studies in a multi-cultural environment by taking the Intercultural Awareness Training Certificate hosted by QUIC and the Intercultural Awareness Training Certificate, 4000x4000.
- If you are an international student interested in staying in Canada, consider speaking with an International Student Advisor.
- Consider participating in the Expanding Horizons, MITACS, or other sources to boost your skills.

LAUNCH YOUR CAREER

- Find a career that fits starts with knowing yourself. Get help by taking a Career Services workshop or meeting with a career counselor. Check out books like 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 School of Graduate Studies Career Week to explore your career pathways.
- Check admission test deadlines if needed for further studies.
- Explore different careers of interest by Queens Connects on LinkedIn to connect with Queen's alumni. Check out Career Cruising for more information.
- If you are considering a PhD, explore programs of interest reach out to faculty, and apply to PhD programs and external scholarships.
- Participate in hiring committees and attend job talks. Start focusing on areas of interest. Research organizations of interest and start putting together your CV or resume for potential positions of interest. Get help from Career Services with job searching, resumes, and interviews.
- If you will be continuing graduate studies, apply for NSERC and OGS funding.
- If you are an international student interested in staying in Canada, consider speaking with an International Student Advisor.
- 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).
- Attend a major conference in your field, such as Canadian Institute of Mining (CIM) conferences or Annual General Meeting.
- Set up a meeting with the School of Graduate Studies for a Grad Chat to discuss your research interests.
- Consider putting an article in The Conversation.
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WHAT WILL I LEARN?

A graduate degree in Mining Engineering can equip you with:
- 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
- Financial Institutions
- Non-Governmental Organizations
- Government
- Mining
- Research
- Teaching
- Technical
- Training
- Exploring Careers
- The Conversation

* 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.

Visit careers.queensu.ca/gradmaps for the online version with links!
Graduate Studies
FAQs

How do I make the most of my time at Queen’s?

Use the Grad Map to plan for success in five overlapping areas of your career and academic life. Everyone’s journey is different - the ideas on the maps are just suggestions to help you explore possibilities. For more support with your professional development, take advantage of the SGS professional development framework and the new Individual Development Plan (IDP) process to set customized goals to help you get career ready when you graduate.

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 website for available resources.

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.

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 following minimum scores are required: (1) TOEFL iBT: Writing (24/30); Speaking (22/30); Reading (22/30); Listening (20/30). Applicants must have the minimum score in each test as well as the minimum overall score, or (2) IELTS: 7.0 (academic module overall band score and a 7.0 for each test band), or (3) PTE Academics: 65, or (4) CAEL CE -70 (minimum overall score).

KEY DATES & DEADLINES
• Application deadline: March 1st.
• Notification of acceptance: April 30th.

Before you start your application, please review the Graduate studies application process.

What about FUNDING?

Mining Engineering Master’s students have a minimum funding level of $25,000. 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 one time $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.