

Physics 442

9-10 MWF

680 SWKT

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Office Hours: 12-1 MWF

Description

This is an advanced undergraduate course in electromagnetism, including special relativity. We are using a very nice book, David Griffiths **Introduction of Electrodynamics**. I hope you like it. You'll have to trust me that it's a lot better than the one we used to use here.

We will also be using a small booklet on time-dependent circuits so that the course will have a little bit more applied physics in it. This booklet is available at the Cougar Copy Center off the southeast corner of campus.

When I took this class Physics 122 was a dim and distant memory, so the material was a little scary. You may have the same experience, so I will try to remind you of the freshman basics as we go along in addition to covering the more advanced material that is the main object of the course.

Reading the Text This is important. I expect you to read the sections indicated on the course schedule before class. At the beginning of every class period I will give you a piece of paper on which you will indicate whether you have read the assignment or not and then you will sign it in blood. Yes, this means that you can cheat, but Prof. Maeser and I expect you not to. These reading assignments will count for about 5% of your grade.

Homework

Homework assignments are due on Wednesdays and Fridays in class, as indicated in the schedule. The homework is the heart of the class, and chances are that you will struggle with at least some of the assigned problems. This means that you will need to get some help. I have four suggestions. (1) Work in small groups of 2 or 3. You will be able to learn much more this way than I can teach you because you will learn by explaining things to others. I know it sounds weird to try to learn by teaching, but as you fight over the problems in your groups you will have the glorious experience of having the light come on in your head, and then being able to explain it to someone else. In your groups please organize things so everyone gets a chance to take the lead on a problem. **Do not, however, hand in copies of other students work.** Once everyone in the group can see how to do a problem, each student should write out their own version of the solution in their own style. (2) Come to the weekly help sessions that will be scheduled early in the course. I will be there to answer questions. (3) Look at the Physics 442 web page, available under *Index of Physics and Astronomy Course Pages* on the department home page. One of the offerings there is homework help, and I will try to post useful information there. (4) Come see me, or send me a question via e-mail.

Exams

There will be 3 exams given during the semester and a comprehensive final. All exams will be two-hour-time-limit exams given in the testing center. Each one may be taken anytime on either Wednesday or Thursday of the week the exam is given. The final is on Saturday, April 15, from 7-10 AM in our regular classroom, 680 SWKT.

Grading The semester exams are worth 30%, the reading is worth 5%, the final is worth 25%, and the homework is worth 40%. I tend to grade by finding where the top cluster of students is, giving them A's, then coming down in 5% steps to give the rest of the grades. This is only a rough rule and I violate it regularly, but not by much.