

Physics 7310

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Class meets MWF 1:25 to 2:15 in Duane G-125

Office hours – Wednesday –3:30-4 (between quantum and the colloquium) and Thursday–1 to 5, plus when you can find me – NOT right before class or Friday morning, please!

I'll use the regular class web page

- <http://www-hep.colorado.edu/~degrand/p7310.html>

to get information out to you. I'll use Canvas as little as possible. “Secret” things will go there, if necessary. Everything public will be mirrored on the regular web page.

Grade:

- homework 250
- midterm 100
- final 150
- total 500 points

The midterm will be in the evening, 1 1/2 hours long, in mid October. We'll figure out a date later. The final exam is Tuesday 19 December, 430-7 PM in our classroom.

Homework will typically be given out on Wednesdays, due Friday of the next week. The questions will be posted on the class web page. The grader will probably be marking papers over the weekend and I will want to post solutions at some reasonable time after the Friday deadline, so keep to a schedule and negotiate with me IN ADVANCE if you feel you have to turn in something late. Homework solutions will be scanned onto the course web page.

The grader is Andrew Osborne `Andrew.osborne-1@colorado.edu`.

Text: Jackson, “Classical electrodynamics.” I will not follow Jackson's order of topics when I think I can do better. I hope to end the first semester with cavities and wave guides.

Books I like, and will try to put on reserve in the Engineering-Math-Physics library include

- Zangwill, “Modern Electrodynamics.” A new book, almost orthogonal in its approach to the more traditional Jackson. Check it out; there is some amazing stuff in there.

- Landau and Lifshitz, “Classical theory of fields”
- Landau and Lifshitz, “Electrodynamics of continuous media” Typical Landau and Lifshitz, terse and complete. The division into two books is a bit awkward.
- Panofsky and Phillips – An old book. It was a pre-Jackson standard text, for its generation

Another very interesting book is Thorne and Blanford, “Modern Classical Physics.”

A big part of this class is finding an appropriate mathematical structure to solve your problem. I own a number of old mathematical methods of physics books – Morse and Feshbach, Matthews and Walker are two. The undergraduate text by Boas is occasionally useful. If you can find an Abramowitz and Stegun in a used book store, pick it up. Stone and Goldbart is slightly too highbrow for me, but maybe not for you. Of course, I am like you: I often start with Wikipedia. Another on line resource is the NIST digital library of mathematical functions <http://dlmf.nist.gov/> . You need an integral table. I don’t own the king, Grasteyn and Rhyzik. I found Peirce, “A short table of integrals” on line several places and was able to print the one on openlibrary.org. It has everything you would need for a test.

Maybe this is too old fashioned, but I find that when I am looking something up, a book is nicer than a web page because usually the expression I really want is on the page next to the one with the expression I think I want.

Finally, if you qualify for accommodations because of a disability, see me as soon as possible but before the second week of class.

A long version of the syllabus with all kinds of required statements can be found in a link on the class web page.