

# PHYSICS (PHYS)

## PHYS 100 4.0 UNITS Elementary Physics

Class Hours: 3.0 Lecture / 3.0 Laboratory  
Total Contact Hours: 54 Lecture / 54 Laboratory

Prerequisite: MATH 140 or equivalent with a grade of "C" or higher or "Pass" or completion of the math placement process with a score eligible for MATH 155.

This course is a general survey of the basic principles of physics. It includes mechanics, heat, sound, electricity and magnetism, light, and modern physics with emphasis on mechanics. It is designed primarily as a prerequisite to courses in Engineering Physics.

Transfer Credit: CSU; UC\*

\*UC: credit limits may apply. No credit for PHYS 100 if taken after PHYS 101 or PHYS 201.

## PHYS 101 4.0 UNITS General Physics

Class Hours: 3.0 Lecture / 3.0 Laboratory  
Total Contact Hours: 54 Lecture / 54 Laboratory

Prerequisite: MATH 140 or equivalent with a grade of "C" or higher or "Pass."

This course is designed to give students an understanding and appreciation of the basic principles governing the everyday happenings in the physical environment. The subjects covered are mechanics, heat and sound.

Transfer Credit: CSU; UC\*

C-ID: PHYS 101

\*UC: credit limits may apply. PHYS 101, PHYS 102 combined with PHYS 201, PHYS 202 and PHYS 203: maximum credit, one series, deduct credit for duplication of topics.

## PHYS 102 4.0 UNITS General Physics

Class Hours: 3.0 Lecture / 3.0 Laboratory  
Total Contact Hours: 54 Lecture / 54 Laboratory

Prerequisite: PHYS 101 or equivalent with a grade of "C" or higher or "Pass."

This course is a continuation of PHYS 101. It includes electricity and magnetism, light, and modern physics.

Transfer Credit: CSU; UC\*

C-ID: PHYS 110

\*UC: credit limits may apply. PHYS 101, PHYS 102 combined with PHYS 201, PHYS 202 and PHYS 203: maximum credit, one series, deduct credit for duplication of topics.

## PHYS 201 4.0 UNITS Engineering Physics

Class Hours: 3.0 Lecture / 3.0 Laboratory  
Total Contact Hours: 54 Lecture / 54 Laboratory

Prerequisite: PHYS 100 or PHYS 101 and MATH 170 or equivalents with grades of "C" or higher or "Pass."

This is the first course in a three-semester sequence designed to meet the requirements for engineering and related majors. Topics to be covered are mechanics, wave motion and sound.

Transfer Credit: CSU; UC\*

C-ID: PHYS 205

\*UC: credit limits may apply. PHYS 101, PHYS 102 combined with PHYS 201, PHYS 202 and PHYS 203: maximum credit, one series, deduct credit for duplication of topics.

## PHYS 202 4.0 UNITS Engineering Physics

Class Hours: 3.0 Lecture / 3.0 Laboratory  
Total Contact Hours: 54 Lecture / 54 Laboratory

Prerequisite: PHYS 201 and MATH 170 or equivalents with grades of "C" or higher or "Pass."

Corequisite: MATH 190 or prior completion of MATH 190 or equivalent with a grade of "C" or higher or "Pass"

This course emphasizes the physics of electricity and magnetism. The units of study under electricity include electrostatics, DC circuits and capacitance. Magnetism will cover magnetic fields, force on conductors, torque on coils, motional electromagnetic force and induction, self and mutual inductance, magnetic properties of matter and some basic AC theory.

Transfer Credit: CSU; UC\*

C-ID: PHYS 210

\*UC: credit limits may apply. PHYS 101, PHYS 102 combined with PHYS 201, PHYS 202 and PHYS 203: maximum credit, one series, deduct credit for duplication of topics.

## PHYS 203 4.0 UNITS Engineering Physics

Class Hours: 3.0 Lecture / 3.0 Laboratory  
Total Contact Hours: 54 Lecture / 54 Laboratory

Prerequisite: PHYS 201 and MATH 170 or equivalents with grades of "C" or higher or "Pass."

Corequisite: MATH 190 or prior completion of MATH 190 or equivalent with a grade of "C" or higher or "Pass"

This course is a study of heat, light and modern physics. The unit on heat covers such topics as thermometry, calorimetry, the gas laws, thermodynamics and kinetic theory. Optics include geometric and physical optics. Modern physics touches on selected topics such as photoelectric effects, x-ray production and nuclear effects.

Transfer Credit: CSU; UC\*

C-ID: PHYS 215

\*UC: credit limits may apply. PHYS 101, PHYS 102 combined with PHYS 201, PHYS 202 and PHYS 203: maximum credit, one series, deduct credit for duplication of topics.

**PHYS 298**

**1.0 UNITS**

**Directed Studies**

A course to provide opportunity for individual research and field projects under the direction of a faculty member in a given department. With the guidance of the faculty member, students prepare and carry out a written learning agreement describing the purposes and outcomes of the project. Students should expect to meet with the supervising faculty member one to two hours each week for conferences. Credit is based upon the number of hours in the semester expected to complete the project (1 unit for 54 hours). This course may be taken a maximum of 2 times. For selected disciplines, UC transfer credit may be possible after admission to a UC campus, pending review of appropriate course materials by UC staff. See a counselor for an explanation.

Transfer Credit: CSU

**PHYS 299**

**2.0 UNITS**

**Directed Studies**

A course to provide opportunity for individual research and field projects under the direction of a faculty member in a given department. With the guidance of the faculty member, students prepare and carry out a written learning agreement describing the purposes and outcomes of the project. Students should expect to meet with the supervising faculty member one to two hours each week for conferences. Credit is based upon the number of hours in the semester expected to complete the project (2 units for 108 hours). This course may be taken a maximum of 2 times. For selected disciplines, UC transfer credit may be possible after admission to a UC campus, pending review of appropriate course materials by UC staff. See a counselor for an explanation.

Transfer Credit: CSU