

PHYS—120. General Physics IIA Spring 2026

John Cummings, Roger Bacon 254, 782-6932 (office), 260-7624 (cell)
jcummings@siena.edu
<https://facultyweb.siena.edu/~jcummings/>

Mon, Wed, Fri 11:30 AM — 12:30 PM, Location: RB136
Office hours: Mon 3:30 PM — 5:30 PM, Thu 1:30 PM — 3:00 PM
or by “appointment”.

Text: The textbook for this class is *Physics* 12th Ed., by Cutnell and Johnson. Previous editions and used copies are perfectly fine for this class, but you will need access to WileyPLUS to submit your homework. The package provided by the bookstore should provide you with this.

Office Hours: While I guarantee that I will be in my office the hours listed above, I am also available by “appointment”. I use “appointment” loosely, as I encourage you to drop by my office whenever you see the door open, and 95% of the time I should be able to meet with you. If you want to be 100% sure of finding me outside of the posted hours, just shoot me an email, text, or phone call, and we can arrange a meeting.

Academic Integrity: I feel very strongly that academic integrity must be maintained. Academic dishonesty will not be tolerated. See Siena policy on the web at <https://www.siena.edu/offices/academics/academic-policies-and-procedures/academic-integrity-policy/>

Grade: Your grade for this class will be calculated from your homework, four midterm quizzes, a final, and a lab grade. The breakdown of the weights is:

- 25% - Homework
- 40% - Midterm quizzes (10% each)
- 20% - Final
- 15% - Lab

Completion of the lab is required to pass the course.

Policies: Practice problems for each section will be posted on the class webpage and announced in lecture. Remember, physics is not a spectator sport; you must practice to get good at it. Due dates may vary depending on the complexity of the problem(s).

Problem Solutions: Some assignments may include a written response in addition to the online problems in WileyPLUS. Clarity is important. Don't just show me what you did; *explain* what you did. Mix your prose and algebra; don't work the problem in algebra and then recap in prose at the end. Equations are shorthand for words; they should fit into the text when read as sentences. Solutions should read linearly down the page, although equations may be numbered to refer to later. Any equation that does not follow from the previous equation **must** be referenced.

Topics

- Simple Harmonic Motion
- Waves and Sound
- Superposition and Interference
- Electric forces and fields
- Electric potential energy and potential
- Electric Circuits
- Magnetism
- Electromagnetic Induction
- Electromagnetic & Waves
- Reflection
- Refraction
- Light waves
- Special Relativity
- Quantum Mechanics

Course Description: From the Siena Catalog:

Three hours of lecture and one three-hour laboratory period a week for one semester.

4 credit(s)

A continuation of PHYS-110 for life science students, treating electricity and magnetism, electric circuits, waves and optics, and elementary topics in atomic and nuclear physics. Includes applications to biological systems. Three hours of lectures and one three-hour laboratory period a week. Lab fee.

Prerequisite(s): PHYS 110 PHYS 130).

Attribute: ATTR: ARTS, CAN