

COURSE TITLE: Advanced Placement (AP) Physics 1

Level of Difficulty	Estimated Homework	Prerequisites
Very Difficult	30-60 minutes	District: H Algebra II (B- or better) Department Suggestion: Math Analysis CP or AP Precalculus (Concurrent Enrollment) Chemistry (B- or better in honors; A- or better in CP)

Course Description:

AP Physics 1 is a rigorous course that takes a conceptual and mathematical approach to the study of motion. This is a first year physics course for students looking to challenge themselves beyond CP Physics and to potentially earn college credit by taking the AP test in May. There is a large math component to this class. Everyday, students will be performing calculations using Algebra II concepts, trigonometry function and vector math. Success in previous math courses is the strongest indicator of AP Physics readiness.

Major topics studied are those of mechanics, such as: motion in one dimension, projectiles/motion in two dimensions, forces and Newton's laws, conservation of energy, conservation of momentum, circular motion, rotational motion, and oscillating systems.

The classroom environment is a combination of concept demonstrations, laboratory experiments and practice problems. Lectures are watched at home. In class, students will be expected to work collaboratively in groups in a laboratory setting several times per unit. Students will gain practice designing their own labs to test a given research question.

This course relies heavily on the use of algebraic manipulation, graphical analysis, unit conversions, data interpretation, word problems, and explanation of concepts. It is expected that students have a solid foundation in math and are comfortable solving both algebraic expressions and trigonometric functions on their own. Every problem is a word problem.

Along with a lot of math, there is also a heavy emphasis on explaining physical concepts and relationships in words, graphs, and coherent paragraphs in the class and on the AP test.

Homework in this class is estimated at 30-60 minutes as a nightly average. This is a very rough estimate for planning purposes. A student's ability level will affect actual study time needed to be successful in this class. Some projects will be assigned in this class that will require additional outside class time to complete. Common homework assignments include taking notes from lecture videos and finishing worksheets, bookwork and lab activities from class.

Grading:

The grading system is based on weighted percentages. Each assignment will have a point value within the weighted category. Assessments and labs are weighted more heavily than practice assignments. Individual teachers may make modifications on the weighted percentages.

Syllabus:

Refer to individual teacher website

Supplemental Information:

10 Credits

UC Subject Area "d"

Weighted Grade