



PHYSICS 109 Syllabus

Instructor: Dr. David T. Marx
Office: Moulton 312 B Phone: (309) 438 – 5382
Office Hours: Every day from 11:00 am to 12:30 pm or *just drop in*

Lecture: M W Th F from 12:00 to 12:50 in Moulton 214
Lab: in Moulton 217 (except for the last lab activity)
Section 2 – Mondays 8:00 to 10:50 am
Section 3 – Mondays 2:00 to 4:50 pm
Section 4 – Mondays 6:00 to 8:50 pm

Required Materials

Text: *Physics*, 9th edition by John D. Cutnell and Kenneth W. Johnson
Lab Manual: Physics 109 Lab Manual. It may be purchased at either bookstore on campus.
Online Homework:
The Expert TA \$32.50/semester
Register at: <http://goeta.link/USG15IL-C6FFD3-1QR>

Communications

All course content, announcements, e-mail, and assignments will be made through the class' ReggieNet site. I'll be communicating with the class using the e-mail tool, which uses your Redbird e-mail account via Office365. Please be sure to check your e-mail on a daily basis.

Class Preparation

We'll be covering approximately one textbook chapter per week. Reading the textbook does not mean skimming it. It means reading in detail, studying the examples, and taking notes on all of the important concepts, equations, and physical constants.

Attendance / Class Participation / Note Taking

Attendance is very important as we'll have lots of in class examples, videos, worksheet exercises, and more. Yes, much of the lecture content is available in ReggieNet, but class time is important to ask questions and to get a better perspective of the course content. Please try to minimize your absences as much as possible.

We will have in class activities for which you will earn credit. These will be in the form of worksheets filled out individually. The lowest two class participation grades will be dropped.

To ensure everyone's full attention to the course, electronic devices should be turned off during lecture periods. No laptops/iPads/tablets (etc.) may be used during lecture. I know some people like to use computers to take notes; however, studies have shown student learning is improved

through written notes over using computers. Secondly, laptops and tablets can be distracting to other students.

You will be able to use all of your hand-written or typed notes for the final exam, so please keep them well organized and complete throughout the course.

Homework

Homework assignments are assigned weekly. The assignments will be done online using TheExpertTA, for which you must purchase as subscription (see required materials above). The data in the questions is usually randomized, so each student gets a different problem.

Unless stated or indicated otherwise in the problem, you should use three significant digits for your numerical answers. If the problem asks for the equation written in terms of variables, use the variables given and use parentheses around items in a denominator. Be careful of signs.

You have access to hints on problems with a 1 % deduction for each accessed hint. For each problem, you have 6 attempts, with a 2 % deduction for each submission attempt. There is also a 1 % deduction for accessing feedback. If you are not getting anywhere with a solution after a few attempts, please feel free to contact Dr. Marx for help.

For 24 hours after the due date and time of a given homework assignment, you can complete any missing problems for 90% credit.

Learning physics, like learning to play the violin or piano, requires practice every day by you. Do not rely on others to do your homework for you. *Never* Google problems. Contact Dr. Marx for help on homework.

The lowest homework score for the course will be dropped.

Tests

There will be six multiple-choice, OPSCAN tests covering all lectures and reading materials between tests. Everything we do in lecture, the textbooks chapters, and homework is meant to increase your learning. That is what I truly care about. I cannot ask you about everything on a 50-minute test. That doesn't mean that anything not asked isn't important. It's all important and relevant, not just to this course, but to your future career and life.

A simple scientific calculator will be needed.

Tests will be closed-book, but you may create and bring to the test, one side of an 8.5 by 11 inch sheet with all relevant equations, constants, and anything else you would like to include. You **may not** have any printouts, lecture handouts, or images from the book or lecture notes posted on line. The note page must be handwritten *or* typed by you.

If you know you will be absent on a test day, please make arrangements in advance to take the test. The lowest grade among the tests will be dropped.

Anyone found cheating on a test will receive a zero for that test, which cannot be dropped.

Lab

There are seven required lab assignments that account for 15 % of your course grade. The first lab meeting will be the week of January 29th.

The lab is in Moulton 217.

For each lab, there is a pre-lab exercise that must be completed before the beginning of the lab.

Schedule

| Week of... | Lab Activity |
|-----------------|---------------------------------------|
| Sep 10 | Lab 1: Electric Fields |
| Sep 17 | Lab 2: Ohm's Law |
| Sep 24 | Lab 3: Magnetic Fields |
| Oct 1 | Lab 4: RC Circuits |
| Oct 8 | NO LAB |
| Oct 15 | Lab 5: Reflection |
| Oct 22 | Lab 6: Refraction |
| To be announced | Lab 7: Light from Atoms (MLT 202/204) |

Grading

Scale (subject to change)

A: 89.5 – 100 %

B: 79.5 – 89.4

C: 69.5 – 79.4

D: 59.5 – 69.4

F: < 59.5

Components

Class Participation 10 %

Homework 20 %

Lab Activities 15 %

Tests 40 %

Final Exam 15 %