

General Physics - E&M (PHY 1308) Lecture

Notes

Lecture001: Why Electricity and Magnetism

SteveSekula, 22 August 2010 (created 17 August 2010)

no tags

Class Overview:

- 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:

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.
- TA: Dennis Stanley
 - Dennis is a Junior at SMU
 - Majoring in physics, with intention to teach
 - Will provide in-class assistance and a help session

Why should you care about electricity and magnetism?

- 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

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

Review of Vectors

If there is time at the end, do a short review of vectors. Otherwise, suggest to the students that the first TA help session will cover this.