

PHYSICS

PHY-2A

General Physics I

(C-ID:PHYS 105)(C-ID:PHYS 100S=PHY 2A+PHY 2B)

4.00 units

UC, CSU

Prerequisite: None.

Corequisite: MAT-1A.

Description: Meets the requirements for students majoring in biological science, including pre-medical and pre-dental students. This course examines: properties of matter; study of kinematics and mechanics, including Newton's laws, energy, momentum, and rotational motion; fluid mechanics; gravitation; study of oscillatory motion; study of wave motion, including sound waves. 54 hours lecture and 54 hours laboratory. (Letter grade only)

PHY-2B

General Physics II

(C-ID:PHYS 100S=PHY 2A+PHY 2B)

4.00 units

UC, CSU

Prerequisite: PHY-2A.

Description: Meets the requirements for students majoring in biological science, including pre-medical and pre-dental students. This course includes: study of thermodynamics, including temperature, methods of heat transfer, calorimetry, ideal gas law, laws of thermodynamics, entropy, and heat engines; study of electricity and magnetism, including electric field and potential, Gauss' Law, current, Ohm's Law, capacitance and inductance, Faraday's Law; study of optics, including electromagnetic waves, reflection, refraction, interference, and diffraction; study of modern physics, including the photoelectric effect, de Broglie wavelength, quantum numbers, and radioactive decay. 54 hours lecture and 54 hours laboratory. (Letter grade or Pass/No Pass option)

PHY-4A

Mechanics

(C-ID:PHY 205)

4.00 units

UC, CSU

Prerequisite: None.

Corequisite: MAT-1A.

Description: Examines vectors, particle kinematics and dynamics, work and power, conservation of energy and momentum, rotation, oscillations and gravitation. 54 hours lecture and 54 hours laboratory. (Letter grade only)

PHY-4B

Electricity and Magnetism

(C-ID:PHY 210)

4.00 units

UC, CSU

Prerequisite: PHY-4A.

Corequisite: MAT-1B.

Description: Study of electric fields, voltage, current, magnetic fields, electromagnetic induction, alternating currents and electromagnetic waves. 54 hours lecture and 54 hours laboratory. (Letter grade only)

PHY-4C

Heat, Light and Waves

4.00 units

UC, CSU

Prerequisite: PHY-4A.

Corequisite: MAT-1B.

Description: Examines fluid mechanics; temperature, heat transfer, thermal properties of matter, laws of thermodynamics; oscillations and waves; reflection, refraction, lenses and mirrors, interference, and diffraction; introduction to special relativity and modern physics. 54 hours lecture and 54 hours laboratory. (Letter grade only)

PHY-4D

Modern Physics

4.00 units

UC, CSU

Prerequisite: PHY-4A.

Description: The study of special relativity, the old quantum theory, fundamentals of quantum mechanics and basic applications of these theories to the hydrogen atom. 72 hours lecture. (Letter grade only)

PHY-10**Introduction to General Physics****3.00 units**

UC, CSU

Prerequisite: None.

Description: A non-science major physics course covering mechanics, properties of matter, heat, sound, light, electricity and magnetism, and nuclear physics. 54 hours lecture. (Letter grade only)

PHY-11**Physics Laboratory****1.00 unit**

UC, CSU

*Prerequisite: None.**Corequisite: PHY-10.*

Description: An optional laboratory science course for the non-science major. Emphasis on laboratory techniques, student experimentation and laboratory demonstrations. 54 hours laboratory. (Letter grade only)