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.

Reasons To Study Physics And Astronomy

- The department is one of Canada's leading teaching and research institutes in Physics and Astronomy.
- Award-winning physics educators such as 3M National Teaching Fellow James Fraser.
- Our internship program (QUIP) offers a wide range of careers to explore and companies to learn from.
- 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.

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

TOP ALUMNI JOBS

11% of alumni work in GOVERNMENT

18 % of alumni work in TECHNOLOGY

18% of alumni work in BUSINESS & LAW

of alumni work in EDUCATION & RESEARCH

2023-24 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? Learn what opportunities and resources are available for you on the Experiential Learning website. You can also reach out to the team directly at ass.el@queensu.ca.

add a CERTIFICATE

Data Analytics

Disability and Physical Activity

Employment Relations

Entrepreneurship, Innovation and Creativity

French for Professionals

Geographic Information Science

Global Action and Engagement

Indigenous Languages and Cultures

International Studies

Media Studies

Sexual and Gender Diversity

Urban Planning Studies

QUartsci.com/certs

Acquire Skills. Gain Experience. Go Global.

That is a degree from Queen's.

queensu.ca/physics

Physics MAJOR MAP

BACHELOR OF SCIENCE (HONOURS): SPECIALIZATION, MAJOR, MINOR



1ST YEAR 2ND YEAR **3RD YEAR GET THE** In first year you will have the chance to explore **COURSES** Start going deeper into the discipline of Physics, A chance to start grouping courses in areas of the foundations of Physics in biology, chemistry, while considering a minor and/or certificate interest, or to keep it more general and explore YOU NEED math, and geology along with some electives. Attend <u>Majors Night</u> in the Winter term to learn such as **Global Action and Engagement**. Learn many areas of Physics. Meet with an Academic more about <u>Certificates</u> and <u>Internship</u> options. Advisor to make sure you are on track and have more about Plan options. planned out your courses for next year. Develop your entrepreneurial skills by Want to make sure your academics are where you participating in the **Dean's Changemaker** want them to be? Visit SASS (Student Academic Challenge (ASCX 200/300). Support Services) and the Writing Centre for some Interested in getting a head start in learning and working in a digital world? Take ASCX 150 and develop future-ready skills! **GET RELEVANT** Consider applying to do a 12-16 month OUIP Join teams or clubs on campus such as Queen's Look into <u>summer jobs</u> by talking to the **EXPERIENCE** internship between your third and fourth year. Astronomy Club, Queen's University Experimental department or Career Services about work Sustainability Team (QUEST), Queen's Space through **SWEP** or **Work-Study**. Investigate off-campus summer jobs involving Engineering Team (QSET), or Queen's Solar Design research (such as at <u>SNOLAB</u>). Apply for NSERC Consider entrepreneurial opportunities via USRA, or directly to individual faculty members programs like the Queen's Innovation Connector and research groups in Physics and Astronomy. See the AMS Clubs Directory or the Oueen's Get Summer Initiative (QICSI). Many Physics students volunteer with the on-**Involved** page for more ideas. campus Observatory in Ellis Hall Do targeted networking with alumni working in **CONNECTED** Volunteer on- or off-campus with different Get involved with the Departmental Student careers of interest by joining the LinkedIn group community organizations such as Science WITH THE Council (DSC). Connect with professors at socials Queen's Connects. Check out Career Services Rendezvous or Let's Talk Science. Consider or attend departmental public lectures. **COMMUNITY** networking workshops. joining an intramural sport or an athletics team. Start or continue volunteering with organizations Off-campus community organizations welcome Connect with professors at events hosted by such as Women in Science and Engineering Queen's students - see what's out there! the DSC. Attend the departmental colloquium to (WISE). learn about current research. **GET THINKING** Is an exchange in your future? Start thinking Prepare for work or studies in a multi-cultural Build your intercultural competence by getting **GLOBALLY** about where you would like to study abroad. environment by taking **QUIC's Intercultural** involved with other cultures or by practicing or Apply in January for a third year exchange Competency Certificate, and research possible improving your language skills. through the International Programs Office. immigration regulations. Physics research is often international and Speak to a QUIC advisor to get involved in their collaborative. Pursue summer research with programs, events, and training opportunities. faculty members to explore those global connections **GET READY** Grappling with program decisions? Go to Majors Explore different careers of interest in the Start focusing on areas of interest. Research FOR LIFE AFTER Night or get some help wondering about career Career Services Career Advising and Resource education requirements for careers of GRADUATION options from Career Services. Area. For more information check out **Career** interest. If needed, prepare to take any required tests (like the LSAT or GMAT) and get **Cruising** or by finding and connecting with Build your transferable skills in time

alumni on LinkedIn.

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.

management, organization, writing, and more

with Student Academic Success Services.

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 major and your optional minor and/or certificate(s).

Interested in working on a real-world problem with an actual client? Take ASCX 400 and develop your consulting and projectmanagement skills.

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help thinking about Grad School from Career

Service.

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.

Check out lnquiry@Queen's to present your past summer research work.

The Canadian Undergraduate Physics Conference is hosted by and for undergrads.

Consider joining professional associations like the Canadian Association of Physicists (CAP) or the Canadian Astronomical Society (CASCA).

International students interested in staying in Canada can speak with an International Student Advisor.

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.

What will I learn?

A degree in Physics can equip you

- 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

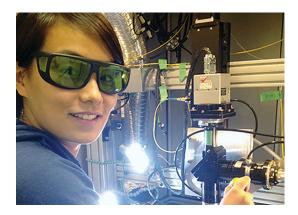
Where can I go?

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 **Ouantum 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.

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 vour 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.



ARTS AND SCIENCE

The Department of Physics, **Engineering Physics &** Astronomy Stirling Hall 64 Bader Lane 613-533-2707

QUIPQUEEN'S UNDERGRADUATE INTERNSHIP PROGRAM

START DATES

in May, September, or January

are paid and full-time

POSITIONS WORK TERMS

are 12-16 months long

PROGRAM OVERVIEW

- Graduate with a "Professional Internship" degree
- Learn about current advances, practices and technologies in business and industry.
- Test drive a career, earn a competitive salary, and get real world experience.

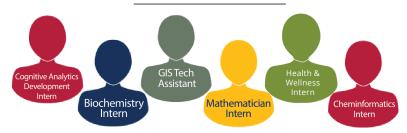
ELIGIBILITY

- 2nd or 3rd Year Students
- Minimum GPA of 1.9



- 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?

For 175 years, 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

versity doser than you think 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 London / 7 hrs CANADA Oueen's the experience of a Beijing / 15 hrs lifetime at Queen's Dubai / 14 hrs - and graduate Calgary / 4 hrs Vancouver / 5 hrs with a degree that is globally Halifax / 2 hrs San Francisco / 5.5 hrs Kingston recognized Denver/3 hrs among New York / 1.5 hrs UNITED the best. STATES Dallas / 3.5 hrs Atlanta / 2 hrs Bermuda / 2 hrs