Application FAQs

What do I need to know to APPLY?

ACADEMIC REQUIREMENTS
• Master's degree in Science or Applied Science.
• Grade requirements: minimum B+ standing.

ADDITIONAL REQUIREMENTS
• Two official transcripts for all post-secondary studies.
• At least 2 letters of reference.
• Curriculum vitae.
• If English is not a native language, prospective students must meet the 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 due: February 15th.
• Notification of acceptance: 4 weeks after the full application has been received.

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

What about FUNDING?
The minimum funding guarantee for Physics PhD students is $27,012 per year, throughout years 1-4. This basic level funding consists of graduate awards, external scholarships, teaching assistantships, and support from your supervisor.

We encourage all students to apply for external funding from OGS, NSERC and other sources. Queen's will automatically issue a $10,000 award to winners of federal government tri-council awards for PhD studies. For more information, see the School of Graduate Studies' information on awards and scholarships.

Why GRADUATE STUDIES in PHYSICS, ENGINEERING PHYSICS & ASTRONOMY?

Our department provides exciting opportunities for graduate students to study in many stimulating research environments. In addition to a large number of high-profile professors, we have recently recruited many new world-class physicists who are setting up exceptional research programs in cutting-edge areas of theoretical, applied and experimental physics. In 2016 we had a record intake of excellent new graduate students, bringing our department total to over 75 Canadian and International students.

Why QUEEN'S?
The Department of Physics at Queen's University is one of the leading Canadian research institutes in Physics. Our faculty includes high-profile, world-class physicists who work on cutting-edge areas of theoretical, applied and experimental physics. Our staff and students carry out their research on campus as well as at external facilities including some of the largest astronomical and astroparticle observatories in the world, such as the Gemini Observatory in Hawaii, the Sudbury Neutrino Laboratory (SNOLAB), and the High Performance Computing Virtual Lab (HPCVL supercomputer).

Program STRUCTURE

PhD (4 years): Course work, research project, thesis & defense, seminar series.

DEPARTMENT OF PHYSICS, ENGINEERING PHYSICS & ASTRONOMY

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Why do I need to 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 & 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 students. 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.

A member of the Department of Physics, Engineering Physics & Astronomy, Professor Emeritus Art McDonald, was co-winner of the 2015 Nobel Prize in Physics for his research on neutrinos with the Sudbury Neutrino Observatory Collaboration.

Research Areas
• Condensed Matter Physics & Optics
• Engineering & Applied Physics
• Astrophysics & Astronomy
• Particle Physics & Particle Astrophysics

We encourage you to identify an area of research interest and contact a potential supervisor before applying. Visit the Department of Physics, Engineering Physics & Astronomy 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.
DOCTOR OF PHILOSOPHY (PhD)

**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.
- Look to Student Academic Success Services for a variety of supports.
- Attend and participate in graduate seminars and colloquia hosted by the department.

**MAXIMIZE RESEARCH IMPACT**

- Write and defend your thesis proposal.
- 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 Expanding Horizons.
- Seek experiential/professional development opportunities.

**BUILD SKILLS AND EXPERIENCE**

- Think about audiences for your research.
- Complete ROMEO online module on research ethics if doing research with living people or sensitive topics.
- Apply to NSERC, OGS, and other funding.
- Attend conferences in your field, such as the Canadian Association of Physics Annual Congress.

- Present your work at graduate conferences, through professional associations, or topic conferences.
- Expand your research audience through social media such as Twitter or a blog.
- Apply for the Graduate Student Travel Grant for Doctoral Field Research.

**ENGAGE WITH YOUR COMMUNITY**

- Serve on departmental, faculty or university committees. Talk to the Society for Graduate Students for tips on getting involved.
- Consider positions in student services, the SGS 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.

- Hone skills for non-academic employment by continuing involvement on committees and in the community.
- Start keeping an eportfolio of your skills, experiences, and competencies.
- For help with getting, get support from the Centre for Teaching and Learning.
- Apply for the Graduate Student Travel Grant for Doctoral Field Research.

**LAUNCH YOUR CAREER**

- Consider volunteering with different community organizations, such as Martha’s Table, or Loving Spoonful.
- Take advantage of the facilities linked to the department, including the Canada Centre for Southeastern Ontario and the Sudbury Neutrino Observatory (SNOLAB), the Kingston Nano Fabrication Laboratory (KNFL), and more.

- Participate in graduate and professional community through activities such as graduate student outreach programs, organizing conferences, and research groups like Material Matters.

**WHAT WILL I LEARN?**

A graduate degree in Physics, Engineering Physics & Astronomy 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 collaborator
- 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 Physics, Engineering Physics & Astronomy 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.

- Academic and research
- Consulting
- Medical technologies: radiation physics, x-ray physics
- Renewable energy
- Technology sector

Taking 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!

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**YEAR I**

- Start focusing on non-academic areas of interest.
- Medical technologies: radiation

**MAXIMIZE RESEARCH IMPACT**

- Write and defend your thesis proposal.
- 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 Expanding Horizons.
- Seek experiential/professional development opportunities.

**YEAR II**

- Continue to meet regularly with your supervisor, review research progress, and write your dissertation. Check out the SGS Dissertation Boot Camp or Dissertation on the Lake.
- Consider publishing elements of your research. Learn from the Expanding Horizons Publishing workshop.
- Begin discussion of potential thesis defence examiners.

**YEAR III**

- Plan date of thesis submission for examination.
- Present your research to graduate students and faculty 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.

**YEAR IV & TRANSITIONING**

- Continue to attend conferences such as the Canadian Astronomical Society Annual Meeting or the Canadian Association of Physicists Congress and connect with scholars in your field and with community partners.
- Continue public outreach through social media and the Queen’s Media Centre.

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