

PHYSICS (PHYS)

PHYS 002A Algebra/Trigonometry-Based Physics I 4 Units

Students will study basic principles: vectors, Newton's laws of motion, work, and the conservation principles of energy, momentum, elasticity, and thermodynamics. Also covered in this course will be gravitation, fluids, waves, and simple harmonic motion. This is the first of a two-semester course in general physics for students not needing calculus-based physics. (C-ID PHYS 105 and PHYS 100S when combined with PHYS 002B)

Lecture Hours: 3 Lab Hours: 3 Repeatable: No Grading: L

Prerequisite: MATH 013 with C or better

Advisory Level: Read: 3 Write: 3 Math: None

Transfer Status: CSU/UC Degree Applicable: AA/AS

CSU GE: B1, B3 IGETC: 5A, 5C District GE: B1, B3

PHYS 002B Algebra/Trigonometry-Based Physics II 4 Units

Students will apply the principles of conservation of energy, and linear and angular momentum to topics in electricity, magnetism, optics, and modern physics. This is the second of a two-semester course in general physics for students not needing calculus-based physics. (C-ID PHYS 110 and PHYS 100S when combined with PHYS 002A)

Lecture Hours: 3 Lab Hours: 3 Repeatable: No Grading: L

Prerequisite: PHYS 002A with C or better

Advisory Level: Read: 3 Write: 3 Math: 3

Transfer Status: CSU/UC Degree Applicable: AA/AS

CSU GE: B1, B3 IGETC: 5A, 5C District GE: B1, B3

PHYS 004A General Physics 5 Units

Students are introduced to the general principles of mechanics at an elementary level. Specific topics include kinematics, Newton's laws of motion, work and energy, momentum, rotation, simple harmonic motion, universal gravitation, and fluids. Elementary applications of these principles are introduced using a problem solving approach. This course is one of three courses in calculus-based general physics classes for majors in physics, chemistry, engineering, mathematics or other sciences. (C-ID PHYS 205 and PHYS 200S when combined with PHYS 004B & PHYS 004C)

Lecture Hours: 4 Lab Hours: 3 Repeatable: No Grading: L

Corequisite: MATH 072, previous or concurrent

Advisory Level: Read: 3 Write: 3 Math: None

Transfer Status: CSU/UC Degree Applicable: AA/AS

CSU GE: B1, B3 IGETC: 5A, 5C District GE: B1, B3

PHYS 004B General Physics 5 Units

Students learn conceptual aspects of electricity, magnetism, circuits, and Maxwell's equations, and the quantitative analysis of real world situations. This course is the second of three courses in calculus-based general physics, serving students majoring in engineering, chemistry, physics, mathematics and other sciences. (C-ID PHYS 210 and PHYS 200S when combined with PHYS 004A & PHYS 004C)

Lecture Hours: 4 Lab Hours: 3 Repeatable: No Grading: L

Prerequisite: PHYS 004A, MATH 071, and MATH 072 with C or better

Recommended: Concurrent enrollment in MATH 073.

Advisory Level: Read: 3 Write: 3 Math: 7

Transfer Status: CSU/UC Degree Applicable: AA/AS

CSU GE: B1, B3 IGETC: 5A, 5C District GE: B1, B3

PHYS 004C General Physics 5 Units

Students are introduced to general principles of optics and thermodynamics at a calculus-based level. This is one of three courses in calculus-based general physics, serving students majoring in engineering, chemistry, physics, mathematics and other sciences. Several technological applications of these principles are discussed. Topics include waves, geometric optics, wave optics (including interference, diffraction, and polarization), heat, thermal properties of matter, thermodynamics and its laws. Other topics include special relativity and modern physics. A problem solving approach is used, emphasizing both conceptual understanding and basic mathematical modeling. (C-ID PHYS 215 and PHYS 200S when combined with PHYS 004A & PHYS 004B)

Lecture Hours: 4 Lab Hours: 3 Repeatable: No Grading: L

Prerequisite: PHYS 004A, MATH 071, and MATH 072 with a C or better.

Recommended: Concurrent enrollment in MATH 073.

Advisory Level: Read: 3 Write: 3 Math: 7

Transfer Status: CSU/UC Degree Applicable: AA/AS

CSU GE: B1, B3 IGETC: 5A, 5C District GE: B1, B3

PHYS 098 Directed Study in Physics 0.5-9 Units

Individual or small groups of students, with previous course work in the discipline, who would benefit from independent study under the direction of faculty members in specific or related disciplines may develop individualized learning contracts designed to enhance their individual instructional programs. Student must identify with the faculty member objectives for learning. Student must complete the written objectives, readings, writings, research, portfolio, and/or papers to meet the objective. Instructions and the Learning Contract forms are available in the Division Office. Repeatable to a maximum of 9 units across all disciplines.

Lecture Hours: None Lab Hours: 2.07 Repeatable: Yes Grading: L

Prerequisite: PHYS 002A or PHYS 004A; all with C or better

Advisory Level: Read: 4 Write: 4 Math: 3

Transfer Status: CSU Degree Applicable: AA/AS

CSU GE: None IGETC: None District GE: None