

# PHYSICS (PH)

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## PH 2130 Physics I (4 Credits)

Introduction to classical physics. Topics include: kinematics, dynamics. Emphasis on application of theory and problem-solving. Laboratory. Additional course fee required. Falls.

## PH 2140 Physics II (4 Credits)

Introduction to classical physics. Topics include: fluids, thermodynamics, waves, electricity, magnetism. Emphasis on application of theory and problem-solving. Laboratory. Additional course fee required. Springs. Prerequisite(s): PH 2130.

## PH 2330 Astronomy Laboratory (1 Credit)

Supplements PHDI 2300 by reinforcing concepts through observational activities. These activities include naked-eye observations, computer simulations, and data reduction methods used by past and present astronomers. Additional course fee required. Falls and Springs. Corequisite(s): PHDI 2300.

## PH 2410 University Physics I (3 Credits)

A traditional calculus-based introductory survey of general physics. Intended primarily for majors in the physical sciences and mathematics. Emphasis on the mathematical development of the subject and on the acquisition of problem-solving skills. Topics include: mechanics, rotational motion, thermodynamics. Falls. Prerequisite(s): MA 2550 or MA 2490 (may be taken concurrently). Corequisite(s): PH 2430.

## PH 2420 University Physics II (3 Credits)

Second semester of calculus-based general physics survey. Topics include: gravitation, fluids, periodic and wave motion, acoustics, electricity, and magnetism. Springs. Prerequisite(s): PH 2410. Corequisite(s): PH 2440.

## PH 2430 University Physics Laboratory I (1 Credit)

Laboratory techniques and experience are designed to enable students to do experiments at an introductory level. Concepts presented in PH 2410 are used and illustrated. Additional course fee required. Falls. Corequisite(s): PH 2410.

## PH 2440 University Physics Laboratory II (1 Credit)

Laboratory techniques and experience are designed to enable students to do experiments at an introductory level. Concepts presented in PH 2420 are used and illustrated. Additional course fee required. Springs. Corequisite(s): PH 2420.

## PH 3130 Mechanics (4 Credits)

Classical mechanics of particles, rigid bodies, systems, and continuous media. Topics include: 1, 2, and 3-dimensional particle motion, rigid body rotation, fluid dynamics and Lagrangian and Hamiltonian formulations. Emphasis on application of theory including numerical techniques. Recitation session devoted to problem-solving. Spring of odd years. Prerequisite(s): PH 2420 and MA 2560.

## PH 3520 Modern Physics (4 Credits)

Survey of modern physics including: historical development of theories of the nature of matter and radiation, relativity, atomic and nuclear structure, quantum mechanics and particles. Emphasis on the application of theory and problem-solving. Falls. Prerequisite(s): PH 2420 and MA 2560.

## PH 3900 Special Topics in Physics (1-4 Credits)

Students can pursue subjects of interest in Physics, augmenting the material covered in the introductory courses. Credit varies with amount of material covered. The course must be set up with the instructor before registration. Prerequisite(s): (PH 2130 and PH 2140) or (PH 2410 and PH 2420).

## PH 4910 Independent Study (1-4 Credits)

Ordinarily for natural science majors. Studies undertaken are defined by the students concerned, subject to approval by appropriate staff members. Work may involve reading, conferences, historical, experimental or theoretical projects, field investigations, statistical surveys or combinations of the foregoing. Consent required of the instructor who will supervise the independent study and the Department Chair.