

A.P. Physics Double Period

A.P. Physics Double period consists of two major components: The first is the lecture component, which takes place during period 2 or 7 and includes the same meeting times, tests, quizzes, and chapter assignments as the single period course. Work graded in lecture contributes 75% of the end-of-quarter grade. The second component is the lab component, which occurs during period 4 or 8. This session contains lab activities and tutorials that will enhance and extend the concepts discussed in lecture. The activities completed in lab contribute 25% of the end-of-term grade. You will receive **one grade** (that is weighted double) for A.P. Physics Double Period on your report card.

The following topics will be covered in semester one and tested on the **A.P. Physics C: Mechanics** exam on **May 14, 2012**: (chapter coverage is approximate)

- A. **Kinematics** (including vectors, vector algebra, components of vectors, coordinate systems, displacement, velocity, and acceleration) 18% [Chapters 2 & 3]
- B. **Newton's Laws of Motion** 20% [Chapters 4 & 5]
- C. **Work, Energy, Power** 14% [Chapters 6 & 7]
- D. **Systems of Particles, Linear Momentum** 12% [Chapter 8;]
- E. **Circular Motion and Rotation** 18% [Chapters 9, 10 & some of 11]
- F. **Oscillations and Gravitation** 18% [Chapters 12 & 13]

These topics will be covered in semester two and tested on the **A.P. Physics C: Electricity & Magnetism** exam on **May 14, 2012**. Students will sit for two 2-hour exams and have the potential to earn two semester's worth of university-level physics.

- A. **Electrostatics: 30%** [Chapters 21& 22]
- B. **Conductors, capacitors, dielectrics: 14 %** [Chapters 23 & 24]
- C. **Electric circuits: 20%** [Chapters 25 & 26]
- D. **Magnetic Fields: 20%** [Chapters 27 & 28]
- E. **Electromagnetism: 16%** [Chapters 29 & 30]

Textbook: Sears and Zemansky's University Physics, 12th Edition by Young & Freedman

Student Requirements and Grading--

Grade Distribution:

Tests (35%)

--occur after each major unit of study listed above. Tests are not re-assessable.

Quizzes (15%)

--Expect one quiz per major unit; quizzes are re-assessable.

Unit Problem Solving Assignment (15%)

--Students *must* practice applying the principles discussed in class to various situations. All assigned questions have been correlated to at least one AP Physics "C" learning objective as published by the College Board. This is a necessary component of preparation for unit exams and the A.P. exam in May. All due dates will be published on Edline.

Chapter Reading Guides and Quest Assignments (10%)

--This is where individual learning will begin. This section has the smallest direct percentage of the final quarter grade, but it will have the greatest effect on student success.

Lab Activities (25%)

--These include formal lab write-ups, class activities, projects, practice AP problems, reading seminars, quarter essays, and team quizzes.

Problem Solving Format (inclusion of the following items determines unit assignment grade)

All discussion questions should have complete sentence responses when appropriate, and exercises' solutions should contain the following items:

- 1) A simple sketch of the situation, labeled with appropriate information.

- 2) All relevant given data, with units and significant figures.
- 3) The formulas that relate the data in their original form.
- 4) An algebraic derivation for the unknown variable.
- 5) Given values are shown plugged in with units.
- 6) The correct answer with appropriate significant figures, units, and a box around it.