

PHYSICS (PHYC)

PHYC-110

Introductory Physics

4 UNITS

3.0 hours lecture, 3.0 hours laboratory

Simple treatment of basic physics principles and phenomena with an emphasis on relating them to events and processes of everyday living. Study of the description and cause of various kinds of motion, conservation laws, hot and cold bodies with heat exchange, sound in music and hearing, light and color perception, electricity and some of its practical uses, observation of atomic particles from radiation sources, and other subjects. There is no math prerequisite; the main emphasis is on understanding the concepts rather than doing many mathematical manipulations. (CSU/UC) (AA/AS-B, CSU-B1,B3, IGETC-5A,5C)

PHYC-130

Fundamentals of Physics

4 UNITS

Prerequisite: "C" grade or higher or "Pass" or concurrent enrollment in MATH 180 or equivalent

3.0 hours lecture, 3.0 hours laboratory

A mathematical and philosophical introduction to basic physical phenomena including force, linear and rotational motion, momentum, work and energy, simple harmonic motion and wave behavior, heat and thermodynamics using calculus, trigonometry and algebra-based problem solving. Laboratory experience is an integral part of this course. (C-ID PHYS 105, C-ID PHYS 100S(with PHYC 131)) (CSU/UC) (AA/AS-B, CSU-B1,B3, IGETC-5A,5C)

PHYC-131

Fundamentals of Physics

4 UNITS

Prerequisite: "C" grade or higher or "Pass" in PHYC 130 or equivalent

3.0 hours lecture, 3.0 hours laboratory

A mathematical and philosophical introduction to basic physical phenomena including electricity, magnetism, optics and modern physics using calculus, trigonometry and algebra-based problem solving.

Laboratory experience is an integral part of this course. (C-ID PHYS 110, C-ID PHYS 100S(with PHYC 130)) (CSU/UC) (AA/AS-B, CSU-B1,B3, IGETC-5A,5C)

PHYC-201

Mechanics and Waves

5 UNITS

Prerequisite: "C" grade or higher or "Pass" in MATH 180 or equivalent

4.0 hours lecture, 3.0 hours laboratory

This is the first course of a three-semester, calculus level sequence of physics courses designed for engineering, physics, mathematics, and science majors. The course assumes no previous physics study, but makes extensive use of algebra, trigonometry, geometry, and calculus. Topics include linear and rotational kinematics and dynamics, energy and energy conservation, linear and angular momentum and their conservation laws, fluid dynamics, and gravitation, and wave motion. (C-ID PHYS 205, C-ID PHYS 200S (with PHYC 202, 203)) (CSU/UC) (AA/AS-B, CSU-B1,B3, IGETC-5A,5C)

PHYC-202

Electricity, Magnetism, and Heat

5 UNITS

Prerequisite: "C" grade or higher or "pass" in PHYC 201 or equivalent; and "C" grade or higher or pass or concurrent enrollment in MATH 280 or equivalent

4.0 hours lecture, 3.0 hours laboratory

This is the second course of a three-semester, calculus level sequence of physics courses designed for engineering, physics, mathematics, and science students. The topics of heat, electricity, and magnetism are introduced at the beginning level with reliance upon students' ability to apply topics introduced in Physics 201. The laboratory provides emphasis on measurements using gas laws and of electric and magnetic fields, DC and AC circuits, and oscilloscope techniques. (C-ID PHYS 210, C-ID PHYS 200S (with PHYC 201, 203)) (CSU/UC) (AA/AS-B, CSU-B1,B3, IGETC-5A,5C)

PHYC-203

Light, Optics, and Modern Physics

5 UNITS

Prerequisite: "C" grade or higher or "Pass" in PHYSICS 202 or equivalent; and "C" grade or higher or "Pass" or concurrent enrollment in MATH 281 or equivalent

4.0 hours lecture, 3.0 hours laboratory

This is the third course of a three-semester, calculus level sequence of physics courses designed for engineering, physics, mathematics, and science students. The topics of optics, quantum mechanics, special relativity, and atomic and nuclear physics are introduced at the beginning level with reliance upon ability to apply topics introduced in Physics 201 and Physics 202. The laboratory provides experiments in optics, interference and diffraction, and nuclear physics. (C-ID PHYS 215, C-ID PHYS 200S (with PHYC 201, 202)) (CSU/UC) (AA/AS-B, CSU-B1,B3, IGETC-5A,5C)