
Physics (PHYSICS)

PHYSICS 002A **Mechanics and Thermodynamics** (4)

Class Hours: 54 Lecture | 54 Laboratory

Prerequisite(s): MATH 063

Transfers to: UC/CSU

C-ID: PHYS 105

Mechanics and Thermodynamics

PHYSICS 002A is the study of vectors, particle kinematics and dynamics, work, energy, simple harmonic motion, rotational kinematics and dynamics, the kinetic theory of gases, the first and second laws of thermodynamics and gravitation.

PHYSICS 002B **Elect.,mag.,optics&mod.Physics** (4)

Class Hours: 54 Lecture | 54 Laboratory

Prerequisite(s): PHYSICS 002A

Transfers to: UC/CSU

C-ID: PHYS 110

Elect., Mag., Optics & Modern Physics

PHYSICS 002B is the algebra-based study of electricity, magnetism, electromagnetism, electric circuits, wave phenomena, geometrical and physical optics, special relativity and a survey of atomic, nuclear and particle physics.

PHYSICS 004A **Classical Mechanics** (4)

Class Hours: 54 Lecture | 54 Laboratory

Corequisite(s): MATH 001B

Transfers to: UC/CSU

C-ID: PHYS 205

Classical Mechanics

PHYSICS 004A is the study of vector algebra, particle kinematics, Newton's laws, conservation of linear momentum, the work-(kinetic) energy theorem, potential energy, conservation of total mechanical energy, mechanics of many-particle systems, rotational kinematics and dynamics, conservation of angular momentum, oscillatory phenomena and gravitation.

PHYSICS 004B **Electricity, Magnetism & Waves** (4)

Class Hours: 54 Lecture | 54 Laboratory

Prerequisite(s): **PHYSICS 004A:**

Corequisite(s): MATH 002A

Transfers to: UC/CSU

Electricity, Magnetism & Waves

PHYSICS 004B is the study of electric charge and Coulomb's law, the electric field and Gauss's law, electric potential, capacitance and dielectrics, DC circuit analysis and network theorems, the Lorentz force law, Ampere's law and the Biot-Savart law, Faraday's law, inductance, AC circuit analysis, magnetic properties of matter, propagation of waves in elastic media, standing waves and interference, and electromagnetic waves.

PHYSICS 004C Thermodynamics,optics,mod.Phys**(4)***Class Hours:* 54 Lecture | 54 Laboratory*Prerequisite(s):* PHYSICS 004B*Transfers to:* UC/CSU

Thermodynamics,optics and Modern Physics

PHYSICS 004C is the study of temperature and the zeroth law of thermodynamics; the kinetic theory of gases; heat and the first law of thermodynamics; entropy and the second law of thermodynamics; geometrical optics; interference; diffraction and polarization of light; special relativity; failures of classical physics; an introduction to quantum physics; and a survey of atomic, nuclear, and particle physics.
