

PHYSICS 212 Fall 2013

Lecturer: Prof. Fred Myhrer
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e-mail: myhrer@sc.edu
Office Hours: Wednesdays 11:00-11:59 AM and 3:30 -5:20 PM

Lectures: Room PSC-002, MWF 1:10 – 2:00 PM

Textbook: Halliday & Resnick's "Fundamentals of Physics" by J. Walker, 9th ed.

In order to benefit the most from the lectures, read the relevant chapter **before** the lecture. Your lecture notes, the CAPA solutions and the textbook will provide all the reading material.

Learning Outcomes:

By the end of the semester successful students should be able to do the following:

- Understand the fundamental laws of Electromagnetism and Optics and their implications on natural phenomena.
- Analyze everyday experiences in terms of Electromagnetism and Optics.
- Use scientific methods in their solutions to problems, following techniques modeled in class by the instructor.

Homework: The CAPA system will be used for you to solve the assigned problems.

See a separate instruction sheet about how to use CAPA.

Each homework will have a firm deadline for completion.

Review Sessions: There will be a review session before each test and the final comprehensive exam. Prepare for these sessions by having a list of questions related to the material presented and about how to solve problems.

Tests and final exam: There will be three hourly tests. The test with the lowest score will be dropped when the final grade is calculated. Most problems in the tests and final exam will be composed of some problems from the CAPA homework sets or some simple variations thereof.

The tests and the final exam are strictly closed book. No notes are allowed. A useful formula sheet will be given at each test and on the final exam for your use.

There will be no make-up for a missed homework or hourly test.

Final Exam: The format will be identical to that of the hourly tests. The comprehensive final exam will be held on Thursday December 12, 2011 at 12:30 PM.

Calculators: You will need a scientific calculator. **Use of a programmable calculator or a computer capable device is strictly forbidden during the tests and final exam.**

Grading: The homework counts 20% of the grade, the tests count 40% and the final exam 40%. The added total % achieved will correspond to a grade given in the following table.

Grade	A	B+	B	C+	C	D+	D	F
Range	100-91%	90-81%	80-71%	70-66%	65-56%	55-46%	45-35%	<35%

Syllabus (tentative) for Physics 212 (as of Aug. 15, 2013)
Fall 2013
Sections 001-002

The following topics will be covered. The chapters refer to the textbook.

	Chapter	Week of
Electric charge and Coulomb's law	21	Aug 23 and Aug 26
Electric field and Gauss' law	22 and 23	Sep. 4
Electric potential and electric energy	24	Sep 9
Capacitors	25	Sep 16
Electric current and Ohm's law	26	Sep 23
TEST #1	Friday	Sep 20
DC-circuits	27	Sep 30
Magnetism and magnetic force	28	Oct 7
Ampere's law	29	Oct 14 and Oct 21
TEST #2	Wednesday	Oct 16
FALL BREAK		Oct 17 – 18
Electromagnetic induction, Faraday's law	30	Oct 28
AC-circuits	31	Nov 4
Maxwell's equations and EM waves	32 and 33	Nov 11 and Nov 18
TEST #3	Friday	Nov 15
Geometrical optics and optical instruments	34	Nov 25 and Dec 2
The wave nature of light (interference and diffraction)	35 and 36	Dec 2

CAPA: If problems e-mail Prof. Wilson (jwilson@sc.edu) with subject: CAPA PROBLEMS

Capa addresses: loncapa2.physics.sc.edu or loncapa4.physics.sc.edu

User ID/Password: A student named Jane Doe with official USC email address like doej123@mailbox.sc.edu has user ID "doej123".

Password is the full student ID number (a leading letter followed by 8 numbers).