

PHYSICS, ENGINEERING PHYSICS, AND ASTRONOMY

Departmental Notes

Subject Code for Astronomy: **ASTR**

Subject Code for Physics: **PHYS**

World Wide Web Address: www.queensu.ca/physics/home
(<http://www.queensu.ca/physics/home/>)

Head of Department: Robert Knobel (knobel@queensu.ca)

Associate Head of Department: Lawrence Widrow
(widrow@queensu.ca)

Departmental Office: Stirling Hall, Room 205

Departmental Telephone: 613-533-2707

Chair of Undergraduate Studies: Ryan Martin
(physastro.ugchair@queensu.ca)

Undergraduate Program Assistant: Melissa Balson
(4mjb5@queensu.ca)

Chair for Engineering Physics: James Stotz (jstotz@queensu.ca)

Department Manager: Julie McDonald (jmm27@queensu.ca)

Overview

Through studying Physics at Queen's, you will be trained in observation and experimentation, in applied mathematics and model building, and will develop the confidence to tackle new and intellectually demanding problems. This will place you at the leading edge of research and development in science and technology. This program deals with the properties of matter and energy, from everyday concepts such as force, heat and electricity, to the abstract ideas of relativity and quantum mechanics. The Department of Physics, Engineering Physics, and Astronomy also offers a Specialization Plan in Astrophysics (<https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/physics-engineering-astronomy/astrophysics-specialization-science-bs-honours/>), and jointly with the Department of Mathematics and Statistics, a Specialization Plan in Mathematical Physics (<https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/physics-engineering-astronomy/mathematical-physics-specialization-science-bs-honours/>).

Advice to Students

Astronomy and Astrophysics

Astronomy courses at Queen's are offered by the Department of Physics, Engineering Physics, and Astronomy, which has a research group active in astronomy and astrophysics. Students intending to specialize in astronomy

or astrophysics at the graduate level should consider the Astrophysics Specialization Plan (<https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/physics-engineering-astronomy/astrophysics-specialization-science-bs-honours/>). Students wishing to include a course in astronomy as an elective should refer to ASTR 101, ASTR 102, and PHYS 216.

First Courses in Physics

PHYS 104 and PHYS 106 are intended for students in the physical and mathematical sciences. Both are calculus-based courses. A grade of at least B- in either of these courses is recommended for entry into PHYS 206, PHYS 239, and PHYS 242, which are required courses for most Physics Plans.

PHYS 115 and PHYS 116 are designed for students in the biological and life sciences. 4U physics is recommended but not required; neither is a previous or concurrent calculus course, although some 4U or equivalent mathematics is required. PHYS 118 has similar content to PHYS 115 and PHYS 116, but has no lab component and is offered online only.

ASTR 101, ASTR 102, PHYS P22, and PHYS 216 are attractive electives for students in other disciplines. PHYS P22, ASTR 101, and ASTR 102 can count toward a Minor(Arts) (<https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/physics-engineering-astronomy/physics-minor-arts/>)/General(Arts) (<https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/physics-engineering-astronomy/physics-general-arts-ba/>) in Physics, but are only electives in other Physics Plans.

Students with an A standing in both PHYS 115 and PHYS 116 and, C in MATH 120 or MATH 121 may be admitted to a Physics Plan (with PHYS 115 and PHYS 116 then satisfying the first-year physics core requirement), but only after consultation with, and approval from, the Department.

Ancillary Fees

Please note that in some courses you may be asked to purchase a lab or course manual containing material(s) specific to the lab/course content. Prices generally range from \$15 to \$25 per manual and are sold through Physics Stores.