



Applied Physics

2013-14

Course Description:

APPLIED PHYSICS is designed for students in the traditional academic pathway. The students' background in mathematics is considered in determining appropriate instructional techniques and classroom applications. Topics include motion, forces, energy, waves and optics.

Labs are used to verify various concepts and to develop good laboratory technique. A scientific calculator is required for this course. This course is not appropriate for students who attained a "C" or higher in ALGEBRA I and a "C" or higher in GEOMETRY.

Course Content:

- Introduction
 - Math tool kit, metric system, significant figures
 - Algebra skills
 - Precision: use of the commonly used instruments in labs.
- Motion
 - Acceleration, velocity,
 - Kinematic equations
 - Gravity
- Forces
 - Newton's three laws of motion
 - Frictional forces
- Motion in Two Dimensions
 - Projectile motion
 - Circular motion
 - Simple harmonic motion
- Momentum
 - Impulse and change of momentum
 - Conservation of momentum
- Work and Power
 - Introduction to the work-energy theorem
 - Lab: Horsepower
 - Energy
 - Potential and Kinetic energy.
 - Reinforcement of the work-energy theorem
- Thermodynamics
 - Laws of thermodynamics
 - Heat energy and changes of state.
- Waves
 - Properties
 - Sound
 - Light

- Optics (optional)
- Mirrors
- Lenses

Required Textbooks and/or Other Reading/Research Materials

To Be Determined

Course Requirements:

All students are required to complete all labs, quizzes, tests, and homework assignments.

Grade Components/Assessments:

Grades will be based on homework, lab reports, quizzes, test and class participation.

Each marking period is worth 20% of a student's overall grade. The midterm and final exam are each worth 10% of a student's overall average:

Quarter 1	20%
Quarter 2	20%
Midterm	10%
Quarter 3	20%
Quarter 4	20%
Final	10%

Required Summer Reading/Assignments:

None