PHYSICS (PHYC)

PHYC-110
Introductory Physics **4 UNITS**
3.0 hours lecture, 3.0 hours laboratory
This physics course is structured for students who have had little or no previous physics or mathematics. The math needed is explained as the course progresses. Physics is the study of real and natural events, laws and phenomena which exist and interact in the universe around us. In this course those laws and events are studied with particular emphasis on the physics normally encountered in everyday living, such as motion, light and human vision, sound and hearing, energy and its use and conservation, gas laws and breathing. (CSU/UC) (AA/AS-5, CSU-B1,B3, IGETC-5A,5C, Cal-GETC-5A,5C)

PHYC-130
Fundamentals of Physics **4 UNITS**
Prerequisite: "C" grade or higher or "Pass" or concurrent enrollment in MATH C2210 (formerly MATH 180) or equivalent
3.0 hours lecture, 3.0 hours laboratory
This calculus-level course is the first of a sequence of two physics courses for life science majors. It provides a thorough basis in mechanics, kinematics, work, energy, properties of matter, heat, and vibrations. The course assumes no previous physics study, but makes extensive use of algebra, trigonometry, geometry, and calculus, as appropriate. The laboratory provides applications of physics principles to measurements of translational motion, forces, torques, rotational systems, and heat. Physics 130 is not open to students with credit in Physics 140. (C-ID PHYS 105) (CSU/UC) (AA/AS-5, CSU-B1,B3, IGETC-5A,5C, Cal-GETC-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 continuation of Physics 130 covering electric charges, electric and magnetic fields and forces, DC and AC circuits, electromagnetic waves, light, optical instruments, relativity, modern physics, and atomic and nuclear physics. The laboratory provides emphasis on measurement techniques involving electric charge, electric circuits, oscilloscopes, optics, interference, lasers, and nuclear counting. The calculus-based course is primarily designed for life science majors and pre-med students. Physics 131 is not open to students with credit in Physics 240 or 241. (C-ID PHYS 110) (CSU/UC) (AA/AS-5, CSU-B1,B3, IGETC-5A,5C, Cal-GETC-5A,5C)

PHYC-201
Mechanics and Waves **5 UNITS**
Prerequisite: "C" grade or higher or "Pass" in MATH C2210 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) (CSU/UC) (AA/AS-5, CSU-B1,B3, IGETC-5A,5C, Cal-GETC-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 C2220 (formerly 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 measurement using gas laws and of electric and magnetic fields, DC and AC circuits, and oscilloscope techniques. (C-ID PHYS 210) (CSU/UC) (AA/AS-5, CSU-B1,B3, IGETC-5A,5C, Cal-GETC-5A,5C)

PHYC-203
Light, Optics, and Modern Physics **5 UNITS**
Prerequisite: "C" grade or higher or "Pass" in PHYC 202 or equivalent and a "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 the 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) (CSU/UC) (AA/AS-5, CSU-B1,B3, IGETC-5A,5C, Cal-GETC-5A,5C)