Physics 212: Physics for Scientists and Engineers II (Spring 2014)

Instructor: Dr. Ahmed M. Hamed
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Lectures: 8:00am - 9:15am, TTH, HELD Lewis Hall, Room 101 (Auditorium)
Office Hours: 9:30am - 10:40am, TTH, and by appointment

Textbooks: "Physics for Scientists and Engineers" 9th Ed. By Serway and Jewett;

Teaching Assistant: TBA

Note:

1. The grades in this course will be determined by your performance on two term exams (25% each), final exam (40%), and homework (10%). The grade ranges are: 90-100 = A; 80-90 = B; 65-80 = C; 50-65 = D.
2. If your grade on the Final Exam is higher than your lowest grade on one of the two term exams during the semester, the grade on the final will replace that one, lowest exam grade in computing the course grade. The final Exam grade **cannot** be used to replace an exam that was missed.
3. February 4th is the last day of refund period, and March 4th is the last day for course withdrawals.
4. **Final exam (comprehensive)**: May 6th, Tuesday, 8:00-11:00am **Please note there is no make-up for the final**.
5. Access and do the homework problem online at https://www.webassign.net (see instructions*)

Week/Date		Chapter/Topic	Chapter/Homework
1	Jan 23	**Chapters 23, 24:** Electric field, Gauss' law	HW1: Chapters 23, 24; due T Jan 28
2	Jan 28; 30	**Chapters 24, 25:** Gauss' law, elec. potential	HW2: Chapters 24, 25; due T Feb 4
3	Feb 4; 6	**Chapters 26, 27:** Capacitors, Ohm's law	HW3: Chapters 26, 27; due T Feb 11
4	Feb 11; 13	**Chapters 27, 28:** Ohm's law; Kirchhoff's rules	HW4: Chapters 27, 28; due T Feb 18
5	Feb 18; 20	**Chapter 29:** Magnetic forces **Feb 20 TH** **Exam I**	HW5: Chapter 29; due T Feb 25
6	Feb 25; 27	**Chapters 30, 31:** Mag. fields; Faraday's law	HW6: Chapters 30,31; due T Mar 4
7	Mar 4; 6	**Chapters 31, 32:** Faraday's law; inductance	HW7: Chapters 31,32; due T Mar 11
8	Mar 11; 13	SPRING BREAK	
9	Mar 18; 20	**Chapters 33, 34:** AC, EM waves	HW8: Chapters 33,34; due T Mar 25
10	Mar 25; 27	**Chapter 34:** EM waves	HW9: Chapter 34; due T Apr 1
11	Apr 1, 3	**Chapters 35, 36:** light; image formation **Apr 3 TH** **Exam II**	HW10: Chapters 35,36; due T Apr 8

Week/Date	Chapter/Topic	Chapter/Homework
12 Apr 8, 10	**Chapters 36, 37:** iamge formation; wave Optics	HW11: Chapters 36,37; due T Apr 15
13 Apr 15, 17	**Chapters 37, 38:** wave optics; polarization	HW12: Chapters 37,38; due T Apr 22
14 Apr 22; 24	**Chapter 38:** polarization	HW13: Chapter 38 due; T Apr 29
15 Apr 29, May 1	**Chapter 39:** Relativity.	HW14: Chapter 39; due T May 6
16 May 6 T	**Final exam, 8:00am-11:00am**	

***Online Homework (WebAssign Instruction):**
You must self-enroll, the class key for Physics 212 is: **olemiss 0419 4573**, please supply your entire student Id accurately in order for the system to transfer credit from Web Assign to Blackboard. Student quick start guide is available at: http://www.webassign.net/manual/WA_Student_Quick_Start.pdf

Do Yourself (and Me) a Favor
Read about the topics before I discuss them in lectures. It is not necessary that you study them carefully, but at least get the "smell of it". This should make it much easier for you to follow the lectures and that should make them more interesting.

Recitation Sessions:
We will set up time (after 5:00 pm) for recitation sessions according to the students' schedule and the room availability. The recitation sessions are very important in order to practice solving the homework problems, enforce the physics concepts, and to obtain a good grade in this course.

Disclaimer:
This is a tentative syllabus and a slight adjustment might be made in due course.

ADA statement
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Office of Student Disability Services (SDS) at 234 Martindale Center (sds@olemiss.edu) phone: 662-915-7128

Academic Integrity statement:
As an Olemiss student I have abided by the UM academic integrity policy. My words and actions will reflect Academic Integrity. I will not cheat or lie or steal in academic matters.
I will promote integrity in the University of Mississippi community. For more information, refer to:
http://www.olemiss.edu/depts/general_library/instruction/resources/plagiarism_resources/reinforcing.html

Objective:
This course is primarily about electricity and magnetism phenomena. The subject describes the motion of charged particles, and accordingly the sub-atomic particle dynamics, was developed in the 18th century and is called "classical electrodynamics". This course provides a foundation for almost all of the current technology, which stems from the Maxwell's Equations and atomic physics. This course is essential for most natural sciences and engineering majors. Among many several rather broad goals, the student will learn a few new important concepts in physics, learn to apply these concepts to practical problems, and gain the ability to reason qualitatively and quantitatively about physics.