

ADVANCED PLACEMENT PHYSICS 1

COURSE OVERVIEW

AP Physics 1 is an algebra-based, introductory college-level physics course that explores topics such as Newtonian mechanics (including rotational motion); work, energy, and power; mechanical waves and sound; and introductory electricity concepts. Through inquiry-based learning, students will develop scientific critical thinking and reasoning skills.

The course will provide the basic knowledge in the fundamental discipline of physics for successful subject-related work at the university level. It will prepare them for the AP Physics 1 Test.

It is a one year, 10 unit laboratory physical science course which will satisfy half of a student's two year science graduation requirement. This course meets the UC requirements of a Subject D Laboratory Science Class.

NECESSARY SKILLS

No prior course work in physics is necessary. Students should have completed geometry and be concurrently taking Algebra II or an equivalent course. Although the AP Physics 1 course includes basic use of trigonometric functions, this understanding can be gained either in the concurrent math course or in the AP Physics 1 course itself.

Students interested in AP Physics 1 should be naturally curious, good observers, willing to read science text, experiment, and communicate orally and in writing using grammatically correct English.

WORKLOAD EXPECTATIONS

On a daily basis, students work in small groups and are expected to finish lab reports and problem solving assignments outside of class. Reading outside of class time is expected approximately 3 nights a week.

LEVEL OF DIFFICULTY

High.

RECOMMENDED PREPARATION

Interested students should be motivated to learn and they should have a good work ethic. They need to be organized and good at managing their time. It is recommended if they have done well in their previous math and science classes.

CONNECTION TO GRADUATION OUTCOMES

A main goal of the course is to have the student understand that science is an experimental process and to have them actively participate and demonstrate how problems are solved and how discoveries are made. In doing this, they will demonstrate the following outcomes:

Responsibility - Students will display appropriate classroom behavior, produce quality work, and self-assess both their work and their actions.

Communication in English - Students will clearly speak and write in Standard English. Students will comprehend and respond to materials written and spoken in Standard English.

Critical Thinking - Students will successfully apply problem solving skills; access a variety of information sources (including written, oral, visual, electronic, and quantified data); organize and apply information to solve problems and/or support positions; integrate knowledge from various subject areas.

Knowledge - Students will master the course content.

Collaboration - Students will work and cooperate with others to solve problems, perform lab activities, or produce products.