AP Physics 1 Syllabus

TEACHER: Drew Austen Room 208
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ASSISTANCE: Any day before school, but please confirm with me at least one day prior.
Any Monday, Wednesday, or Friday during the first half of One Lunch.

MATERIALS: Three-ring binder, tab dividers, plain white paper, pencils, scientific calculator.

GRADING:

Classwork/Homework	10%
Mini Quizzes	20%
Laboratories	20%
Tests	50%
Total	100%

A more detailed description of each of these four categories is given on the back of this page.

TEACHING PHILOSOPHY: I believe that the single most important practical skill anyone can learn is the ability to think critically and reason analytically. Although you are enrolled in a physics course, the primary purpose of this class is to demonstrate and enforce advanced critical thinking and analytical reasoning skills in all students to adequately prepare everyone for college and life beyond.

LATE WORK POLICY: Because virtually every topic in AP Physics builds on prior knowledge of previous topics, students are expected to complete all work by the due dates. All homework assignments must be submitted electronically by 11:59 PM on the given due date, and all lab reports must be turned in before class starts on the given due date. Work that is late by any amount of time and for any reason will not be graded and will receive a grade of zero. However, students may sometimes have a legitimate reason why they did not complete a homework assignment or lab write-up. Therefore, during each 9-week marking period, students are granted three single-day extensions, which can be taken at any time, for any reason, no questions asked. A single-day extension refers to one weekday, not one class day, e.g. if a student does not submit the required assignment on a Wednesday, he/she can submit it on Thursday and use up one of the extensions. This late work policy applies if a student is present in class or has an unexcused absence. Students with excused absences are automatically granted one additional day for each day they were absent.

TEST RETAKE POLICY: The policy of Henrico County Public Schools is that any student who fails a test has the option to retake a similar test. Test retakes must be requested within one week of receiving the failing grade. Students will not be given the same test they already had the opportunity to take. The maximum possible grade a student can achieve on a test retake is a 65.

PRIOR KNOWLEDGE POLICY: All students enrolled in AP Physics 1 are expected to already have some specific prior mathematical knowledge. Any student lacking in knowledge of specific mathematical topics will be required to learn these topics outside of class using websites such as Khan Academy (www.khanacademy.org). Examples of required mathematical knowledge for this class include right angle trigonometry, isolating variables in literal equations, solving quadratics, and graphing various functions.

INCLEMENT WEATHER POLICY: Due to sheer volume of material that needs to be covered in AP Physics 1, this class will typically not “take a break” during snow days or other unplanned school closures. Students should check Schoology during these absences, as they may be assigned video lectures and online labs to complete. Some students may claim, truthfully or not, that they were unable to access the internet during these closures. If this is the case, they will simply have double the workload when school reopens.

CLASSWORK: Students will regularly solve challenging physics problems collaboratively in small, randomly assigned groups during class. Collaboration with other students to discuss ideas for solving problems has been shown to be one of the most effective ways to learn AP Physics.

HOMEWORK: Students will be assigned one or two full-length AP Physics problems to work on almost every weekday. I believe that quality is more important than quantity when it comes to homework, so students are expected to put forth a solid effort on the homework that they must complete each day. Some of these problems will be challenging, but they can all be answered within the scope of what has been learned in class. Students are strongly encouraged to discuss these homework problems with other students outside of class time to come up with approaches to solving them. All homework problem solutions must be submitted electronically by 11:59 PM on the specified due date.

LABORATORIES: Students will be completing inquiry-based labs during most Thursday/Friday classes. This means that students will be given open-ended instructions on what they are required to do, but they will have to design and implement the lab themselves in order to gather and analyze data. The write-ups for the labs must be turned in before class starts on the specified due date. No additional homework will be assigned on lab days.

MINI QUIZZES: Students will be given a three-minute quiz consisting of ten questions through Schoology at the start of every non-Monday class except on test days. These quizzes are simply to make sure students have learned the basic fundamentals from all prior classes. Unlike the tests, there are no higher-level critical thinking questions on these quizzes. They will usually consist of facts and very basic calculations. One or two of these quiz grades will be dropped each nine weeks, including any zeros received from any quizzes missed due to unexcused absences or tardies. There will be no make-up mini quizzes. If a student has an excused absence or tardy, it will be an exempt grade.

TESTS: Two tests will be administered during each marking period, usually on a Thursday/Friday instead of a lab. They will be spaced roughly four weeks apart. The tests are designed to mimic the official AP Physics 1 exam, but on a smaller scale. The structure of the official AP exam and the corresponding structure of the class tests are shown below.

STRUCTURE OF THE OFFICIAL AP EXAM: 3 HOUR TIME LIMIT

Part I: Multiple Choice	50 questions	90 minutes
Part II: Free Response	5 questions	90 minutes
- Short Answer (One with Paragraph-Length Response)	- 3 questions worth 7 points each	~ 13 minutes each
- Long Answer Experimental Design Question (EDQ)	- 1 question worth 12 points	~ 25 minutes
- Long Answer Qualitative-Quantitative Translation (QQT)	- 1 question worth 12 points	~ 25 minutes

STRUCTURE OF CLASS TESTS: 1.5 HOUR TIME LIMIT

Part I: Multiple Choice	24 questions	40 minutes
Part II: Free Response	3 questions	50 minutes
- Short Answer (One with Paragraph-Length Response)	- 2 questions worth 7 points each	~ 13 minutes each
- Long Answer (Either an EDQ or a QQT)	- 1 question worth 12 points	~ 25 minutes

GRADING SCALE FOR CLASS TESTS

Multiple Choice	24 questions worth 1 point each	24 points
Free Response	2 short answer questions worth 7 points each	14 points
	1 long answer question worth 12 points	12 points
Total		50 points

Since tests are graded out of 50 points, the percent score that is recorded in PowerSchool can be found by doubling the number of points earned on each test. Students will then have the opportunity to earn half of their lost points back by doing test corrections, which are typically due about two weeks after each test is taken, or by doing a test retake, as described in the “Test Retake Policy” section. Corrections may not be done on a test retake. The eighth and final test given right before AP exams start during the fourth marking period will not be a traditional AP style test. It will consist of 100 questions from all of the previous mini quizzes to make sure that students remember all the required material prior to taking the AP exam.