AP Physics 2

11th-12th Grade (10 Credits)

- *Meets high school graduation requirement for Physical Science*
- *Meets the UC/CSU subject area "D" requirement*
- *Prerequisite: AP Physics 1*
- *Recommended credit in integrated math 2 or higher*

General Information

Description

AP Physics2 is an algebra-based college level physics course that covers what is typically encountered in a first semester introductory college physics class. ***Topics covered include electricity, magnetism, optics, thermodynamics, fluids, nuclear, and quantum physics.***

A large portion of the course involves hands-on laboratory work and application of those experiences to science practices, such as learning to design experiments, establish evidence, analyze data, develop testable explanations and make predictions. For a complete description of the course, please refer to the college board link here:https://apcentral.collegeboard.org/courses/ap-physics-2/course

Expectations and Goals

AP Physics 2 has a significant laboratory component that allows students to learn about the concepts of physics through firsthand observations and experimentation. With those laboratory exercises, students will be expected to turn in written reports of their findings and the analysis of their findings, including appropriate graphical presentations of their data. Examples of laboratory exercises may include determining magnetic fields, heat engines, fluid flow dynamics, optics of lenses, etc.

This course is designed to prepare students to take the Advanced Placement Physics 2 exam in the spring. Upon completion of this course, students will be prepared to continue on to AP Physics C, a more rigorous a calculus-based university physics course for engineering and physical science majors.

Estimated Homework

Students will be expected to apply independent study skills and do practice problems outside of class, in addition to what is taught in class. The class is rigorous and will require approximately 90 minutes of work outside of class for every hour in class. That time commitment will include the write-up of laboratory exercises in addition to reading materials and practice problems. AP Physics 1 requires good time management skills, consistent work habits and a healthy body and attitude to succeed.

This Class Is Best For…

AP Physics 1 is best for 11th and 12th grade students who have completed chemistry, who are looking to gain further experiences in the physical sciences and who enjoy mathematics.

The college board recommends that students enrolled in the class have completed Geometry and are concurrently enrolled in Algebra 2, integrated math 2, or a higher level mathematics course.

For examples of the types and level of problems encountered in the course, refer to the sample exam questions on the college board website: https://secure-media.collegeboard.org/digitalServices/pdf/ap/sample- questions-ap-physics-1-and-ap-physics-2-exams.pdf

Course Materials

Required Materials

- Textbook: Physics, 6th edition, by Giancoli
- Mr. Harvie's notes and practice problems (found online on Mr. Harvie's TPHS website).
- Suggested materials include a scientific non-graphing calculator.

Additional Information and Resources

Several online resources for physics tutorials and extra practice are available. Some recommended examples include

http://www.physicsclassroom.com/ and http://hyperphysics.phy-astr.gsu.edu/hbase/hph.html