Physics at Queen’s combines high-calibre research with an intermediate-scale learning setting, enabling attention and care towards undergraduate teaching as well as exposure to a broad range of topics and expertise. You will be trained in observation and experimentation, in mathematics and model building. You will develop the confidence to tackle new and intellectually demanding problems, placing you at the leading edge of research and development in science and technology.

**TOP 5 REASONS to study PHYSICS AND ASTRONOMY**

1. **One of Canada’s leading teaching and research institutes in Physics and Astronomy.**
2. **Award-winning physics educators such as 3M National Teaching Fellow James Fraser.**
3. **Our internship program (QUIP) offers a wide range of careers to explore and companies to learn from.**
4. **Brand new astroparticle physics institute named after Queen’s Nobel Prize Laureate Art McDonald.**
5. **25+ summer research assistant positions offered by the department to students every summer.**

**11%** of alumni work in GOVERNMENT

**18%** of alumni work in TECHNOLOGY

**18%** of alumni work in BUSINESS & LAW

**31%** of alumni work in EDUCATION & RESEARCH

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**ALUMNI JOBS**

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**STORY**

“For me, the community within the Physics Department was by far the best aspect of studying Physics at Queen’s. The engaging instructors, knowledgeable technologists, helpful administrative and support staff, and my collaborative peers all contributed to my learning in the most positive way.”

-Kate Fenwick, BScH ’17

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**2018-19 thresholds**

**NO AUTOMATIC ACCEPTANCE**

0.7 cGPA PENDING LIST

*Thresholds are made on a competitive basis and are updated annually. For the latest information please visit: QUartscl.com*
MATHEMATICAL PHYSICS
SPECIALIZATION MAP

1ST YEAR
In first year you will have the chance to explore the foundations of Physics in biology, chemistry, physics and math along with some electives.
See the back page for specific courses to consider.
Attend Majors Night in the Winter term to learn more about Plan options.

2ND YEAR
Start going deeper into the discipline of Mathematical Physics, while considering a certificate such as Entrepreneurship, Innovation and Creativity. Attend Degree in the Fall term to learn more about Certificates and internship options.
Want to make sure your academics are where you want them to be? Visit SASS (Student Academic Support Services) and the Writing Centre for some help.

3RD YEAR
A chance to start grouping courses in areas of interest, or to keep it more general and explore many areas of Mathematical Physics. Meet with an Academic Advisor to make sure you are on track and have planned out your courses for next year — for some ideas, see the back page.

4TH OR FINAL YEAR
In fourth year you will have the chance to participate in research-based courses that can lead to Graduate School or to your future career path. Make sure to finish up all your courses for your degree and your optional certificate(s).

GET THE COURSES YOU NEED

GET RELEVANT EXPERIENCE
Join teams or clubs on campus such as Queen’s Astronomy Club, Queen’s University Experimental Sustainability Team (QUEST), Queen’s Space Engineering Team (QSET), or Queen’s Solar Design Team.
See the AMS Clubs Directory or the Queen’s Get Involved page for more ideas.

GET CONNECTED WITH THE COMMUNITY
Volunteer on or off-campus with different community organizations such as Science Rendezvous or Let’s Talk Science. Consider joining an intramural sport or an athletics team. Off-campus community organizations welcome Queen’s students – see what’s out there!

GET THINKING GLOBALLY
Prepare for work or studies in a multi-cultural environment by taking QUIP’s Intercultural Competency Certificate, and research possible immigration regulations.
Speak to a QUC advisor to get involved in their programs, events, and training opportunities.

GET READY FOR LIFE AFTER GRADUATION
Grappling with program decisions? Go to Majors Night or get some help wondering about career options from Career Services.
Build your transferrable skills in time management, organization, writing and more with Student Academic Success Services.

What will I learn?
A degree in Physics can equip you with valuable and versatile skills, such as:
- Knowledge of physics theories and mathematical models
- Proficiency in mathematics
- Facility for quantitative mathematical and computational analysis
- Experience with laboratory equipment
- Design experiments and develop and write research proposals
- Review scientific literature
- Draw conclusions from data and evaluate sources of error
- Explain technical information clearly in writing and verbal communication
- Use statistical software
- Adopt a systematic, analytical approach to problems

Where can I go?
A degree in Physics can take your career in many directions. Many students choose to continue their academic inquiry with a Master’s. Our students are equipped with a strong foundation for careers in:
- Aerospace
- Astrophysics
- Computer simulations
- Forensic science
- Geophysics
- Imaging
- Nanoscience
- Photonics
- Planetary science
- Radiology
- Remote sensing
- Robotics
- Space science
- Technology industry
Taking time to explore career options, build experience and network can help you have a smooth transition to the world of work after graduation.

International students interested in staying in Canada can speak with an International Student Advisor.
MATHEMATICAL PHYSICS
Specialization, Bachelor of Science (Honours)

Sample Year by Year

1ST YEAR
- MATH 110/6.0
- MATH 120/6.0
- PHYS 104/6.0 or PHYS 106/6.0
- 12.0 units of electives

2ND YEAR
- MATH 210/3.0
- MATH 231/3.0
- MATH 280/3.0
- MATH 281/3.0
- STAT 268/3.0
- PHYS 206/3.0
- PHYS 212/3.0
- PHYS 213/3.0
- PHYS 239/3.0
- PHYS 250/3.0

3RD YEAR
- PHYS 242/3.0
- STAT 269/3.0
- MATH 326/3.0
- MATH 328/3.0
- MATH 334/3.0
- PHYS 321/3.0
- PHYS 344/3.0
- PHYS 345/3.0
- PHYS 350/6.0

4TH YEAR
- PHYS 372/3.0
- PHYS 432/3.0
- PHYS 590/6.0
- 9.0 units from BIOM, MATH or STAT at the 300 level or above
- 3.0 units from PHYS at the 400 level or above
- 3.0 units from MATH 341/3.0, MATH 421/3.0, MATH 427/3.0, MATH 436/3.0
- 3.0 units of electives

Note that degree requirements are revised regularly. The most current requirements, including course lists and options, are found in the Academic Calendar at: QUartsci.com/academic-calendar

* Please note if you were admitted to the Plan prior to May 2018 your requirements are slightly different.