## Course Outline

Course: Physics for Science and Engineering II

Instructor: Dr Alakabha Datta Office: 121-B Lewis Hall

Meeting: Tues 11 am- 12.15 pm at Lewis 101

Thurs 11 am-12.15 pm at Lewis 101

Office Hours: Tues and Thursdays 10am-10.50 am or by appointment.

Email:datta@olemiss.edu, datta@phy.olemiss.edu

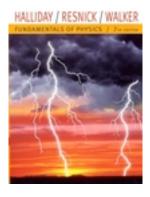
Phone: (662) 915-5611

Course homepage: http://www.phy.olemiss.edu/~datta/212.html

Also check Blackboard.

## NOTE: You should take the Lab Phys 222 along with this course if you have not already passed it.

## Book



Fundamentals of Physics, 7th Edition David Halliday, Univ. of Pittsburgh Robert Resnick, Rensselaer Polytechnic Institute Jearl Walker, Cleveland State Univ.

ISBN: 0-471-21643-7

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1136 pages

## Student Site:

http://bcs.wiley.com/he-bcs/Books?action=index&bcsId=2037&itemId=0471216437

Course Goals: Learning basic laws of physics concerning electromagnetic phenomena and its application to various engineering sciences and to everyday life. You will also learn to analyze problems logically and systematically.

Marking: Homework 30%

Homework: I will assign weekly homework that has to be turned in one week. There is a 25% penalty for late HW submission. No homework will be accepted three days after the due date. Please write your name in block letters and include the problem set number with your homework.

Midterm Exam: 25%

Midterm will be given over two classes. Dates will be announced later.

Final Exam: 45%

Wed Dec 6, 2006 at noon (See Class Schedule)

An overall course average of the following percentages will guarantee the corresponding letter grade:

90% A

80% B

70% C

60% D

Topics Covered in course: Topics will be taken from the following chapter. Click on the chapter link to access useful information.

Chapter 21: Electric Charge

Chapter 22: Electric Fields

Chapter 23: Gauss' Law

Chapter 24: Electric Potential

Chapter 25: Capacitance

Chapter 26: Current and Resistance

Chapter 27: Circuits

Chapter 28: Magnetic Fields

Chapter 29: Magnetic Fields Due to Currents

Chapter 30: Induction and Inductance

Chapter 31: Electromagnetic Oscillations and Alternating Current

Chapter 32: Maxwell's Equations; Magnetism of Matter

Chapter 33: Electromagnetic Waves

Chapter 34: Images

**Chapter 35: Interference** 

Chapter 36: Diffraction

**Chapter 37: Relativity** 

**Chapter 38: Photons and Matter Waves** 

Chapter 39: More About Matter Waves