Why GRADUATE STUDIES in MECHANICAL & MATERIALS ENGINEERING?

As a PhD 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 PhD 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.

“My research work provides me with skills and experience working on cutting edge healthcare technology which in the future I will be able to apply in industrial or academic positions.”

– Rick Helgason, PhD

Program STRUCTURE

PhD (4 years): course work, research thesis, comprehensive exams.

RESEARCH Areas

- Biomechanical
- Energy and Fluid Systems
- Manufacturing and Dynamic Systems
- Materials Engineering

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

Visit the Mechanical and Materials Engineering website to read about research groups and faculty profiles. 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. This is also an opportunity for you to find out if the faculty member is accepting new graduate students to supervise. Meet with your potential supervisor at departmental events for prospective students.
2020-2021

### Mechanical & Materials Engineering PhD Map *

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<th>YEAR I</th>
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<th>YEAR III</th>
<th>YEAR IV &amp; TRANSITIONING</th>
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<tr>
<td><strong>ACHIEVE YOUR ACADEMIC GOALS</strong></td>
<td><strong>MAXIMIZE RESEARCH IMPACT</strong></td>
<td><strong>BUILD SKILLS AND EXPERIENCE</strong></td>
<td><strong>WHAT WILL I LEARN?</strong></td>
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<tr>
<td>Meet early with your supervisor to set expectations and discuss roles, responsibilities, program requirements, resources, research/occupational goals, timelines, and any required accommodation plans.</td>
<td>Think about audiences for your research.</td>
<td>Serve on departmental, faculty or university committees.</td>
<td>A graduate degree in Mechanical and Materials Engineering can equip you with valuable and versatile skills, such as:</td>
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<tr>
<td>Complete Part A of the PhD Comprehensive Examination, Link to Student Academic Success Services for a variety of supports.</td>
<td>Apply to National Sciences and Engineering Research Council, Ontario Graduate Scholarship, and other funding sources.</td>
<td>Consider positions in student services, the SGSP, or media outlets like the Queen’s Journal, CFRC, and the SGS Blog. Look in the AMS Clubs Directory.</td>
<td>Knowledge and technical skills</td>
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<tr>
<td>Attend the Departmental Graduate Seminar Series (MECH 997)</td>
<td>Attend conferences in your field.</td>
<td>Use a Teaching Assistant or Research Assistant position to develop your skills and experience.</td>
<td>Effective communication skills in multiple forms for diverse audiences</td>
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<tr>
<td><strong>MAXIMIZE RESEARCH IMPACT</strong></td>
<td><strong>BUILD SKILLS AND EXPERIENCE</strong></td>
<td><strong>ENGAGE WITH YOUR COMMUNITY</strong></td>
<td><strong>WHERE CAN I GO?</strong></td>
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<tr>
<td><strong>Maximize Research Impact</strong></td>
<td><strong>Build Skills and Experience</strong></td>
<td><strong>Engage with Your Community</strong></td>
<td>A PhD in Mechanical &amp; Materials Engineering can take your career in many directions. In Canada, less than 40% of all PhDs will work in post-secondary education – the majority will work in industry, government, or non-profits.</td>
</tr>
<tr>
<td><strong>Build Skills and Experience</strong></td>
<td><strong>Engage with Your Community</strong></td>
<td><strong>Launch Your Career</strong></td>
<td><strong>Academia – Professors</strong></td>
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<tr>
<td><strong>Launch Your Career</strong></td>
<td><strong>Engage with Your Community</strong></td>
<td><strong>Finding career fit starts with knowing yourself. Take a Career Services workshop or meet with a career counselor for help. Check out books like 52-What Are You Going To Do With That? for advice on various career options.</strong></td>
<td>Research Society – Simulation Engineer</td>
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<td><strong>Consulting</strong></td>
<td>Government</td>
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<td><strong>Explore different careers of interest by using Queen's Connects on LinkedIn to connect with Queen's alumni.</strong></td>
<td><strong>Build connections with faculty outside of your department.</strong></td>
<td><strong>Industry – Design Engineer</strong></td>
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<td><strong>Explore different careers of interest by using Queen's Connects on LinkedIn to connect with Queen's alumni.</strong></td>
<td><strong>Investigate requirements for professional positions or other opportunities related to careers of interest.</strong></td>
<td><strong>Pursue interviews for faculty positions and apply for post-doc fellowships and positions.</strong></td>
<td><strong>Consulting</strong></td>
</tr>
<tr>
<td><strong>Investigate requirements for professional positions or other opportunities related to careers of interest.</strong></td>
<td><strong>Research academic careers of interest. Craft your CV and job application materials.</strong></td>
<td><strong>Apply to jobs or make plans for other adventures.</strong></td>
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Graduate Studies FAQs

How do I use this map?

Whether you are considering or have embarked on graduate studies at Queen's, use this map to plan for success in five overlapping areas of your career and academic life. The map helps you explore possibilities, set goals and track your individual accomplishments. Everyone's journey is different – the guide offers options for finding your way at Queen's and setting the foundation for your future. To make your own customized map, use the online My Grad Map tool.

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 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 and 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
• Master’s degree in Applied Science or Engineering.
• Exceptional BSc students may be admitted.

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?

Minimum funding guarantee for PhD students: $18,000/year throughout years 1-4. Students are usually funded through a combination of research assistantships, teaching assistantships, and/or scholarships. Funding levels differ for international students.

We encourage all students to apply for external funding from OGS other sources. Queen's will automatically issue a one time $10,000 award to incoming PhD students who have won federal government tri-council awards. See the School of Graduate Studies' for more information on awards and scholarships.

DEPARTMENT OF
MECHANICAL & MATERIALS ENGINEERING

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