

AP Physics I

Ceres High School
2018-2019

Mr. Vetter - dvetter@ceresusd.net - Room 1

Note about this class:

The goal of this class is to provide an experience similar to a college level introductory physics class. Keep that in mind. This is a difficult class leading to a difficult test. I am happy to help you do well, but it will require a lot of work on your part. We will move quickly to make sure we cover everything needed. Tutoring and extra support are available, but it will be up to you to take advantage of those options. *The course syllabus is subject to change. Notification will be provided as quickly as possible.*

Course Description

This college level course is an algebra-based physics class. The course covers Newtonian mechanics (including rotational dynamics and angular momentum); work, energy, and power; and mechanical waves and sound. It also introduces electric circuits. Hands-on laboratory work, demonstrations, classroom discussions, and projects are the core of the course. Mathematical analysis of these concepts will be emphasized. The course is designed for students pursuing careers in science, engineering, or mathematics. The course curriculum and assignments are designed to improve critical thinking skills and prepare students to take the advanced placement exam. Students who earn a “3” or better on the AP exam may earn college credit.

Textbook

Knight, Jones, & Field. *College Physics: A Strategic Approach AP Edition, 3rd edition*. Pearson, 2015.

Lab Journal

Students will keep a lab journal and it must be with the student every day. During all activities, students are expected to keep detailed notes of their observations and findings. Data analysis must also be done in the notebook. Formal reports will be turned in separately. No pages are to be removed from the journal nor will students use white-out. Some colleges may accept the notebook as evidence of lab activity to count toward laboratory credit. Failure to follow the guidelines about the notebook will jeopardize that possibility. Notebooks will be collected on occasion and used to generate the lab portion of the grade.

Content

This class focuses on learning science practices and understanding several big ideas through the lens of Physics. Though we will cover a variety of topics, students should understand the real goal is to teach problem solving skills and how to use the science practices and big ideas to approach problems they have not been specifically prepared for. Students must learn to apply the tools they are given to new and different situations.

Topics

0. Introduction

1. Kinematics
2. Dynamics
3. Circular Motion and Gravitation
4. Energy
5. Momentum
6. Simple Harmonic Motion
7. Rotational Motion
8. Mechanical Waves
9. Electrostatics
10. DC Circuits

Note: Units 6 and 7 may be switched.

Grading

Grading will be done on a standard grading scale: A: 90-100%, B: 80-89.9%, C: 70-79.9%, D: 60-69.9%, F: <60%. Grades will not be rounded. Tests will be graded and curved in a manner similar to the AP test itself. The class grade will be calculated from three weighted categories: Homework - 10%, Labs/Projects - 45%, Tests - 45%.

Homework

There will be homework every week. Homework will be posted in Classroom and due at the start of class on the first day of school each week. This may consist of problems from the book, Mastering Physics, projects, or other forms. The primary purpose of the homework is to provide practice and test the understanding of ideas we have covered in class. At the start of class each day, students are encouraged to bring up any problems they are struggling with so they can be discussed as a class. It is imperative that students not wait until the last minute to complete the homework.

Class Resources

Google Classroom: nhruro

Other class resources are published on Classroom in the About section.

Signatures

I have read and understand the information presented in this syllabus for AP Physics I. If I have any questions or concerns, I will contact my student's instructor at Ceres High School.

Print guardian name: _____

Guardian signature: _____