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
©2005
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