**PHYSICS (PHY)**

**PHY 101. Elements of Physics.** 3 Credits.
Students study the basic principles of physics and some important applications. Kinematics, Newton's laws of motion, circular motion, torque, fluid dynamics, electrostatics, circuits, waves, sound and light are studied. This course is suitable for both science and non-science majors. Students who have credit for PHY 110 or PHY 121 may not register for PHY 101.

**Prerequisites:** Take MA 107 minimum grade C- or Math placement score of 3.

**Corequisites:** Take PHY 101L.

**Offered:** Every year, Fall and Spring

**UC:** Natural Sciences

**PHY 101L. Elements of Physics Lab.** 1 Credit.
Lab must be taken with PHY 101. (2 lab hrs.)

**Corequisites:** Take PHY 101.

**Offered:** Every year, Fall and Spring

**UC:** Natural Sciences

**PHY 110. General Physics I.** 3 Credits.
Students consider phenomena that examine the fundamental nature of the physical universe as well as the theories of the nature of the universe. Topics include kinematics and dynamics of motion, momentum, energy and equilibrium of rigid bodies and fluids, and thermal properties of matter. This course uses algebra and trigonometry. This course is designed primarily for science majors.

**Prerequisites:** Take MA 107; minimum grade C- or Math placement score of 3.

**Corequisites:** Take PHY 110L.

**Offered:** Every year, Fall and Summer

**UC:** Natural Sciences

**PHY 110L. General Physics I Lab.** 1 Credit.
Lab must be taken with PHY 110. (2 lab hrs.)

**Corequisites:** Take PHY 110.

**Offered:** Every year, Fall and Summer

**UC:** Natural Sciences

**PHY 111. General Physics II.** 3 Credits.
Students continue the examination of physical phenomena including vibrations and waves, sound, light, optics, electricity and magnetism including D.C. and A.C. circuits, and some elements of modern physics. This course uses algebra and trigonometry. Must be taken in conjunction with PHY 111L. This course is designed primarily for science majors.

**Prerequisites:** Take PHY 110, PHY 110L, Minimum grade C-.

**Corequisites:** Take PHY 111L.

**Offered:** Every year, Spring and Summer

**UC:** Natural Sciences

**PHY 111L. General Physics II Lab.** 1 Credit.
Lab must be taken with PHY 111. (2 lab hrs.)

**Corequisites:** Take PHY 111.

**Offered:** Every year, Spring and Summer

**UC:** Natural Sciences

**PHY 121. University Physics.** 4 Credits.
Students use calculus to examine classical Newtonian mechanics in an integrated lecture and laboratory classroom. Through experimentation, computer modeling and group problem-solving, students apply physics principles to predict the outcome of a number of reality-based and open-ended problems. Topics include kinematics, Newton's laws, conservation of energy and momentum, torque, and equilibrium of static bodies and fluids. (6 studio-lab hrs.)

**Prerequisites:** Take MA 141 or MA 151; Minimum grade C-.

**Offered:** Every year, Fall and Spring

**UC:** Natural Sciences

**PHY 122. University Physics II.** 4 Credits.
Students use calculus to examine classical electromagnetism in an integrated lecture and laboratory classroom. Through experimentation, computer modeling, and group problem-solving, students apply physics principles to predict the outcome of reality-based and open-ended problems. Topics include electrostatics, magnetostatics, dc circuits, Maxwell's equations, and electromagnetic radiation. (6 studio-lab hrs.)

**Prerequisites:** Take PHY 121; Minimum grade C-.

**Offered:** Every year, Fall and Spring

**UC:** Natural Sciences

**PHY 202. Physics of Life and Technology.** 4 Credits.
Students study the basic principles of physics including everyday applications and their use in applied technology. Topics include Newton's Laws of Motion and Gravity, torque, sound, light and optics, electricity and magnetism. These principles are examined through the study of roller coasters, space travel, musical instruments, the mechanics of muscle movements, sports and sport technology, the circuitry of the human brain, medical imaging using light and sound, optics of the human eye, lasers and elementary circuits. Enrollment in this course is restricted to students in the Online Bachelor of Science in Health Science Studies degree completion program. Students may not receive credit for PHY 202 if they already have credit for PHY 101 or PHY 110.

**Prerequisites:** Basic algebraic skills; MA 107 or MA 110 or higher; or a Math placement score of 3 or higher.

**Offered:** As needed