PHY

PHY 111   **Engineering Physics I**   **4.0 UNITS**

This is an introductory course in calculus-based mechanics. Topics include vector algebra, equilibrium of particles and rigid bodies, and kinematics and dynamics of particles and simple rigid body systems. Emphasis is placed on Newton?s laws of motion and conservation principles involving work, energy, and momentum.

PHY 113   **Physics I**   **4.0 UNITS**

This is the first of a two-course sequence in introductory physics that deals with mechanics. Topics include measurements, vectors, simple kinematics of uniformly accelerating bodies, projectile and circular motion work, energy, power, and simple rotational dynamics.

PHY 211   **Engineering Physics II**   **4.0 UNITS**

Provides an introduction to electricity and magnetism. The course starts with electrostatics and culminates with Maxwell?s equations. Topics covered include Coulomb?s laws, the electric and magnetic field, the electrostatic potential, Gauss?s law, Biot-Savart law, Ampere?s law, and Basic DC and AC circuit theory.

PHY 212   **Engineering Physics III**   **4.0 UNITS**

The third course of a three-course sequence on introductory engineering physics. Topics covered include vibratory and wave motion in general, interference of mechanical waves and related standing wave patterns, resonance and phenomena of beats, Doppler shift of sound waves, geometrical optics and applications to lens and mirror system, diffraction interference, and polarization of light. Also covered are special relativity, photoelectric effect, Bohr-atom, continuous and discrete spectra, Compton effect, DeBroglie and wave particle duality of matter, wave mechanics modification of classical mechanics, and the nuclear atom. Lab experiments are performed spanning the broad-spectrum of topics discussed in lecture.

PHY 213   **Physics II**   **4.0 UNITS**

Covers the following topics: simple harmonic motion, wave motion, light and lenses, electric forces and Coulomb?s Law, electric fields, and electromagnetism.