PHYSICS

Physics Major

The Department offers a Bachelor of Arts (B.A.) and a Bachelor of Science (B.S.) degree in Physics, as well as a minor in Physics and a minor in Astronomy. Both the B.A. and the B.S. are excellent preparation for a wide range of careers. The B.S. degree is highly recommended for students planning to pursue advanced study in Physics, Astronomy, or related fields.

The requirements for the B.A. and B.S. degrees in Physics, as well as the minor in Physics, are described below. Requirements for the B.A., B.S., and minor include courses in both Physics and Math; the B.S. also requires completion of an approved independent project. (Requirements for the minor in Astronomy appear under the Astronomy (https://catalog.denison.edu/catalog/courses-of-study/astronomy/) section of this catalog.) Students who have taken PHYS 121 - General Physics I and PHYS 122 - General Physics II should consult with the Department Chair about course requirements. All students interested in a major or minor in Physics, or a minor in Astronomy, should consult with a faculty member in the Department as soon as possible.

1. Physics courses
   a. The B.A. degree requires:

Code	Title
PHYS 125	Physics I: Quarks to Cosmos
or ASTR 125	Physics I: Quarks to Cosmos
PHYS 126	Physics II: Mechanics, Fluids, and Heat
PHYS 127	Physics III: Electricity, Magnetism, Waves, and Optics
PHYS 200	Modern Physics
PHYS 201	Applied Mathematics for Physical Systems
PHYS 305	Classical Mechanics
PHYS 311	Electronics
PHYS 312	Experimental Physics

And two semesters of PHYS 400 (1 credit each), plus one additional Physics or Astronomy course at the 200-level or above.

Any courses used to satisfy the upper-level elective requirement for the Physics major (B.A. or B.S.) or for the Physics minor may not also be used to satisfy the Astronomy minor.

   b. The B.S. degree requires:

Code	Title
PHYS 125	Physics I: Quarks to Cosmos
or ASTR 125	Physics I: Quarks to Cosmos
PHYS 126	Physics II: Mechanics, Fluids, and Heat
PHYS 127	Physics III: Electricity, Magnetism, Waves, and Optics
PHYS 200	Modern Physics
PHYS 201	Applied Mathematics for Physical Systems
PHYS 305	Classical Mechanics
PHYS 311	Electronics
PHYS 306	Electricity and Magnetism
PHYS 312	Experimental Physics
PHYS 330	Quantum Mechanics

And two semesters of PHYS 400 (1 credit each), plus one additional Physics or Astronomy course at the 200-level or above.

Any courses used to satisfy the upper-level elective requirement for the Physics major (B.A. or B.S.) or for the Physics minor may not also be used to satisfy the Astronomy minor.

2. Math courses
   a. The B.A. degree requires MATH 135 - Single Variable Calculus and MATH 145 - Multi-variable Calculus.
   b. The B.S. degree requires MATH 135 - Single Variable Calculus and MATH 145 - Multi-variable Calculus, as well as one additional Math class (200-level or above) or a course in Computer Science.
3. Independent project

   The B.S. degree requires the successful completion of an independent project. The project must be approved in advance by the department.

Physics Minor

The requirements for a minor in Physics are:

Code	Title
PHYS 125	Physics I: Quarks to Cosmos
or ASTR 125	Physics I: Quarks to Cosmos
PHYS 126	Physics II: Mechanics, Fluids, and Heat
PHYS 127	Physics III: Electricity, Magnetism, Waves, and Optics
MATH 135	Single Variable Calculus
MATH 145	Multi-variable Calculus

Plus three Physics courses at the 200-level or above; at least one of these courses must include a significant laboratory component.

(Students who have taken PHYS 121 - General Physics I and PHYS 122 - General Physics II should consult with the Department Chair about requirements.)

Additional Points of Interest

Engineering

Denison offers the opportunity to study engineering via dual-degree programs undertaken in cooperation with leading schools of engineering. Students interested in these programs should consult early with the Pre-Engineering Director, Steven Doty. Additional details can be found in this catalog under Pre-Professional Programs.