# Physics

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. Our students will learn in an engaging environment with the opportunity to conduct interdisciplinary research in state-of-the-art laboratories, and work on projects involving international collaborators such as the experiments in dark matter and neutrinos happening below the surface of the Earth at the Sudbury Neutrino Observatory.

## TOP 5 REASONS To Study PHYSICS And ASTRONOMY

1. The department is 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.

## TOP ALUMNI JOBS

**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

## add a CERTIFICATE

- Data Analytics
- Disability and Physical Activity
- Employment Relations
- Geographic Information Science
- Indigenous Languages and Cultures
- Sexual and Gender Diversity
- Urban Planning Studies

QUartsci.com/certs

## 2025-26 Plan Thresholds

Thresholds are made on a competitive basis and are updated annually. To see the thresholds for all programs as well as the latest information, please visit quartsci.com/planselection

Interested in finding out how to augment your degree with Experiential Learning? Check in with your department to learn more about what opportunities and resources are available for you!

## Alumni 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

## Acquire Skills. Gain Experience. Go Global.

**That is a degree from Queen's.**

queensu.ca/physics

2025-2026

# Physics MAJOR MAP

*BACHELOR OF SCIENCE: HONOURS DEGREE (SPECIALIZATION/MAJOR/MINOR) OR GENERAL DEGREE*

Queen's UNIVERSITY

| | 1ST YEAR | 2ND YEAR | 3RD YEAR | 4TH OR FINAL YEAR |
|---|---|---|---|---|
| **GET THE COURSES YOU NEED** | In first year you will have the chance to explore the foundations of Physics in biology, chemistry, math, and geology along with some electives. Attend Majors Night in the Winter term to learn more about Plan options.<br>Want to make sure your academics are where you want them to be? Visit SASS (Student Academic Success Services) for some help.<br>Interested in getting a head start in learning and working in a digital world? Take ASCX 150 and develop future-ready skills! | Start going deeper into the discipline of Physics, while considering a minor and/or certificate such as Global Action and Engagement. Learn more about Certificates and Internship options. | A chance to start grouping courses in areas of interest, or to keep it more general and explore many areas of Physics. Meet with an Academic Advisor to make sure you are on track and have planned out your courses for next 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 major and your optional minor and/or certificate(s). |
| **GET RELEVANT EXPERIENCE** | Join teams or clubs on campus such as Queen's Space Engineering Team (QSET), or Queen's Solar Design Team.<br>See the AMS Clubs Directory or the Queen's Get Involved page for more ideas. | Look into summer jobs by talking to the department or Career Services about work through SWEP or Work-Study.<br>Consider entrepreneurial opportunities via programs like the Queen's Founders and Innovators Initiative (QFII). | Consider applying to do a 12-16 month QUIP internship between your third and fourth year.<br>Investigate off-campus summer jobs involving research (such as at SNOLAB). Apply for NSERC USRA, or directly to individual faculty members and research groups in Physics and Astronomy. Many Physics students volunteer with the on-campus Observatory in Ellis Hall. | Investigate requirements for full-time jobs or other opportunities related to careers of interest. Assess what experience you're lacking and fill in gaps with volunteering, clubs, or internships – check out the Career Services skills workshop for help.<br>Check out Inquiry@Queen's to present your past summer research work. |
| **GET ENGAGED 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 involved with the Departmental Student Council (DSC). Connect with professors at socials or attend departmental public lectures.<br>Start or continue volunteering with organizations such as Women in Science and Engineering (WISE). | Do targeted networking with alumni working in careers of interest through LinkedIn. Check out Career Services networking workshops.<br>Connect with professors at events hosted by the DSC. Attend the departmental colloquium to learn about current research. | The Canadian Undergraduate Physics Conference is hosted by and for undergrads.<br>Consider joining professional associations like the Canadian Association of Physicists (CAP) or the Canadian Astronomical Society (CASCA). |
| **GET ENGAGED GLOBALLY** | Prepare for work or studies in a multi-cultural environment by taking QUIC's Intercultural Awareness Certificate, and research possible immigration regulations.<br>Speak to a QUIC advisor to get involved in their programs, events, and training opportunities. | Is an exchange in your future? Start thinking about where you would like to study abroad. Apply in January for a third year exchange through the International Programs Office.<br>Physics research is often international and collaborative. Pursue summer research with faculty members to explore those global connections. | Build your intercultural competence by getting involved with other cultures or by practicing or improving your language skills. | International students interested in staying in Canada can speak with an International Student Advisor. |
| **GET CAREER READY** | Grappling with program decisions? Go to Majors Night or get some help wondering about career options from Career Services.<br>Build your transferable skills in time management, organization, writing, and more with Student Academic Success Services. | Explore different careers of interest in the Career Services Career Advising and Resource Area. For more information check out Career Cruising or by finding and connecting with alumni on LinkedIn | Start focusing on areas of interest. Research education requirements for careers of interest. If needed, prepare to take any required tests (like the LSAT or GMAT) and get help thinking about Grad School from Career Service. | Apply to jobs or future education, or make plans for other adventures. Get help from Career Services with job searching, resumes, interviews, Grad School applications, or other decisions.<br>Find impactful work that aligns with your values using the Queen's Career Guide to the UN Sustainable Development Goals. |

CONSIDER A 12-16 MONTH QUIP INTERNSHIP

## Knowledge & Workplace Skills

A degree in Physics can equip you with:

- 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

## Career Possibilities

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:

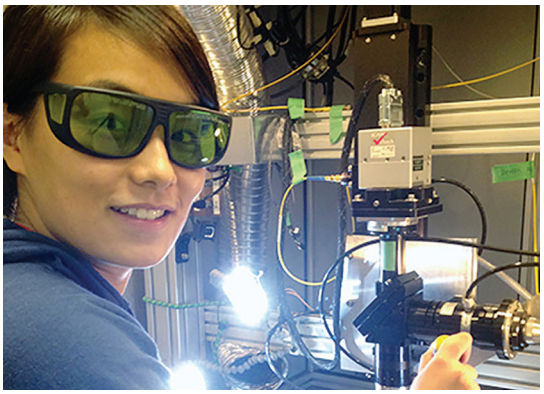
- Aerospace
- Astrophysics
- Computer simulations
- Forensic science
- Geophysics
- Imaging
- Nanoscience
- Photonics
- Planetary science
- Quantum Physics
- Radiology
- Remote sensing
- Robotics
- Space science
- Technology industry

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

### 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. The map just offers suggestions – you don't have to do it all! To make your own custom map, use the My Major Map tool.

# Physics



Get started thinking about the future now – where do you want to go after your degree? Having tentative goals (like careers or grad school) while working through your degree can help with short-term decisions about courses and experiences, but also help you keep motivated for success.

## Get the help you need

Queen's provides you with a broad range of support services from your first point of contact with the university through to graduation. At Queen's, you are never alone. We have many offices dedicated to helping you learn, think and do.

Ranging from help with academics and careers, to physical, emotional, or spiritual resources – our welcoming living and learning environment offers the programs and services you need to be successful, both academically and personally. Queen's wants you to succeed! Check out the Student Affairs website for available resources.

# QUIP QUEEN'S UNDERGRADUATE INTERNSHIP PROGRAM

**START DATES** in May, September, or January

**POSITIONS** are paid and full-time

**WORK TERMS** are 12-16 months long

**PROGRAM OVERVIEW**

- Graduate with "Professional Internship" on your degree
- Learn about current advances, practices and technologies in business and industry
- Explore a career path, earn a salary, and build workplace skills

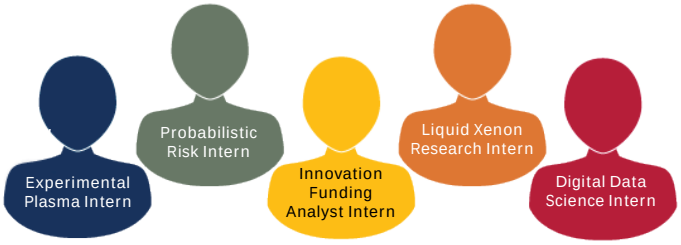
**ELIGIBILITY**

- Complete 1st year before you register
- Complete 2nd or 3rd year before your internship
- Minimum GPA of 1.9
- Return to Queen's after your internship to finish your degree

**WHY QUIP?**

- Gain a year of career-related work experience
- Build network connections
- Receive support from Queen's staff in job search and during internship

## SAMPLE PAST **INTERNSHIPS**




For more information, contact quip@queensu.ca or visit the Program Website.

# Why study in Kingston?

Since 1841, our community has been more than a collection of bright minds – Queen's has attracted students with an ambitious spirit. Queen's has the highest retention rates, the highest graduation rates, and one of the highest employment rates among recent graduates. We are a research intensive university focused on the undergraduate experience. The BBC has identified Kingston as one of the GREATEST UNIVERSITY TOWNS in the world – and it is often awarded the safest city in Canada. It is a university city at the core; just a quick drive to Toronto, Montreal, Ottawa and even New York. A university with more clubs per capita than any other university in Canada, and a city with more restaurants per capita than any other city in North America – you will have the experience of a lifetime at Queen's – and graduate with a degree that is globally recognized among the best.



Queen's UNIVERSITY ARTS AND SCIENCE

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