

# Mining Engineering MASc Map

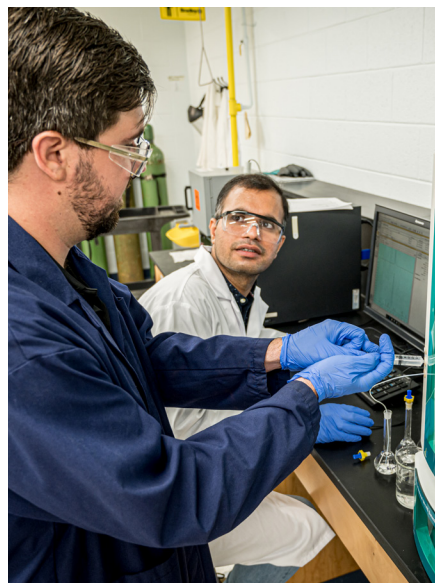
## Applying to and Navigating Graduate Studies

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, uranium (metallic), 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.



### Program STRUCTURE

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



### 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 them 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.



**GRADUATE STUDIES AND POSTDOCTORAL AFFAIRS**

[queensu.ca/grad-postdoc](https://queensu.ca/grad-postdoc)

# Mining Engineering MASC Map

MASTER OF APPLIED SCIENCE (MASC)



## GETTING STARTED

## INTERMEDIATE STAGE

## WRAPPING UP

### ACHIEVE YOUR ACADEMIC GOALS

- 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 School of Graduate Studies and Postdoctoral Affairs (SGSPA) professional development workshops, the department Grad Chair, and the SGSPA website.

- 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).

- 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).

### 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.

- Attend or present at a graduate conference such as the Canadian Institute of Mining (CIM) Annual Meeting.
- Consider participating in the 3 Minute Thesis (3MT) or GRADflix competition.
- Expand your research audience through social media like LinkedIn, a blog or podcast.

- Consider publication options for your research.
- Attend a major conference in your field, such as Canadian Institute of Mining (CIM) conferences or Annual General Meeting.
- Consider being interviewed on the SGSPA radio show Grad Chat to talk about your research.
- Consider putting an article in The Conversation.

### BUILD SKILLS AND EXPERIENCE

- Serve on departmental, faculty, or university committees. Talk to the Society of Graduate and Professional Students (SGPS) for tips on getting involved.
- Consider positions in student services, the SGPS, or media outlets like the Queen's Journal, CFRC, and the SGSPA Blog. Look in the AMS Clubs Directory for more ideas.

- Start keeping an eportfolio of your skills, experiences, and competencies.
- For help with teaching, get support from the Centre for Teaching and Learning. Enrol in SGS902 or the PUTL Certificate.
- Collaborate with other departments, such as Geological, Mechanical, Chemical, and Civil Engineering.

- 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, Society of Graduate Studies and Postdoctoral Affairs professional development, MITACS, or other sources to boost your skills.

### 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.

- Participate in your graduate and professional community through activities such as graduate student outreach programs, organizing conferences, and research groups.
- Prepare for work or studies in a multi-cultural environment by taking the Intercultural Awareness Training Certificate hosted by QUIC and Four Directions Indigenous Student Centre.
- If you are an international student interested in staying in Canada, consider speaking with an International Student Advisor.

- Do some targeted networking with people working in careers of interest, through Queen's Connects on LinkedIn, the Queen's Alumni Association, professional associations, and at conferences. Get help from a Career Services workshop.
- Consider joining professional associations like the Mining Association of Canada (MAC), the Canadian Institute of Mining (CIM), and the International Society of Mining Engineers (SME).

### LAUNCH YOUR CAREER

- Finding a career that fits starts with knowing yourself. Get help by taking a Career Services workshop or meeting with a career educator and coach.
- Start reading publications like University Affairs and the Chronicle of Higher Education. Browse non-academic labour market websites.
- 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.

## Knowledge & Workplace Skills

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

## Career Possibilities

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
- Financial Institutions
- Mining Companies
- Mining Equipment and Technology Providers
- Non-Governmental Organizations

Taking time to explore career options, build experience, and network can help you have a smooth transition to the world of work after graduation.

### How to use this map

Use the 5 rows of the map to explore possibilities and plan for success in the five overlapping areas of career and academics. To make your own custom map, use the My Grad Map tool: [careers.queensu.ca/gradmaps](https://careers.queensu.ca/gradmaps).

# 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 SGSPA professional development framework and the new Professional Development Plan (PDP) 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 SGSPA 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 and Postdoctoral Affairs' information on awards and scholarships.

