PH 446/546-1B  Electromagnetic Theory II  Spring 2006

Lecture:  MWF 9:00-9:50  
Room:  394 Campbell Hall  
Textbook:  *Introduction to Electrodynamics*  
(3rd edition) by David J. Griffiths  

**Instructors:**  
UA Prof. L. Clavelli, 336 Gallalee Hall, Tele: (205) 348-3794, FAX: (205) 348-5051, email: lclavell@bama.ua.edu ; web page: www.bama.ua.edu/~lclavell/EM2/ 
Office Hours: MWF 10:00-11:00pm or by appointment  
UAB Prof. D. Shealy, 310 Campell Hall, Tele: 934-8068, FAX: 934-8042, email: dls@uab.edu ; web page: www.phy.uab.edu/~shealy/teaching/PH446  
Office Hours: Tu-Th 1-2pm or by appointment  

**Grading:**  
Each hour exam (1/6)  
Homework (1/6)  
Final Exam (1/3)  
Term Project for Graduate Students (8 % of term grade) – more information will be provide in separate handout  

No make up exams will be given for hour exams. Students who have submitted a valid excuse for missing an hour exam will have their final exam weighted more heavily  

*Graduate students enrolled in PH546 are assumed to have had more exposure to introductory physics concepts and are expected to utilize this in answering homework and exam questions. This expectation is reflected in the assignment of partial credit on exams and homework. When comparing scores on exams and homework with undergraduates enrolled in PH446, students should keep this difference in mind.*  

**Course Description:**  
The course will cover magnetostatics of material media as well as time dependent processes in electromagnetism and the special theory of relativity.  

**Objectives:**  
By the end of the course, the successful student will be able to see, in outline form, the connections between electromagnetic theory and the other forces of nature and be able to apply the principles of electromagnetic theory to novel situations that may arise as technology advances.  

**Tentative Schedule**  
CH 6: Magnetic Fields in Matter:  Jan 9, 11, 13, 18, 20, 23, 25, 27  
Test #1: Monday Jan 30  
CH 7: Electrodynamics:  Feb 1, 3, 6, 8, 10  
CH 8: Conservation Laws:  Feb 13, 15, 17  
CH 9: Electromagnetic Waves:  Feb 20, 22, 24, 27, Mar 1, 3  
Test #2:  Monday Mar 6  
CH 11: Radiation:  Mar 8, 10, 13, 15, 17, [20, 22, 24] or [27, 29, 31], Apr 3, 5, 7  
Test #3:  Monday Apr 10  
UAB Spring Break:  Mar 26 – Apr 1 and UA Spring Break Mar 19 - 25  
CH 12: Relativity:  Apr 12, 14, 17, 19, 21, 24, 26, [28 – UAB open date]  
**FINAL EXAM:  May 1 [9 at UA]: 8 – 10:30am**  

This schedule is tentative and may not be followed exactly. Class attendance is strongly encouraged. Each student is responsible for any material covered in class as well as for being informed of any change in this schedule.