

## Physics 212: Physics for Scientists and Engineers II (Fall 2015)

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 Lectures: 11:00am - 12:15pm, T TH, HELD Lewis Hall, Room 101 (Auditorium)  
 Office Hours: 1:20pm - 2:35pm, T TH and by appointment

**Textbooks:** "Physics for Scientists and Engineers" 8<sup>th</sup> or 9<sup>th</sup> Ed. By Serway and Jewett;

**Teaching Assistant:** TBA

### Notes:

1. The grades in this course will be determined by your performance in two term exams (20% each), final exam (40%), homework (10%), attendance\* (4%), pre-lecture quizzes (2%), in-class quizzes (2%), and bonus problems (2%). The grade ranges are: 90-100 = A; 80-90 = B; 65-80 = C; 50-65 = D.
2. The Final Exam will replace the worst of the two term exams if it is higher than any of them. The final exam grade cannot be used to replace a term exam that was missed.
3. September 4<sup>th</sup> is the last day of refund period, October 5<sup>th</sup> is the last day for course withdrawals, and October 12<sup>th</sup> is the midterm grades due date.
4. Final exam (comprehensive): Tuesday December 8<sup>th</sup>, 12:00pm-3:00pm. Please note there is no make-up for the final exam.
5. Access and do the homework problem online at <https://www.webassign.net> (see instructions\*\*)

<b>Week/Date</b>	<b>Chapter/Topic</b>	<b>Chapter/Homework</b>
1 Aug 25; 27	<b>Chapters 23 &amp; 24:</b> Electric Field, Gauss' law	HW1: Chapters 23 & 24: due Sep 8
2 Sep 1; 3	<b>Chapters 24 &amp; 25:</b> Gauss' law, Elec. Potential	HW2: Chapters 25 & 26: due Sep 15
3 Sep 8; 10	<b>Chapters 26 &amp; 27:</b> Capacitors, Ohm's law	HW3: Chapters 26 & 27: due Sep 22
4 Sep 15; 17	<b>Chapters 27 &amp; 28:</b> Ohm's law, Kirchhoff's law	HW4: Chapters 28 & 29: due Oct 1
5 Sep 22; 24	<b>Chapters 28 &amp; 29:</b> Kirchhoff's law, Mag. Forces	HW5: Chapters 30 & 31: due Oct 13
6 Sep 29; Oct 1	<b>Chapter 29:</b> Magnetic Forces <b>Oct 1 TH EXAM I</b>	HW6: Chapters 32 & 33: due Oct 20
7 Oct 6; 8	<b>Chapters 30 &amp; 31:</b> Magnetic Fields, Faraday's law	HW7: Chapters 34 & 35: due Oct 27
8 Oct 13; 15	<b>Chapters 31 &amp; 32:</b> Faraday's law, Inductance	HW8: Chapters 36 & 37: due Nov 4
9 Oct 20; 22	<b>Chapters 33 &amp; 34:</b> AC, EM waves	HW9: Chapters 38 & 39: due Dec 3
10 Oct 27; 29	<b>Chapters 35 &amp; 36:</b> Light, Image formation	
11 Nov 3; 5	<b>Chapter 37:</b> Wave optics <b>Nov 5 TH EXAM II</b>	
12 Nov 10; 12	<b>Chapter 38:</b> Polarization	
13 Nov 17; 19	<b>Chapter 39:</b> Relativity	
14 Nov 24; 26	<b>Thanksgiving holiday</b>	
15 Dec 1; 3	<b>Reviews</b>	
16 Dec 8 <sup>th</sup>	<b>FINAL EXAM: 12:00 pm- 3:00 pm</b>	

### **\*Attendance**

"The university requires that all students have a verified attendance at least once during the first two weeks of the semester for each course. If your attendance is not verified, then you will be dropped from the course and any financial aid will be adjusted accordingly. Please see <http://olemiss.edu/gotoclass> for more information." Attendance will be taken each day by using the scanners. A bonus of 10 points will be given for perfect attendance. Every absence will be subtracted from this bonus, up to ten days. For more than ten absent days, no bonus will be given. There are NO excused absences; if you forget your student ID, you lose a bonus point. Consistent with the Honors College standards, any student who misses more than three classes may suffer a grade penalty. To comply with attendance verification requirements, data captured by the attendance scanners will verify your attendance during the first two weeks of class.

### **\*\*Online Homework (WebAssign Instruction)**

You must self-enroll, the class key for Phys 212 is: **olemiss 1236 6818**, 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](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 "OPTIONAL"**

We will set up time (after 5:00 pm) for recitation sessions according to the students' schedule and the room availability. The recitation session is **not mandatory**, however it is very important in order to practice solving the homework problems, and enforce the physics concepts.

### **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](mailto: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](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.