

PHYSICS

DIVISION: Natural Sciences

The Division of Natural Sciences at Pasadena City College offers students opportunities to learn and grow as individuals, scientists, scholars, and well-informed citizens.

- Physics – Associate in Science Degree for Transfer to CSU (<https://curriculum.pasadena.edu/academic-programs/physics/physics-ast/>)

Courses

PHYS 001A PHYSICS FOR SCIENTISTS AND ENGINEERS I: MECHANICS 5 unit

Transfer Credit: CSU; UC credit limitations. See counselor.

C-ID: PHYS 205; PHYS SEQ 200S (with PHYS 001B, 001C, 001D)

Prerequisite(s): MATH 005A or 005AH

Calculus-based study of classical mechanics, including unit systems, particle kinematics, Newton's laws of motion, work and energy, linear and angular momentum, and rigid-body rotation and equilibrium. Total of 72 hours lecture and 72 hours laboratory.

Grade Mode: Letter Grade, Pass/No-Pass

PHYS 001B GENERAL PHYSICS 5 unit

Transfer Credit: CSU; UC credit limitations. See counselor.

C-ID: PHYS SEQ 200S (with PHYS 001A, 001C, 001D)

Prerequisite(s): PHYS 001A and either MATH 005A or 005AH

Calculus-based study of gravitation, fluid mechanics, oscillations and waves, and thermodynamics. For STEM majors but open to all qualified students. Total of 72 hours lecture and 72 hours laboratory.

Grade Mode: Letter Grade, Pass/No-Pass

PHYS 001C GENERAL PHYSICS 5 unit

Transfer Credit: CSU; UC credit limitations. See counselor.

C-ID: PHYS 210; PHYS SEQ 200S (with PHYS 001A, 001B, 001D)

Prerequisite(s): PHYS 001B and either MATH 005B or 005BH

Calculus-based study of electricity and magnetism, and geometrical and physical optics. Total of 72 hours lecture and 72 hours laboratory. For STEM majors but open to all qualified students.

Grade Mode: Audit, Letter Grade, Pass/No-Pass

PHYS 001D GENERAL PHYSICS 5 unit

Transfer Credit: CSU; UC credit limitations. See counselor.

C-ID: PHYS SEQ 200S (with PHYS 001A, 001B, 001C)

Prerequisite(s): PHYS 001C and MATH 005C

Calculus-based study of introductory modern physics, including the theory of relativity, basic principles of quantum mechanics, elementary atomic, molecular, solid state, nuclear, and particle physics. Total of 72 hours lecture and 72 hours laboratory.

Grade Mode: Audit, Letter Grade, Pass/No-Pass

PHYS 002A GENERAL PHYSICS

4 unit

Transfer Credit: CSU; UC credit limitations. See counselor.

C-ID: PHYS 105; PHYS SEQ 100S (WITH PHYS 002B)

Prerequisite(s): MATH 131 or 150 or placement based on the Math assessment process

Algebra- and trigonometry-based study of classical mechanics and thermal physics. Total of 54 hours lecture and 54 hours laboratory.

Grade Mode: Audit, Letter Grade, Pass/No-Pass

PHYS 002B GENERAL PHYSICS

4 unit

Transfer Credit: CSU; UC credit limitations. See counselor.

C-ID: PHYS 110; PHYS SEQ 100S (WITH PHYS 002A)

Prerequisite(s): PHYS 002A

Algebra- and trigonometry-based study of electricity, magnetism, special relativity, atomic and nuclear physics, and elementary particles. Total of 54 hours lecture and 54 hours laboratory.

Grade Mode: Audit, Letter Grade, Pass/No-Pass

PHYS 008A PHYSICS FOR SCIENTISTS AND ENGINEERS I: MECHANICS 5 unit

Transfer Credit: CSU; UC credit limitations. See counselor.

Prerequisite(s): MATH 005A or MATH 005AH

Recommended Preparation: PHYS 108

Calculus-based study of classical mechanics, including kinematics, Newton's laws of motion, work and energy, linear and angular momentum, rigid-body rotation and equilibrium, gravitation, and fluids. No credit if taken after PHYS 001A. Total of 72 hours lecture and 72 hours laboratory.

Grade Mode: Letter Grade, Pass/No-Pass

PHYS 008B PHYSICS FOR SCIENTISTS AND ENGINEERS II: WAVES, ELECTRICITY & MAGNETISM 5 unit

Transfer Credit: CSU; UC credit limitations. See counselor.

Prerequisite(s): (1) MATH 005B or MATH 005BH and (2) PHYS 008A

Calculus-based study of simple harmonic motion, mechanical waves, electricity, and magnetism. No credit if taken after PHYS 001C. Total of 72 hours lecture and 72 hours laboratory.

Grade Mode: Letter Grade, Pass/No-Pass

PHYS 008C PHYSICS FOR SCIENTISTS AND ENGINEERS III: THERMODYNAMICS, OPTICS, AND MODERN PHYSICS 5 unit

Transfer Credit: CSU; UC credit limitations. See counselor.

Prerequisite(s): (1) MATH 005C or 005CH and (2) PHYS 008B

Calculus-based study of thermodynamics, optics, and modern physics. No credit if taken after PHYS 001D. Total of 72 hours lecture and 72 hours laboratory.

Grade Mode: Letter Grade, Pass/No-Pass

