# COURSE OUTLINE FOR PHYS 211 (PHYSICS FOR SCIENCE AND ENGINEERING I)

INSTRUCTOR:	Emanuele Berti
Office:	205 Lewis Hall
CLASS SCHEDULE:	Tue & Thu 8:00am-9:15am, Lewis Room 101
Office Hours:	Tue 5:00pm-6:00pm & Thu 4:00pm-5:00pm, or by appointment
EMAIL:	berti [at] phy.olemiss.edu
Course Website:	http://www.phy.olemiss.edu/~berti/phys211.html
PHONE:	662-915-1941
Course Credit Hours:	3

# **REQUIRED TEXT:**

Raymond A. Serway, John W. Jewett, *Physics for Scientists and Engineers, 8th Ed., Vol. 1* (including Enhanced WebAssign) Cengage/Brooks Cole ISBN: 9781111661731

## COURSE DESCRIPTION:

This is the first course of a two-course sequence (Phys 211/212) on general calculus-based physics, mainly for science and engineering majors. Students who enroll must also take, or have previously passed, the Phys 221 lab course. We will cover roughly volume 1 of the textbook. The main topics of the course are: motion, forces and energy; rotation; gravity; properties of solids and fluids; oscillations and waves; thermodynamics.

One of the most important goals of this course is to improve your analytical reasoning and problem solving skills. For this reason, I will insist that you attend the recitation sessions, and you will get 15% extra credit for attending the recitations.

We will be using calculus (differentiation and integration) throughout the course, with a heavier use of integrals in the second semester. I will hand out a **mathematics self-evaluation test** on the first day of class. If you do really badly on that test, you may not have the prerequisites to attend this class.

EVALUATION:

GRADE TYPE:Whole Letter Grade (A–F)GRADE RANGES:• A: 88% and up<br/>• B: 75-87%<br/>• C: 60-74%<br/>• D: 40-59%<br/>• F: less than 40%WEIGHTS:• 21%: Homework<br/>• 18%: Midterm Test 1<br/>• 18%: Midterm Test 2<br/>• 18%: Midterm Test 3

- 25%: Final exam
- 15%: Recitation attendance (extra credit)

#### HOMEWORK:

Homework will be assigned for each chapter covered in class. Announcements will be made in class and posted on the course website. Part of the homework will be done through the online companion to the course **WebAssign**:

### http://www.webassign.com

Instructions on how to access the system are available on the course website. Homework turned in after the due time (both online and on paper) will not be accepted. Students may be excused from turning in an assignment if there is a valid reason (a documented illness, participation in an official university activity, or a documented family emergency). Paper homework must be easy to read. Pages must be stapled together, and have smooth (not torn) edges. Answers to questions and problems must always include explanations, and the grade will reflect content, presentation, and English. The lowest homework grade (both online and on paper) will be dropped.

When you solve a problem, the reasoning leading to your answer is much more important than the answer itself. For this reason, you must describe very clearly the reasoning behind the mathematical manipulations you follow to solve a problem. You will not get points for giving the right answer without an explanation of how you got there, but you will get points for getting the wrong answer following the right procedure.

#### TESTS:

There will be three midterm tests and a final exam, consisting of problems to be worked out as well as questions to be answered in writing. Students will be allowed to use a calculator and a small (one-page) equation sheet during the tests. Absences on test days will result in missed points towards the students' evaluation. Make-up tests are possible in three cases: a documented illness, participation in an official university activity, or a documented family emergency. A written statement from a doctor, a team coach, or another official that justifies the absence is required for the make-up. Generally, the make-up test will be harder than the initial test. In exceptional circumstances one midterm test grade may be dropped.

#### FINAL EXAM:

A final exam will be given on **Tuesday**, **December 6 at 8am**. It will be comprehensive, with emphasis on the last part of the course. Details on the topics and exam policies will be given in class.

## **RECITATIONS:**

Recitations are not compulsory, but they are an integral (and fundamental) part of the course. You will get 15% extra credit for attending the recitations. If you miss some of the recitations, your extra credit will be reduced in proportion. The recitation schedule will be announced in class.

## ATTENDANCE POLICY:

Students are expected to attend each lecture unless they have justification. A person who enters class late or a person who leaves early is considered absent for the day.

## ACADEMIC INTEGRITY:

Students who are caught cheating in any way will have their overall average score for the course lowered, by an amount dependent on how serious the cheating was. This includes copying or obtaining in any way answers from another person during quizzes or tests, or having another person submit quizzes or tests in one's name. A student with a documented case of plagiarism or academic cheating in this course will receive the grade of F for the course and may face disciplinary action by the University, including expulsion.

### NOTE:

If a change in the class policies became necessary during the semester, it will be discussed in class. After this discussion, the change will be posted on the course website. The course website will also contain up-to-date information on the class schedule, homework assignments and complementary material.