

PHYSICS (PHYS)

PHYS 108. Introductory Astronomy. (4 Credits)

This course includes the scientific and historical foundations of astronomy, solar system mechanics, Earth's seasons and sky motions, life-cycles of stars, life-cycles of galaxies, life-cycles of solar systems, cosmology, and space exploration. Competency in basic algebra and trigonometry will be expected.

PHYS 151. General Physics I. (4 Credits)

This introductory course includes classical mechanics, mechanical waves, sound, and fluids. It involves the use of algebra and trigonometry, and emphasizes both numerical problem-solving and building logical arguments based on physics concepts. Note: Advisor placement, satisfactory performance on the physics placement exam, or completion of MATH 128 with a C- or better is required.

Prerequisites: (MATH 128, 128 or minimum score of 150 in 'Physics Content').

PHYS 152. General Physics II. (4 Credits)

This course is a continuation of PHYS 151 and includes classical electricity and magnetism, electric current and circuits, light waves, geometric optics, and the atom.

Prerequisites: (PHYS 151 or 171).

PHYS 171. University Physics I. (4 Credits)

This course is a calculus-based introductory course in physics that includes classical mechanics, mechanical waves, and sound. It involves the use of algebra, trigonometry, derivatives, and integrals. Both numerical problem-solving and building logical arguments based on physics concepts are emphasized.

Prerequisites: (MATH 201 or 201).

PHYS 172. University Physics II. (4 Credits)

This course is a calculus-based continuation of PHYS 171 and includes classical electricity and magnetism, electric current and circuits, light waves, geometric optics, and the atom.

Prerequisites: PHYS 171 or (PHYS 151 and MATH 201).

PHYS 275. Modern Physics. (3 Credits)

This course examines the discoveries and historic experiments of the early twentieth century that led to the development of two of the pillars of modern physics—the theory of special relativity and quantum mechanics.

This course emphasizes an evidence-based view of modern physics, as well as a basic overview of the theoretical tools of special relativity and quantum mechanics. It is a part of the Great Texts Pathway. Texts for this course will include Relativity-The Special and General Theory by Albert Einstein and excerpts from the Bohr–Einstein debates. Additional texts may be covered as well. Note: Completion of PHYS 152 or 172 with a C- or better or consent of the instructor is required.

Prerequisites: (PHYS 152 or 172).

PHYS 307. Astrophysics. (3 Credits)

This course is a study of the physics of modern astronomy including electromagnetic radiation, telescopic observations, gravitation, and the properties of atoms, planets, stars, black holes, and galaxies.

Prerequisites: (PHYS 152 or 172).

PHYS 499. Undergraduate Research. (1-3 Credits)

This course provides the student the opportunity to work on a research topic under the direction of a member of the physics faculty. The experience must be approved in advance by the Department Chair. Note: Students must have completed 8 credits of physics and have the consent of the instructor prior to enrollment.