

# PHYSICS

## PHYSICS (PHYS)

DIVISION: Natural Sciences

### PHYS 002A GENERAL PHYSICS I: MECHANICS AND THERMAL PHYSICS

#### 4 unit

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

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

**Prerequisite(s):** *Intermediate Algebra or placement into any Math course numbered 001-099*

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 II: ELECTROMAGNETISM, OPTICS, AND MODERN 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 limitations. See counselor.*

*C-ID: PHYS 205*

**Prerequisite(s):** *Enrollment in or completion of MATH 005B or MATH 005BH*

**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 limitations. See counselor.*

*C-ID: PHYS 210*

**Prerequisite(s):** *1) PHYS 008A and 2) enrollment in or completion of MATH 005C or MATH 005CH*

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.*

*C-ID: PHYS 215*

**Prerequisite(s):** *1) PHYS 008B and 2) MATH 005C or MATH 005CH and 3) enrollment in or completion of MATH 055 or MATH 055H*

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*

### PHYS 010 DESCRIPTIVE INTRODUCTION TO PHYSICS

#### 3 unit

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

**Prerequisite(s):** *Intermediate Algebra or placement into any Math class numbered 001-099*

Exploration of the basic principles of physics and their applications in modern life with a mostly conceptual approach. No credit if taken after any other college physics. Total of 54 hours lecture.

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

### PHYS 010L DESCRIPTIVE PHYSICS IN THE LABORATORY

#### 1 unit

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

**Prerequisite(s):** *Enrollment in or completion of PHYS 010*

Laboratory investigations of physical principles with a minimum of mathematical emphasis. Total of 54 hours laboratory.

**Grade Mode:** *Audit, Letter Grade*

### PHYS 020 INDEPENDENT STUDY

#### 2 unit

*Transfer Credit: CSU*

**Prerequisite(s):** *Enrollment in or completion of any college physics course*

Faculty-guided student research. Each topic includes library research, design and execution of the experiments and the preparation of a summary research report. Total of 108 hours laboratory.

**Grade Mode:** *Audit, Letter Grade*

### PHYS 031A CALCULUS-BASED COLLEGE PHYSICS I

#### 5 unit

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

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

Classical mechanics and thermal physics with calculus. For life sciences majors but is open to all qualified students. Total of 72 hours lecture and 72 hours laboratory.

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

**PHYS 031B CALCULUS-BASED COLLEGE PHYSICS II**

**5 unit**

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

**Prerequisite(s):** *PHYS 031A and either MATH 005B or MATH 005BH*

**Recommended Preparation:** *Enrollment in or completion of MATH 005C or MATH 005CH*

Electricity and magnetism, optics, and modern physics. For life sciences majors but is open to all qualified students. Total of 72 hours lecture and 72 hours laboratory.

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

**PHYS 108 INTRODUCTORY PHYSICS FOR SCIENTISTS AND ENGINEERS**

**2 unit**

**Recommended Preparation:** *MATH 008 or MATH 009, or equivalent*

Introduction to physics with emphasis on conceptual understanding as well as quantitative calculations. For science and engineering majors needing preparation for PHYS 008A, but open to all qualified students.

Pass/no pass grading. Total of 36 hours lecture.

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