

PHYSICS (PHYS)

PHYS C110 **3 Units (54 lecture hours)**

Conceptual Physics
Advisory: MATH C010.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU; UC Credit Limitations: no credit for PHYS C110, PHYS C110L or PHYS C140, CHEM C140 if taken after PHYS C120 or PHYS C185.

A survey of the fundamental phenomena and laws in physics related to forces and motion, energy and work, electricity and magnetism, and modern physics that emphasizes conceptual scientific thinking. Graded or Pass/No Pass option.

PHYS C110L **1 Unit (54 lab hours)**

Conceptual Physics Lab
Prerequisite(s): PHYS C110 with a grade of C or better or concurrent enrollment.

Advisory: MATH C010.

Grading Mode: Standard Letter
Transfer Credit: CSU; UC.

Formerly PHYS C111. This course is designed to supplement Physics C110. The student will do laboratory exercises which illustrate some of the phenomena discussed in Physics C110. Letter Grade only. UC Credit Limitations: no credit for PHYS C110, PHYS C110L or PHYS C140, CHEM C140 if taken after PHYS C120 or PHYS C185.

PHYS C120 **4 Units (54 lecture hours; 54 lab hours)**

Algebra Based Physics: Mechanics
Prerequisite(s): MATH C120 with a grade of C or better.

Advisory: PHYS C110 or concurrent enrollment.

Grading Mode: Standard Letter
Transfer Credit: CSU; UC.

The course covers Mechanics, Heat, and Sound. It satisfies the physics requirement of biological science programs (except University of California Programs) and technical programs, except physics, chemistry, or engineering. It satisfies requirements as liberal arts elective. Letter Grade only. UC Credit Limitations: PHYS C120, C125 and PHYS C185, PHYS C280 combined: maximum credit, 1 series; no credit for PHYS C110, PHYS C110L or PHYS C140, CHEM C140 if taken after PHYS C120 or PHYS C185. **C-ID:** PHYS 105, PHYS 100 S.

PHYS C125 **4 Units (54 lecture hours; 54 lab hours)**

Algebra Based Physics: Electricity and Magnetism
Prerequisite(s): PHYS C120 with a grade of C or better.

Grading Mode: Standard Letter
Transfer Credit: CSU; UC.

The course covers Electricity, Magnetism, Light/Optics, and Modern Physics. It satisfies the physics requirement of biological science programs and technical programs, except physics, chemistry, or engineering. It satisfies requirements as a liberal arts elective. Letter Grade only. UC Credit Limitations: PHYS C120, C125 and PHYS C185, PHYS C280 combined: maximum credit, 1 series. **C-ID:** PHYS 110, PHYS 100 S.

PHYS C140 **4 Units (54 lecture hours; 54 lab hours)**

Survey of Chemistry and Physics
Advisory: MATH C010 with a grade of C or better.

Grading Mode: Standard Letter
Transfer Credit: CSU; UC.

An investigation of basic principles of physics and chemistry including matter, physical and chemical properties, energy, motion, light, atomic structure, bonding, solutions and chemical reactions. The interdependence of chemistry and physics will be emphasized. This course is intended for non-science majors. This course is identical to CHEM C140. Letter Grade only. UC Credit Limitations: CHEM C110, CHEM C130, CHEM C140 and PHYS C140 combined: maximum credit, 1 course; no credit for PHYS C110, PHYS C110L or PHYS C140, CHEM C140 if taken after PHYS C120 or PHYS C185; no credit for CHEM C140, PHYS C140 if taken after CHEM C180 or CHEM C220. **C-ID:** PHYS 140.

PHYS C185 **4 Units (54 lecture hours; 54 lab hours)**

Calculus Based Physics: Mechanics
Prerequisite(s): MATH C180 with a grade of C or better.

Advisory: MATH C185.

Grading Mode: Standard Letter
Transfer Credit: CSU; UC.

The Physics C185, C280, and C285 sequence is required for science and engineering majors who need calculus-based physics. Topics include the kinematics and dynamics of translational and rotational motion of objects, conservation laws, Hooke's Law, simple harmonic motion, wave motion, fluid statics, and dynamics. Letter Grade only. UC Credit Limitations: PHYS C120, C125 and PHYS C185, PHYS C280 combined: maximum credit, 1 series, no credit for PHYS C110, PHYS C110L or PHYS C140, CHEM C140 if taken after PHYS C120 or PHYS C185. **C-ID:** PHYS 205.

PHYS C280 **4 Units (54 lecture hours; 54 lab hours)**

Calculus Based Physics: Electricity and Magnetism

Prerequisite(s): MATH C185 and PHYS C185 with grades of C or better.

Grading Mode: Standard Letter

Transfer Credit: CSU; UC.

Continuation of PHYS C185. The course covers electricity and magnetism. Topics include electric fields, Gauss's Law, electric potential, capacitance and dielectrics, current and resistance, direct current circuits, magnetic fields, sources of the magnetic fields, Faraday's Law, inductance, alternating current circuits, and electromagnetic waves. Letter Grade only. UC Credit Limitations: PHYS C120, C125 and PHYS C185, PHYS C280 combined: maximum credit, 1 series. **C-ID:** PHYS 210.

PHYS C285 **4 Units (54 lecture hours; 54 lab hours)**

General Physics: Light and Modern Physics

Prerequisite(s): MATH C185 and PHYS C185 or C280 with a grade of C or better.

Grading Mode: Standard Letter

Transfer Credit: CSU; UC.

This course covers thermodynamics, light, optics, and modern physics. Topics include heat transfer and the kinetic theory of gases, geometric optics, wave optics, an introduction to relativity, an introduction to quantum mechanics and quantum theory, and the structure of matter. Letter Grade only. **C-ID:** PHYS 215.