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 109
    Thurs 11 am-12.15 pm at Lewis 109
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 Website: 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&bcslId=2037&itemId=0471216437

Course Goals and Learning Outcome: After completing the course you will know the 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. No late homework will be accepted after the due date. Please write your name in block letters and include the problem set number with your homework. You can get help to do your homework (including help from the internet) but turn in your own work. Do not copy from someone. You are not authorized to use the Instructor’s Solution Manual. There is a tutoring room available for help with your homework.

Homework solutions will be emailed to all students and will be posted on Blackboard.

Tests: 45%

There will be 3 tests each worth 15% and will roughly given at intervals of a month. Each test will cover one class period (75 mins). The dates will be announced later but you will be notified in advance of the test date and the topics included in the test. One of the tests will be given and graded before the last day to drop the course.

Final Exam: 25%

The final exam will be based on chapters covered after the last test though you will be required to use material and concepts covered in earlier chapters not included in the final exam. The exam will be at most 2 hours.

Wednesday December 5, 2007 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
The grading policy will may change and will be finalized after the first test.

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

Attendance: There is no attendance requirement. However if you miss an exam or cannot turn in HW on time because of illness I will require a doctor’ note. If you will away on other reasons inform me prior to your absence and get a note if applicable.

Quiz: At the end of some classes I will give a quiz. Typically you will have 10-15 minutes to complete the quiz. The quiz will not be graded but will serve as a feedback of how you are doing in class.
Academic Integrity: We will follow the University’s policy of academic integrity (M-book). Violations of these policies will result in a failing grade and other disciplinary actions. In particular you are not allowed the use of the Instructor’s Solution Manual.