PHYSICS 211 Sections 001–006 & 007–012
GENERAL PHYSICS
FALL 2023
http://www.pa.uky.edu/~nmartin/phy211

TR 9:30am (secs 1-6) CP155 *and* recorded on Echo360
TR 11:00am (secs 7-12) CP155 *and* recorded on Echo360

Lecturer: N.L.S. Martin
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Office Hours: (via ZOOM) TR 12:15 pm – 1.15 pm
(or in person by appointment)

Course Description

Physics 211 is the first semester of a two-semester sequence in introductory physics. The aim of this course is to show you how physics can explain the world around us by a few fundamental principles, and enable you to predict the outcome of a wide range of events using these ideas. The course emphasizes the fact that the laws of physics as we know them today have taken hundreds of years to evolve, and are the result of extraordinary insights by the finest minds that have ever lived. In particlular it should be realized that these laws are not "self evident", and a lot of them are counter-intuitive, and apparently simple phenomena can be complicated. For example, the fact that all objects fall at the same rate (as found by Gallileo), requires an understanding of both Newton's second law of motion, and Newton's law of gravitation – both covered in PHY211. (Actually a complete understanding requires Einstein's *general* theory of relativity – not covered in PHY211!)

A knowledge of mathematics is *essential*– Algebra, geometry and trigonometry will be used constantly. You can find a summary of what's needed in the text book: Appendix A, Chapter 1, Chapter 3.

The course includes **lectures** (2 meetings per week) and **recitations** (1 meeting per week). Lectures will discuss basic physical principles, their derivations, and implications; recitations will discuss the use of these principles in solving problems. Since examinations will emphasize problem solving, attendance at recitations is essential. Experience has shown that formation of small study groups with friends and classmates to discuss physics concepts and problem-solving methods is a valuable component of the learning process, and we encourage this activity.

The required **textbook** is *College Physics*, by Serway and Vuille (8^{th}, 9^{th}, 10^{th}, or 11^{th} Edition, Cengage Learning). Before each Wednesday recitation session you should do the problems assigned in the online Schedule at the course home page. Some solutions will be presented in recitation. There will be a recitation grade; at the first meeting of the semester your recitation instructor will explain how this will be assessed. Solutions to sample problems, that are similar to the homework problems, will be given during lectures.

Another textbook, by a different author, is on reserve for PHY211 in the **Science Library**. (For the location see https://libraries.uky.edu/lib.php?lib_id=19). If you have difficulty in understanding something in your book, it may help to see a different point of view. You should also feel free to talk with the lecturer or your recitation instructor with questions during their office hours.

The **writing component** will be satisfied as follows. For quantitative problems, "writing" is interpreted to mean the orderly presentation of answers in words, symbols, equations, sketches, graphs, and numbers. Students registered for PHY 211 take a **laboratory course** which covers similar material to the lecture (but at different times).

Course Evaluation

Course evaluations are an important component of our Department's instructional program. To access the system during the evaluation window go to the course home page. All your comments and scores are anonymous. *If more than 80% of students complete the online course evaluations, the whole class will get a 5 point bonus.*

Examinations and Grading

There will be three one-hour examinations given during the semester and a final exam given at the end of the semester. Your course grade will be determined from your total score, which includes the in-lecture quizzes, recitation and laboratory. Students in PHY211 *must* satisfactorily complete the laboratory portion of the course in order to receive an overall passing grade for the course.

Hour exams (3×100 pts)	300 pts
Total Recitation & Homework grade	50 pts
In-lecture quiz grade	50 pts
Laboratory grade	100 pts
Final exam	150 pts
TOTAL	650 pts
Lecture evaluation bonus	5 pts

The dates of the three one-hour exams and the final are given on the web page. **The three one-hour exams are given during regular class times.**

Grades will be determined as follows (650 = 100%):

80 – 100%	**A**
65 – 79%	**B**
50 – 64%	**C**
35 – 49%	**D**
0 – 34%	**E**

In general, you must take all three one-hour exams, and the final exam, and complete the labs, in order to receive a passing grade. If you miss an exam without an acceptable excuse (i.e., a valid university excuse), you will receive a zero for that exam. If you have an acceptable excuse, it should be presented in writing (email) to me after the next lecture (or in my office hours). If you miss a one-hour exam with a valid excuse you may either request to have a grade assigned to you for that exam based on your performance on the other one-hour exams (as compared to the class average), or you may request a make-up exam; under certain circumstances I may require you to take a make-up exam. If you take the assigned grade option and then miss a second one-hour exam (with a valid excuse), you must take a make-up exam for the second missed one-hour exam. If you miss the final exam with a valid excuse you will have to take a make-up exam at a later date. Under certain circumstances, (at my discretion), if you miss the final exam with a valid excuse, and if you have taken all three one-hour exams, you may elect to have a final-exam grade based on your performance on the other one-hour exams (as compared to the class averages). If you have any queries over the grading of an examination, consult your recitation instructor *within a week.*

Schedule and Homework

We will cover material from Serway and Vuille chapters 2 – 8, and chapter 13. (The 11^{th} edition has vectors in Ch 1.)

A detailed schedule, including **homework assignments**, is on the web page:

http://www.pa.uky.edu/~nmartin/phy211

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Additional University Senate Requirements

Here are some links to University Senate pages of interest:

Academic Policy Statements:
https://www.uky.edu/universitysenate/acadpolicy

Academic Offenses:
https://www.uky.edu/universitysenate/ao

Syllabus Statement on Diversity, Equity, and Inclusion (DEI) Statement:
https://www.uky.edu/universitysenate/syllabus-dei