

AP Physics 1

First Semester Course Syllabus and Assignments

Reading assignments are from the course textbook, *Principles of Physics* (Kinetic Books, v. 2).
Homework quizzes are on The Hub course page at hub.hw.com.

Unit 1: Kinematics

Kinematics definitions and graphing

Read 2.1-6

Homework Quiz 1.1

Read 2.9-12

Homework Quiz 1.2

*****QUIZ*****

Constant acceleration equations and problem solving

Podcast: Constant Acceleration

Homework Quiz 1.3

*****QUIZ*****

Vector addition and 2D motion

Podcast: Vector Basics

Podcast: Adding Vectors

Homework Quiz 1.4

Podcast: Relative Velocity

Homework Quiz 1.5

Projectile motion

Podcast: Intro to Projectile Motion

Homework Quiz 1.6

Podcast: More Projectiles

Homework Quiz 1.7

*****TEST*****

LAB: Measurement Techniques

LAB: Galileo's Experiment

LAB: Ball in Cup Challenge

Unit 2: Newton's Laws

Newton's Laws and types of forces

Read 5.1-3, 5, 10

Homework Quiz 2.1

Read 5.18-22

Homework Quiz 2.2

*****QUIZ*****

Specific forces and problems

Podcast: Inclined Planes

Homework Quiz 2.3

Podcast: Systems

Homework Quiz 2.4

Review podcast: Solving force problems

*****TEST*****

LAB: Newton's Second Law Experiment

LAB: Mass of a Car

Unit 3: Conservation of Momentum

Momentum

Read 8.0-2

Homework Quiz 3.1

Podcast: Conservation of Momentum

Homework Quiz 3.2

Podcast: Momentum problem solving

Homework Quiz 3.3

*****TEST*****

LAB: Impulse and Momentum

LAB: Collisions and Explosions

Unit 4: Conservation of Energy

Work and kinetic energy

Read 7.0-1

Homework Quiz 4.1

Read 7.5-7

Homework Quiz 4.2

*****QUIZ*****

Potential energy

Podcast: Gravitational Potential Energy

Homework Quiz 4.3

Podcast: Potential Energy in Space

Homework Quiz 4.4

*****TEST*****

LAB: Energy Changes in a System

Unit 5: Circular Motion

Circular Motion

Read 9.0-4, 6

Homework Quiz 5.1

Read 9.9-12

Homework Quiz 5.2

*****WINTER EXAM*****

Universal gravity and orbits

Read 13.0-2, 14, 17-18

Homework Quiz 5.3

Podcast: Proportionality Problems

Homework Quiz 5.4

*****QUIZ*****

LAB: Mass of a Stopper