

Welcome to Electromagnetic Theory, the epitome of “Classical Field Theory.” This course will introduce you to the formalism of electric fields which, when combined with special relativity, gives rise to something called “magnetism.” We’ll go on to discuss electromagnetic radiation, including its sources and propagation.

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Office Hours: Wednesday 2-4pm *or by appointment*

TA/GRADER: Wen Yuan (518)698-6325 email: yuanw@rpi.edu
Office Hours: Tuesday 2-4pm (Huntington Library)

WEB PAGE: <http://www.rpi.edu/dept/phys/Courses/PHYS4210/>

MEETINGS: Mon & Thu SA 5510 2:00-2:50 *and* 3:00-3:50

TEXTBOOK: Melvin Schwartz *Principles of Electrodynamics*
Dover Books (1987)

The book is in the bookstore, as is *Classical Electricity and Magnetism* by Panofsky and Phillips, to which I will refer from time to time. Both books are reprints published by Dover, and come at an excellent price.

GRADING POLICY

Grades will be determined as follows:

Homework assignments	30%
Monday quizzes	10%
Three mid term exams	3×10%
Final exam (<i>not</i> optional)	30%

where the cutoffs for A , B , C , and D are 90, 80, 70, and 60 respectively.

Homework assignments are all taken from exercises in the textbook, and will be graded according to the number and difficulty of the problems.

A quiz will be given at the start of each 2pm class on Mondays, starting on Monday, 26 January. Each of these will cover *lecture material* up through the *previous* class. The quizzes will be “GRE-style” multiple choice questions, closed book, and cannot be made up. They will all be weighted equally in the final course grade.

Mid term and final exam grades will be scaled up (if necessary) so that the class average is approximately 75. I believe the curve makes it unfair to borderline students if the final is optional, so everyone must take the exam.

I may make adjustments to the overall grading scheme if there are special circumstances.

COURSE FORMAT

The course syllabus (available at the course web page) details day by day, the topics we will cover, the reading assignment for that class, and the homework which is *due that day*. Homework is due generally on Thursday, except for weeks in which there is a midterm, or on the last day of class, when a shorter assignment is due on Monday.

I expect to stick to the course schedule as originally posted, but if for some reason I make some changes, I will change the posting and notify everyone by email.

Class time will usually be split between two 50-minute lectures, with a ten minute break in between. Depending on the material to be covered that day, we may take time to answer questions on the homework, or in preparation for an upcoming exam. I urge you to come to class prepared and ready to ask questions.

On Mondays at 2pm sharp, I will frequently give a short quiz covering all material presented in lecture prior that day's class. These are closed book, and will consist of a few multiple choice questions, very similar to those you might find on the GRE Physics Subject Test. (See <http://www.ets.org/Media/Tests/GRE/pdf/Physics.pdf>.) *Missed quizzes cannot be made up*, although I will accept excused absences under special circumstances.

The mid term and final exams are open book. You are welcome to bring your textbook, notes, calculators, or other materials. You may also bring your laptop computers, but I will design the exams so that they will be of little or no use to you. The point is that you don't need to memorize anything, but know your book and study for the exams!

ACADEMIC INTEGRITY STATEMENT

I want you all to collaborate with each other on homework as much as possible, and to come for help during office hours, help sessions, or at any mutually convenient time. However, it is very important for me to trust that you are handing in your own work. (Just the same, it is important that you trust me to organize and teach a quality course for you.) If you want to look over the *Rensselaer Handbook of Student Rights and Responsibilities* regarding Academic (Dis)Honesty, that might be a good idea. However, to put it simply,...

Don't copy someone else's homework, and don't cheat on exams. If I suspect you of either, I will ask for an explanation. If your explanation is unsatisfactory, you will be given a grade of zero and reported to the Dean of Students. If this happens more than once, you will be given an *F* for the course.