Advanced Placement in Physics
Advanced placement in physics is possible for students who have done advanced work in high school.

Many incoming students may have taken AP, IB, or A-Levels exams already. However, we require that all students interested in advanced placement into PHYS 114 (Introductory Electricity and Magnetism) or PHYS 200 (Modern Physics-Sophomore Level) take Vassar's (paper-based) Physics Placement Exam.

Students are also required to bring documentation of AP exam scores, or IB grades, and their student ID to the exam.

Date and time: Thursday, 29 August 2024, 11:30 AM-12:30 PM
Location: Sanders Physics room 201
For any advanced placement questions, please message Juan Merlo (jmerloramirez@vassar.edu)

INTRODUCTORY PHYSICS COURSES

PHYS 111 - Introduction to Physics I/Lab
Semester Offered: Fall
An introduction to the basic concepts of physics with emphasis on mechanics. Not calculus-based. Recommended for Pre-Health students and life science majors. The Department. Two 75-minute periods and one 3-hour laboratory.

PHYS 112 - Introduction to Physics II/Lab
Semester Offered: Spring
Fundamentals of electricity, magnetism, and optics. Not calculus-based. Pre-Health students and life science majors. The Department. Two 75-minute periods and one 3-hour laboratory.
Prerequisite(s): PHYS 111 or PHYS 113 or Placement exam results.

PHYS 113 - Fundamentals of Physics I/Lab
Semester Offered: Fall
An introduction to the basic concepts of physics with emphasis on mechanics. Calculus-based. Recommended for potential majors in physics and other physical sciences. The Department. Two 75-minute periods and one 3-hour laboratory.

PHYS 114 - Fundamentals of Physics II/Lab
Semester Offered: Spring (and 1 section in the fall for advanced first-year students)
Fundamentals of electricity, magnetism, and optics. Calculus-based. Recommended for potential majors in physics and other physical sciences. The Department. Two 75-minute periods and one 3-hour laboratory.
Prerequisite(s): PHYS 111 or PHYS 113 or Placement exam results.

PHYS 200 - Modern Physics
Semester Offered: Fall
An introduction to the two subjects at the core of contemporary physics: Einstein's theory of special relativity, and quantum mechanics. Topics include paradoxes in special relativity; the Lorentz transformation; four-vectors and invariants; relativistic dynamics; the wave-particle duality; the Heisenberg uncertainty principle, and simple cases of the Schrodinger wave equation. The Department. Two 75-minute periods.
Prerequisite(s): PHYS 114 or Placement exam results.

Introductory Physics Course Sequence Offered for 2024-2025

PHYS 111/112 are **non-calculus**-based introductions to physics that will be ideal for students on Vassar's pre-health track. It will cover more topics than **PHYS 113/114**, including fluids and thermodynamics, but will not spend as much time on mathematics.

Who is recommended for **PHYS 111/112**? - Pre-health students, science majors who do not anticipate taking any advanced physics courses like the 200 or 300 level physics or physical chemistry courses, or students who want a physics course with a laboratory but do not want to have to worry about how long it's been since they've taken calculus.

Who is recommended for **PHYS 113/114**? - Physics majors, Astronomy majors, Chemistry majors, Math/Stats majors, students considering the Dartmouth engineering program, or any student considering taking 200 or 300 level physics or physical chemistry courses.

(Please note that either PHYS 111 or PHYS 113 serve as prerequisites for either PHYS 112 or PHYS 114, so students can move between the sequences if they wish.)