

# COURSES

## PHYSICS COURSES

**PHY 002A      General Physics - Mechanics and Thermodynamics (4.0 Lecture/1.0 Lab)      5.0 UNITS**

Prerequisite: MAT 000D or higher This is a first lecture/lab course in physics for non-majors. Topics covered include Newton's laws of force, the concepts of potential and kinetic energy, momentum, thermodynamics, hydrodynamics, and wave motion. C-ID # PHYS 100S, PHYS 105.

**PHY 002B      General Physics - Electricity, Magnetism And Optics (4.0 Lecture/1.0 Lab)      5.0 UNITS**

Prerequisite: PHY 002A This lecture/lab course is a continuation of PHY 002A as a lecture/lab course with the study of electricity, magnetism, geometrical and wave optics and atomic physics. C-ID # PHYS 100S, PHYS 110.

**PHY 004A      Engineering Physics-Mechanics (4.0 Lecture/1.0 Lab)      5.0 UNITS**

Prerequisite: MAT 003A or MAT 003AH This course in mechanics, the first in a series of engineering physics courses, is a calculus-based study of forces, energy and momentum. Kinematic problems are solved using position, velocity and acceleration. Conservation of momentum and energy is applied to moving and interacting systems, rotational mechanics, simple harmonic motion, gravity, mechanical properties of matter, fluid statics and dynamics. C-ID # PHYS 200S, PHYS 205.

**PHY 004B      Engineering Physics-Electricity and Magnetism (3.0 Lecture/1.0 Lab)      4.0 UNITS**

Prerequisite: PHY 004A Prerequisite: MAT 003B This lecture/laboratory course, the second in the engineering physics series, is a calculus-based study of electricity and magnetism that develops the concepts and applications of Maxwell's equations, including DC and AC circuits. C-ID # PHYS 200S, PHYS 210.

**PHY 004C      Engineering Physics-Light and Heat (3.0 Lecture/1.0 Lab)      4.0 UNITS**

Prerequisite: MAT 003B Prerequisite: PHY 004A This lecture/laboratory course is the third course in the calculus-based engineering physics series. Topics include classical thermodynamics, geometrical and wave optics and modern physics. C-ID # PHYS 200S, PHYS 215.

**PHY 004D      Engineering Physics-Atomic (2.0 Lecture)      2.0 UNITS**

Prerequisite: PHY 004B. This course is an introduction to quantum physics, the electronic structure of atoms, solids, band theory, radiation, and relativity.

**PHY 010      Introduction to Physics (3.0 Lecture/1.0 Lab)      4.0 UNITS**

Prerequisite: MAT 903 or High School Algebra I, or equivalent. This is a conceptual course in physics, including the development of fundamental concepts as applied to everyday phenomena, from a limited mathematical perspective, emphasizing verbal logic, critical analysis, and rational thought. The topics included in this course are mechanics, thermodynamics, electricity and magnetism, optics, and modern physics.