

PHYSICS (PHYS)

PHYS 1 Physics

4 Units (Degree Applicable, CSU, UC)

UC Credit Limitation

Lecture: 54 Lab: 54

Prerequisite: *MATH 71 or Eligibility for MATH 110 or MATH 110H*

Discovery of concepts of physics through guided activities in a workshop style. Topics include light and geometrical optics, electricity and DC circuits, magnetism, linear and rotational motion, forces, momentum, energy, harmonic motion, waves, and nuclear and atomic physics.

PHYS 2AG General Physics

4 Units (Degree Applicable, CSU, UC, C-ID #: PHYS 105)

UC Credit Limitation

Lecture: 54 Lab: 54

Prerequisite: *MATH 150 or MATH 175 or Eligibility for MATH 160*

The basic principles of physics. Includes theory, applications, laboratory, and problem solving in mechanics, heat, fluids, and wave motion.

PHYS 2BG General Physics

4 Units (Degree Applicable, CSU, UC, C-ID #: PHYS 110)

UC Credit Limitation

Lecture: 54 Lab: 54

Prerequisite: *PHYS 2AG*

Continuation of Physics 2AG. Includes electricity and magnetism, including direct current (DC) and alternating current (AC) circuits, geometrical and physical optics, relativity, quantum physics, atomic and nuclear physics. Laboratory includes use of computers to analyze data and simulate electric circuits.

PHYS 4A Engineering Physics

5 Units (Degree Applicable, CSU, UC, C-ID #: PHYS 205)

UC Credit Limitation

Lecture: 72 Lab: 54

Prerequisite: *PHYS 2AG*

Corequisite: *MATH 181 (May have been taken previously)*

Calculus-based course. Studies linear and rotational motion, forces, momentum, work, energy, oscillations, gravitation, and waves. Includes laboratory experience with significant use of computers for data acquisition and analysis.

PHYS 4B Engineering Physics

5 Units (Degree Applicable, CSU, UC, C-ID #: PHYS 210)

UC Credit Limitation

Lecture: 72 Lab: 54

Prerequisite: *PHYS 4A*

Corequisite: *MATH 280 (May have been taken previously)*

Calculus-based course covering heat, kinetic theory of gases, thermodynamics, electromagnetism including direct current (DC) and alternating current (AC) circuits, and Maxwell's equations. Laboratory includes significant use of computers for data acquisition, analysis, and simulation. Continuation of Physics 4A.

PHYS 4C Engineering Physics

5 Units (Degree Applicable, CSU, UC, C-ID #: PHYS 215)

UC Credit Limitation

Lecture: 72 Lab: 54

Prerequisite: *PHYS 4B*

Calculus-based course covering fluids, sound, electromagnetic waves, relativity, and modern physics. Continuation of Physics 4A and 4B.

PHYS 6A General Physics with Calculus

5 Units (Degree Applicable, CSU, UC)

UC Credit Limitation

Lecture: 72 Lab: 54

Prerequisite: *MATH 180*

First semester of a two-semester calculus-based physics course for life science majors. Includes statics and dynamics of particles and rigid bodies, Newton's laws of motion, conservation principles, rotational motion, simple harmonic motion, wave motion, heat and sound, introduction to hydrostatics and hydrodynamics with an emphasis on life science topics.

PHYS 6B General Physics with Calculus

5 Units (Degree Applicable, CSU, UC)

UC Credit Limitation

Lecture: 72 Lab: 54

Prerequisite: *PHYS 6A*

Second semester of the calculus based physics course for life science majors. Topics include electricity, magnetism, optics, relativity, atomic and nuclear physics with an emphasis on life science applications.

PHYS 99 Special Projects in Physics

2 Units (Degree Applicable, CSU)

Lecture: 36

Corequisite: *PHYS 1 or PHYS 2AG or PHYS 4A (May have been taken previously)*

In order to offer selected students recognition for their academic interests and ability, and the opportunity to explore their disciplines to greater depth, the various departments from time to time offer Special Projects courses. The content of each course and the methods of study vary from semester to semester and depend on the particular project under consideration. Student must have instructor's authorization before enrolling in this class. Field trips may be required as part of this course.