

Physics, Engineering Physics & Astronomy MSc Map

Applying to and Navigating Graduate Studies

Why Graduate Studies in Physics, Engineering & Astronomy

The Master's degree in Physics provides you with training in theory, computation, statistical modelling, and experimental methods as you pursue problems in fundamental and applied research. Physicists design mathematical models to describe complex phenomena and test these models by making observations, conducting experiments, or running numerical simulations. The skills obtained are highly sought after and transferable to a wide range of fields. The degree leads to careers in academia and government-funded research centres as well as the private sector fields of finance, medicine, technology, and data analytics, to name just a few.

Why Queen's?

Queen's has one of the most active and dynamic physics departments in Canada. The Department is home to the McDonald Institute, a national research centre in particle astrophysics. Named after emeritus Queen's professor and 2015 Nobel laureate Art McDonald, the Institute is closely linked to activities at SNOLAB where experiments search for dark matter and probe fundamental properties of neutrinos. Closely related is the Astrophysics group whose members at Queen's and the nearby Royal Military College study galaxies, the extragalactic Universe, black holes, and dark matter through theory,



simulation, and observations at some of the world's largest observatories.

Research within the applied and engineering physics group seeks to bring new physics understanding to important problems for society, including lighting technologies, solar energy, laser manufacturing, and non-destructive testing while the Condensed Matter and Optics group focuses on nanophotonics and quantum optics.

Group members are key players in NanoFabrication Kingston, a University-Industry collaboration that provides researchers with access to leading-edge equipment and expertise for the design of nanotechnologies.

Program Structure

MSc (2 years): course work, research project, thesis & defense.

Research Areas

- Astrophysics & Astronomy
- Condensed Matter Physics & Optics
- Engineering & Applied Physics
- 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 them and tell them about your interest in graduate work and related experience.



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MASTER OF SCIENCE (MSc)



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.

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?

Queen's offers graduate students from every discipline a close-knit intellectual community where they can learn, discover, and build lasting connections. With more than 130 graduate programs across 50+ departments and research centres, students benefit from world-class scholars, prize-winning professional development, generous funding packages, and life in the historic waterfront city of Kingston. The campus sits at the heart of Kingston, just a 10-minute walk from downtown's shops, restaurants, and waterfront, and is deeply integrated with the local community. For more on 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

- Honours undergraduate degree in Science or Applied Science and Engineering.
- **Grade requirements:** Minimum second class standing in undergraduate degree.

ADDITIONAL REQUIREMENTS

- If English is not a first language, nor was the language of instruction in undergraduate studies, prospective students must meet English language proficiency requirements in writing, speaking, reading, and listening as part of the application process, and before final acceptance is granted, as per School of Graduate Studies and Postdoctoral Affairs' regulations.

KEY DATES & DEADLINES

- **Application due:** January 7th.
- **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?

MSc students in Physics currently receive minimum funding of \$28,900 per year for the two years of the program. This basic level funding consists of graduate awards, school support, external scholarships, internal fellowships and bursaries, teaching assistantships, and research grants.

Apply for external funding from OGS, NSERC, and other sources. For more information on awards and scholarships, consult the School of Graduate Studies and Postdoctoral Affairs' website.

