

DETAILED COURSE DESCRIPTION

Course Number PHYS 135

Course Title Introduction to Physics for Physical Science and Mathematics Majors II

Target audience The course is designed for freshman-level physical science or physics majors. Well prepared students may consider Physics 137 as an alternative. The course includes a two-hour weekly lab.

Corequisites Mathematics 141

Catalog description Calculus-based physics of mechanics and waves.

Expected previous knowledge

Concepts Physical science at the high-school level. A previous physics course in physics is not required.

Skills Differential calculus should be taken concurrently.

Course Objectives

The objectives are: To cover the basics of 1) Newtonian physics, including motion in one and two dimensions, Newton's laws, work, energy, momentum, center of mass, rotations, equilibrium, 2) oscillations, 3) waves, 4) solids, liquids, gases, 5) sound

Sample Text

"Fundamentals of Physics, 6th Ed.", Halliday, Resnick, and Walker; Wiley.

Minimum Material Covered

Equations of motion in one and two dimensions

Newton's three laws

Circular motion

Work and kinetic energy

Conservation of energy

Impulse and linear momentum

Center of mass

Rotation and rolling objects

Static equilibrium

Oscillations and one dimensional waves

Solids, liquids, and gases

Sound