AP Physics 1

Description of Average Weekly Outside Requirements

Main Topics
(What main ideas/concepts are covered):
- Kinematic
- Dynamics
- Circular Motion and Gravitation
- Energy
- Momentum
- Simple Harmonic Motion
- Torque and Rotation

Rationale
(Why a student should take this course):

The main reasons to take AP Physics 1 are: Earn college credit, get exposed to college level course, and learn the study skills that are needed to be successful in all college level classes.

Reading
(Text, document, etc.):
- Textbook
- Notes

Average of 1 hour per week of reading. May be more depending on level of understanding.

Written
(Terms, questions, outlines, free response, etc.):
- AP Classroom Progress Checks
- AP Classroom guided notes/videos
- Free Response practice
- Multiple Choice Practice

Average of 2 ½ hours per week of problem solving. May be more depending on level of understanding.

Grade Composition
(How grades are determined):
- Quiz
- Lab reports
- Tests
- Assignments

Skill Development
(Skills developed in this course and how):
- Modeling
- Mathematical Routines
- Scientific Questioning
- Experimental Methods
- Data analysis
- Argumentation
- Data Review

Sample Textbook Excerpt:

A graph of position versus time can be used to generate a graph of velocity versus time, and a graph of velocity versus time can be used to generate a graph of acceleration versus time. We do this by finding the slope of the graphs at every point. If the graph is linear (i.e., a line with a constant slope), it is easy to find the slope at any point and you have the slope for every point. Graphical analysis of motion can be used to describe both specific and general characteristics of kinematics. Graphs can also be used for other topics in physics. An important aspect of exploring physical relationships is to graph them and look for underlying relationships.

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Required Skills
(Skills necessary to be successful in this course):
- Strong math and reading skills
- Corequisite: Algebra II Honors or higher
- Course includes solving equations, system of equations, graphing, Pythagorean Theorem and trigonometry functions.