

# General Physics - E&M (PHY 1308) Lecture

## Notes

### Lecture 001: Why Electricity and Magnetism

*SteveSekula*, 18 January 2011 (created 17 August 2010)

no tags

### Class Overview:

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- 10 minutes: introductions
- 10 minutes: **PreTest**
- 10 minutes: what is physics and why should you care?
- 10 minutes: goal of the course
- 10 minutes: schedule of the course

### Introductions:

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Poll the class:

- How many of you are life sciences majors?
- How many of you intend to apply for medical school?
- If you are not life science majors, what are you intended majors?
- What are you passionate about? (go around the room)

Introduce the instructor and the TA:

- Instructor: Assistant Professor of Experimental Physics
  - Conducting research into the origins of the universe, by recreating the conditions of the early universe and observing the matter and forces at play under those conditions. Show pictures of the ATLAS and *BaBar* Experiments.
- **TAs**: Farley Ferrante and Jessica Ginsberg
  - Farley is a Graduate Student at SMU working toward his Masters Degree, with previous experience in physics education in the public school system. He will grade all homework, quizzes, and

- tests and has graded for this class before.
- Jessica will oversee optional help sessions, once or twice a week.

## **Why should you care about electricity and magnetism?**

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- Physics education
  - provides critical problem solving skills
  - exposure to unique ideas with deep and far-reaching consequences
  - forces you to think creatively and work collaboratively to solve problems
  - better prepares you to tackle the MCAT and LSAT
  - statistically can make you more attractive for a job after college
- E & M appear in
  - medical treatment
  - medical technology
  - everyday appliances and complex electronic consumer products
  - in the natural world around us
  - in exotic phenomena that lead us back to deeper understand of the foundations of the cosmos

## **Goals of the course**

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- Much of this material is available in the supplementary slides for Lecture 001.
- See the first page of the syllabus

## **Review of Basic Physics Principles and Mathematics**

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Review the core principles of mechanics and discuss necessary mathematics with some examples.

