

Physics 5405: Classical electromagnetism I

Fall 2023

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Course web page	http://www1.phys.vt.edu/~ersharpe/5405/index.html
Office hours	TBA, and by appointment
Text	<i>Classical electrodynamics</i> , third edition (1998), by J. D. Jackson
Class meets	MW 4-5:15 pm in Robeson 116

Homework: Homework will be assigned once every week. Assignments will be listed on the course web page, in addition to being given in class. Students may work together on the problem assignments, but each must turn in solutions written entirely by himself or herself.

Tests and exams: There will be 2 tests and a final exam.

Grading: Each test counts 100 points, the final exam counts 200 points, and your cumulative homework score is scaled to a maximum of 100 points. Your final grade is based on the total number of points accumulated out of 500. Remember that doing homework (by the assigned deadlines) is by far the best way to prepare for tests.

Deadlines: The deadline to drop a class without penalty is October 3.

Final exam: Will be held on Fri Dec 8, from 1:05 pm - 3:05 pm (the 16M slot).

As a general rule of thumb, it is far, far easier to keep up than to catch up. If you have questions about the material that are not answered during class, by all means, feel free to see me. You may have also heard this advice in undergraduate classes, but in grad school, where classes go much faster and cover more, this advice goes double.

Health: If you are ill, please do not attend an in-person class. Notify me by email. Similarly, if I am feeling ill, then either I will cancel class that day, or, depending upon the circumstances, I may hold class over zoom instead. If we are not meeting in person, I will notify everyone by email on noon of that class day.

Rules for handing in homework

You are here to learn how to be professional physicists, and that begins with learning how to present your work professionally. To that end, I expect homework solutions to be handed in that look reasonably neat.

- No more than one problem on a page. Begin each problem, and each part of each problem, on a new sheet of paper. (Paper is cheap; my eyesight is not.)
- Do your scratchwork on other paper, then copy the final results onto clean paper.
- The work you hand in should not have large sections that are crossed out. If you made a mistake in your writeup that requires correcting more than a couple of characters, start over on a fresh sheet of paper.
- You should circle or put a box around the final answer to any given problem, to make it easy to find.
- Homework pages should be arranged in the order assigned, and stapled or paper-clipped when handed in. I don't have the time to hunt for solutions; if I can't quickly find your solution to a given problem, I will assume it is not there.
- Do not rip pages out of notebooks; use looseleaf paper with clean edges.

On tests, I will be much more forgiving about crossed-out segments, but on homework you have much more time to write up your solutions carefully.

This is not only about professionalism and readability of your solutions, but is also a mechanism to catch mistakes and learn the material more deeply. In my experience, writing out solutions carefully forces one to think more thoroughly about what one is doing and the form of the answer, which is reflected in a correlation I have observed between poor classroom grades and illegible and poorly organized homework solutions.