Succeed in the workplace

What employers want

The Canadian Council of Chief Executives list the top 6 skills sought by employers as:

1. People skills
2. Communication skills
3. Problem-solving skills
4. Analytical abilities
5. Leadership skills
6. Industry-specific knowledge

Take the time to think about the unique skills you have developed at Queen’s, starting with the skills listed here for ideas. Explaining your strengths with compelling examples will be important for applications to employers and further education. For help, check out the Career Services skills workshop.

Get to know PHYSICS AND ASTRONOMY

The Department of Physics at Queen’s is one of Canada’s leading teaching and research institutes in Physics, Engineering Physics and Astronomy.

Our faculty include high-profile, world-class physicists and astronomers such as Nobel Laureate Art McDonald. Queen’s is home to the Canadian Particle Astrophysics Research Centre (CPARC) with its world-leading research activities and suite of experiments located at SNOLAB. The Physics Department also created the first Engineering Physics program in Canada. World-leading researchers in quantum optics, nanoscience and nanophotonics merge our strength in applied physics with fundamental research in condensed matter physics and optics.

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 research in state-of-the-art laboratories, including inter-disciplinary research, as well as projects involving international collaborators such as experiments in dark matter and neutrinos at SNOLAB.

Why study in Kingston?

For over 175 years, the Kingston community has been a collection of bright minds. We are proud that our city was named one of the top intelligent Communities across the globe, an accolade largely due to the thousands of students who study here every single year. In fact, the BBC has identified Kingston as one of the GREATEST UNIVERSITY TOWNS in the world, which might be why Instagram named the city ‘the happiest place on the planet’. Just a quick drive to Toronto, Montreal, Ottawa and even New York, Kingston is a safe and liveable city. Not only are we known as the freshwater sailing capital of the world, Kingston is arguably the birthplace of hockey. Wondering undeclared, undecided or simply a time to explore, is bound to be a year full of adventure. Why study in Kingston?

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.

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, and Queen’s wants you to succeed! Check out the Student Affairs website for available resources.

A Year to CHOOSE

We often say that our students are like explorers. In Arts and Science, your first year is all about making choices and exploring new paths. Whether you are in Arts, Science or Computing, you will choose your courses from a wide variety of subjects as you settle into university life and become familiar with new styles of learning. By the end of your first year, you will have discovered your areas of interest, passion and success, and will then declare your major. Your first year, whether you consider it to be undeclared, undecided or simply a time for exploration, is bound to be a year full of adventure.

Course HIGHLIGHTS

First-year students can take a physics course with 3M National Teaching Fellow Prof. James Fraser. In 2nd and 3rd years students study topics such as classical mechanics, electromagnetism, thermodynamics, advanced laboratory, relativity and quantum mechanics. In 4th year, students have the opportunity to take specialized courses in current, modern subjects such as nanoscience, medical physics, lasers, nuclear and particle physics, solid state physics and general relativity.
1ST YEAR

In first year take PHYS 104 or 106. Take MATH 110 or 111, MATH 120 or 121. If you’re thinking about specializing in Astrophysics, take CHEM 112.

Build your transferable skills in time management, problem-solving, writing and more with Student Academic Success Services.

2ND YEAR

In second year take PHYS 206, 212, 239, 242 and 250 lab. Be sure to take the 200-level MATH courses that are required, as 300-level PHYS relies on them. Astrophysics specialization students take PHYS 216.

Need help mapping all of your core, option, supporting and elective courses (including those not listed above) to make sure you will have what you need to complete your degree? Use the Course Mapping Tool on the Arts and Science website.

3RD YEAR

Complete all 300-level requirements/core courses for the major or specialization. This is a busy year with courses like PHYS 344 and 345 (quantum mechanics), and the full-year lab course PHYS 350. Interested in a Master’s degree in Physics? Consider the Combined BSc/MSc program for top students completing their 3rd year.

Want to enhance your degree? Consider a certificate in Geographic Information Science or explore other certificates available.

4TH OR FINAL YEAR

PHYS 590 Honours Thesis is required for the Physics or Astrophysics Specialization Plans. Physics Majors can also complete PHYS 590 if suitably prepared. Take option courses in your areas of interest.

By fourth year you should be working on your remaining core, option, supporting and elective courses. Make sure to map your minor and / or certificate(s) as well.

Apply to graduate in SOLUS.

GET THE COURSES YOU NEED

Join teams or clubs on campus such as Queen’s Astronomy Club, Queen’s University Experimental Sustainability Team (QUEST), Queen’s issue Engineering Team (QSET), Queen’s Solar Design Team.

Get involved with the Departmental Student Council (DSC). Connect with professors at socials or attend departmental public lectures.

Consider entrepreneurial opportunities via programs like the Queen’s Innovation Connector Summer Initiative (QICS).

GET RELEVANT EXPERIENCE

Look into summer jobs by talking to the department or Career Services about work through SWEP or Work-Study.

Consider applying to do a 12-16 month QUP internship between your third and fourth year.

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.

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 involved with the Departmental Student Council (DSC). Connect with professors at socials or attend departmental public lectures.

Start or continue volunteering with organizations such as Women in Science and Engineering (WISE).

GET THINKING GLOBALY

Prepare for work or studies in a multi-cultural environment by taking QUC’s Intercultural Competency Certificate, and research possible immigration regulations.

Speak to a QUC 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 3 year exchange through the International Programs Office.

Build your intercultural competence by getting involved with other cultures or by practicing or improving your language skills.

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 transferable skills in time management, organization, writing and more with Student Academic Success Services.

Explore different careers of interest by reading books in the Career Services Career Advising and Resource Area, such as Alternative Careers in Science. 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.

WHERE COULD I GO AFTER GRADUATION?

Acoustics
Aerospace
Alternative energy
Animation
Astrophysics
Atmospheric science and modeling
Biophysics
Computer engineering
Computer simulations
Education and teaching
Financial quantitative modelling
Forensic science
Fundamental physics research
Geophysics
Imaging
Information specialist
Law
Medical imaging and medical physics
Medicine
Nanoscience
Nuclear engineering
Oceanography
Optometry
Photonics
Planetary science
Private and public research
Radiology
Remote sensing
Robotics
Space science
Technology industry
Some careers may require additional training.

VISIT CAREERS.QUEENSU.CA/MAJORMAPS.HTML FOR THE ONLINE VERSION WITH LINKS!