Why GRADUATE STUDIES in MECHANICAL ENGINEERING?

As a Master’s student in the field of Mechanical and Materials Engineering (MME), you can play a vital role in future developments in such areas as: ergonomics, biomechanics and tissue engineering, fuel cells, fluid flow, gas turbines, design optimization, robotics, ceramics and polymers, and many other areas. Mechanical Engineering continues to play a vital role in modern life.

Graduate students and their work are an important part of an ongoing research process that provides the community with ways of understanding natural, cultural, imaginative, social and technological phenomena. Check out whygradstudies.ca for more reasons to choose graduate studies in engineering.

Why QUEEN’S?

As a Master’s student in Mechanical and Materials 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 Mechanical and Materials Engineering.

The Mechanical and Materials graduate program has been recognized for the quality of its academic and research programs. It also focuses on multidisciplinary, collaborative research with faculty in other departments, other faculties and other universities.

Program STRUCTURE

MEng (2 semesters): course based program with eight term-length courses.

KEY Competencies

- Engineering Analysis
- Engineering Measurements
- Component Performance/Design
- Integrated System Modelling

Visit the Mechanical Engineering website to read about program options.
# Mechanical & Materials Engineering MEng MAP *

**GETTING STARTED**

- **ACHIEVE YOUR ACADEMIC GOALS**
  - Start with key priorities like doing your coursework.
  - 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 LEARNING IMPACT**
  - Explore research facilities, including the Machine Shop, Reactor Materials Testing Lab, and the Solar Calorimetry Lab.
  - Attend an “Engineering internship and Other Program Options” information session to learn about the program options.
  - Attend a graduate conference through the Canadian Society of Mechanical Engineering, Canadian Section of Combustion Institute, or PDF Society of Canada.
  - Set up a meeting with the School of Graduate Studies for a Grad Chat to discuss your research interests.

- **BUILD SKILLS AND EXPERIENCE**
  - Consider positions in student services, the SGP, or media outlets like the Queen’s Journal, CFRI, and the SGS Blog. Look in the AMS Clubs Directory for more ideas.
  - Serve on departmental, faculty or university committees.
  - Check out 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 Human Mobility Research Centre, and the Centre for Advanced Materials & Manufacturing.
  - 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 QURC and Four Directions Aboriginal Student Centre’s Training Certificate.
  - If you are an international student interested in staying in Canada, consider speaking with an International Student Advisor.

- **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 counsellor. Check out books like So What Are You Going to Do With That? for advice on various career options.
  - Start reading publications like University Affair 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**

- **WHAT WILL I LEARN?**
  - A graduate degree in Mechanical 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 Mechanical Engineering can take your career in many directions. Many of our MEng students choose to continue their academic career with an MASc or PhD. Our Master’s students are equipped with a strong foundation for careers in numerous sectors, such as:
    - Government
    - Industry – Design Engineer
    - Consulting

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

- **WRAPPING UP**
  - Finish your coursework and ensure you have enough credits to graduate.
  - Consider transferring into a MASc.
  - Attend a major conference in your field, such as a conference by the American Society of Mechanical Engineering.
  - Consider putting an article in The Conversation.

- **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.**

- **EXPLORE AND DEVELOP YOUR SKILLS**
  - Consider volunteering with different community organizations, such as the Human Mobility Research Centre, and the Centre for Advanced Materials & Manufacturing.
  - Apply for a Certificate or Diploma.
  - Consider speaking with an International Student Advisor.

- **ADVANCE YOUR PROFESSIONAL DEVELOPMENT**
  - Expand your skill set through professional development, such as graduate student outreach programs, organizing conferences, and research groups.
  - Prepare for work or studies in a multi-cultural environment by taking QURC and Four Directions Aboriginal Student Centre’s Training Certificate.
  - If you are an international student interested in staying in Canada, consider speaking with an International Student Advisor.

- **RESEARCH AND PUBLISH**
  - Explore different careers of interest by reading alumni profiles on the SGS website, and using QueensConnects on LinkedIn to connect with Queen’s alumni, or find alumni in various careers through Ask an Alum.
  - If you are considering an MASc or PhD, explore programs of interest reach out to faculty, and apply to PhD programs and external scholarships.

- **NETWORK AND CONNECT**
  - 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, or interviews.

- **PUBLISH AND PRESENT**
  - Do some targeted networking with people working in careers of interest, through QueensConnects on LinkedIn, the Queen’s Alumni Association, professional associations, and at conferences. Get help from a Career Services workshop.

- **EXPLORE AND DEVELOP YOUR SKILLS**
  - Expanding Horizons, Mitacs, or other sources to boost your skills.

- **Investigate internships from Mitacs and other sources.**

- **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.**

- **EXPLORE AND DEVELOP YOUR SKILLS**
  - Consider joining professional associations like the Canadian Society of Mechanical Engineering, Canadian Society of Civil Engineers, or the Canadian Society of Mechanical Engineers.

- **PARTICIPATE IN PROFESSIONAL DEVELOPMENT**
  - Consider putting an article in the Queen’s Alumni Review or 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.**

- **EXPLORE AND DEVELOP YOUR SKILLS**
  - Consider transferring into a MASc. Finish your coursework and ensure you have enough credits to graduate.

- **NETWORK AND CONNECT**
  - 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, or interviews.

*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.*
Application FAQs

What do I need to know to APPLY?

ACADEMIC REQUIREMENTS
• Honours Bachelor’s degree in Applied Science or Engineering.
• Grade requirements: minimum cumulative average of a B (73-76.9%).

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: No hard deadline. It is encouraged that prospective domestic and international students apply before March 1st to qualify for internal awards or to allow time to receive Visas.
• Notification of acceptance: End of March to July for September admissions.

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

What about FUNDING?

M.Eng. students in a coursework program do not receive financial support, although some M.Eng. students may be hired as teaching assistants (TAs). For application procedures please see the School of Graduate Studies website.

Students who receive permission to enroll in our Industry/Internship course receive funding of $10,000 as interns (MECH 895).

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