

Introduction

This is the second semester of an introductory, calculus-based physics course.

The first semester covered motion, force, collisions, rotational motion, simple harmonic motion, and thermodynamics.

This semester will cover electricity, magnetism, waves, sound, and optics.

You will be given an Internet site for this course. All course information is on the website. Please read through the website carefully to see how homework and exams are assigned and administered. You will find textbook information.

Course Objectives

We want you to learn and understand about the physical world.

We do this through **problem solving** and **conceptual understanding**.

- Lectures
- Reading quizzes and conceptual questions
- Homework – required. See course website. There is lots of homework.

Homework

Homework will be found and submitted on an Internet website. For information on how to log in, access, and submit answers to the homework, please see the course website. We will also send you emails on how to access the homework.

Collab

We will use the UVA website Collab for many aspects of this course. You will find the lectures, syllabus, course website, and much other information located there.

You will be sent separately information on how to log into Collab and obtain this information.

Questions and Help

Collab is also the place where you will be able to obtain help with this course. You will see under Resources (on Collab) links to where you can ask physics questions and questions about each homework problem. We will strive to answer your questions within 24 hours. It is okay for students to ask and answer questions about physics, but the Instructors will always read everything and correct anything that is wrong.

Questions and Help

We will have threads for each homework problem and separate physics questions for you to follow. We believe you will find this to be a useful resource, and it has worked effectively for many years for our online courses.

There is also a place on Collab to submit anonymous questions and comments.

Final Grades

Grades will be determined approximately by the following, although the exact percentages may be different for your course. The precise percentages are subject to change and will be given on the course website.

Final Exam	40%
Midterm/Chapter Exams	40%
Homework	20%

Ways to Learn from Textbook

- Questions at end of each chapter. Odd or even numbered problems have answers at end of each chapter in text.
- Work extra problems - especially general ones at end.
- Purchase optional Student Study Guide
- Use Problem-Solving Summaries given in lecture and textbook.

Significant Figures

This is very important!!

- Final answer is known no better than the *least* accurately known quantity.
- Keep all significant figures in calculation until last step, especially in Internet (WebAssign) problems, always keep all your significant figures.

What are you going to learn this semester?

- This semester is more productive, but we needed to learn about force, work, energy.
- Electricity and electrical power
- Magnetism, electric motors and generators
- Four Maxwell equations explain electricity, magnetism, and optics!
- Waves and sound
- Ray optics, reflection, refraction, rainbows, blue sky, fiber optics, human eye, cameras