

### Instructor

David Goldberg (*goldberg@drexel.edu*)

**Office:** Disque Hall, Room 810

**Phone:** (215) 895-2715

**Office Hours:** By Appointment

### Lectures

T, Th 12:30-2:00

Disque 919

### Textbook

Classical Electrodynamics, 3rd Ed. J.D. Jackson.

### Course Webpage

I will make certain materials available, including images, links, and occasional examples, on the course webpage:

*<http://mimas.physics.drexel.edu/electromagnetism>*

### Course Overview

This course is intended for graduate students in physics (or very closely related disciplines). It is the first course in a two-term sequence on classical electromagnetism. It is assumed that you have seen undergraduate E&M at the Griffiths level.

Rather than start with Jackson from the beginning, I'll spend a week or so treating electromagnetism as a classical field. This will involve relativity, so if you haven't seen this before, it'll be very enlightening. After that, we'll move through Jackson at the beginning.

We will cover statics, boundary value problems, multipole expansion, Maxwell's equations, Conservation laws, electromagnetic waves, and will conclude (ideally) with radiation. It is my goal to finish up to chapter 6 in Jackson, and you'll pick up at that point in the next term.

### Grading Policy

- 10% – Class Participation: Attendance is required, and is expected you are on time every day. This is a small class, so absences will be noticed. And as you all probably already know, I am a stickler for punctuality, so be on time!

- 20% – Homework & Quizzes: I will recommend some problems from Jackson each week. They will not be submitted for a grade. I will assign about 4 problem sets (written by me and in the style of my exams) over the course of the term. Homeworks will be assigned on Thursdays. They are due the next Thursday at the beginning of class. You may discuss the written assignments with your friends, but the work you submit must be your own.

I will also give occasional pop quizzes over the course of the term. These will tend to be shorter problems that will stress basic competency of the material presented thus far. The takeaway message from all of this is that you should keep up-to-date on the reading and the material.

- 30% – Midterm Exam: At approximately Week 6, we will have an in-class midterm exam. It will be closed book.

- 40% – Final Exam: We will have a closed-book, comprehensive final exam during exam period.