**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.

**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.

<table>
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<tr>
<th>Key Dates &amp; Deadlines</th>
<th>Details</th>
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<td>Notification of acceptance:</td>
<td>End of March to July for September admissions.</td>
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<tr>
<td>Application deadline:</td>
<td>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.</td>
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<td>Key deadlines</td>
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**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.”

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**Mechanical & Materials Engineering PhD Map**

**Applying to and Navigating Graduate Studies**

**GRAD MAP FOR PhD STUDENTS**

**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**

**DOCTOR OF PHILOSOPHY (PhD)**

**YEAR I**

ACHIEVE YOUR ACADEMIC GOALS

- Meet early with your supervisor to set expectations and discuss roles, responsibilities, program requirements, resources, research/occupational goals, timelines, and any required accommodation plans.
- Complete Part A of the PhD Comprehensive Examination, Look to Student Academic Success Services for a variety of supports.
- Attend the Departmental Graduate Seminar Series (MECH 997).

MAXIMIZE RESEARCH IMPACT

- Think about your research.
- Apply to National Sciences and Engineering Research Council, Ontario Graduate Scholarship, and other funding sources.
- Attend conferences in your field.

BUILD SKILLS AND EXPERIENCE

- Serve on departmental, faculty or university committees.
- Consider positions in student services, the SGPS, or media outlets like the Queen's Journal, CFRC, and the SGS Blog. Look in the AMS Clubs Directory.
- Use a Teaching Assistant or Research Assistant position to develop your skills and experience.

ENGAGE WITH YOUR COMMUNITY

- Consider volunteering with different community organizations, such as the Human Mobility Research Centre, and the Centre for Advanced Materials & Manufacturing.
- Connect to broader communities of engineers by joining one of the Engineering Society Design Teams.

LAUNCH YOUR CAREER

- Finding career fit starts with knowing yourself. Take a Career Services workshop or meet with a career counselor for help. 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 School of Graduate Studies Career Week to explore your career pathways.

**YEAR II**

- Write and defend your thesis proposal, and embark on your substantive research.
- Set up regular meetings with your supervisor to discuss progress and obstacles to timely completion.
- Find your way through the academic process with the help of the Expanding Horizons website.
- Complete Part B of the PhD Comprehensive Examination within 16 months of registration into the program.

**YEAR III**

- Continue to meet regularly with your supervisor, review research progress, and write your dissertation. Check out SGS writing camps like Dissertation Boot Camp or Dissertation on the Lake.
- Consider publishing elements of your research. Learn from the Expanding Horizons Publishing Workshop.
- Use conference presentations to create and refine dissertation material.
- Consider participating in the 3 Minute Thesis (3MT) competition.
- Contact the Queen's Media Centre for guidance on speaking to news outlets about your work. List yourself on the Faculty of Engineering and Applied Science research website.
- Attend the Departmental Graduate Seminar Series for Teaching and Learning.
- Serve on departmental, faculty or university committees.
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**YEAR IV & TRANSITIONING**

- Plan date of thesis submission for examination.
- Present your research to graduate students and faculty or at conferences and work with supervisor to prepare for defence.
- Review submission and examination guidelines.
- Secure necessary oral defence accommodations.
- Discuss career pathways, references letters, and publication options with your supervisor.
- Continue to attend conferences and connect with scholars in your field and with community partners.
- Continue public outreach through social media and the Queen's Media Centre.
- Set up a meeting with the School of Graduate Studies for a Grad Chat to discuss your research interests.
- Attend conferences in your field.
- Attend or present at a graduate conference through the Canadian Section of Combustion Institute, CFD, Society of Canada, etc. Talk to your supervisor.
- Expand your research audience through social media such as Twitter or a blog.
- Apply for the Graduate Deans' Travel Grant for Doctoral Field Research.

**WHAT WILL I LEARN?**

A graduate degree in Mechanical and Materials 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 PhD in Mechanical & 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.

- Academia – Professors
- Research – Development
- Government
- Non-profits
- Industry – Design Engineer
- Consulting

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

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