

**Central Ohio Technical College**  
**Course Description Listing – General Education Courses – Natural Sciences – Physics Courses**  
**2009-2010 Academic Year**

**ALL STUDENTS MUST TAKE PLACEMENT TESTS PRIOR TO SCHEDULING THE FIRST COMMUNICATIONS OR MATHEMATICS COURSE.**

**PHY-1721 General Physics**

5 credit hours, 6 contact hours (4 hours lecture and 2 hours lab). Prerequisite: Grade C (2.00) or better in MTH-1210. Course is graded A-E.

Fundamental concepts of measurement, force, motion, dynamics, energy, friction, temperature scales, effects of heat on matter, principles of sound, electricity, magnetism, nature of light and atomic physics. The student will apply many of these principles in the laboratory portion of the course.

**PHY-1726 Physics I - Mechanics**

5 credit hours, 6 contact hours (4 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in MTH-1215 and either MTH-1226 or MTH-1216 (or concurrent). Course is graded A-E.

This algebra-based course presents an experimental and analytical study of Newtonian mechanics, emphasizing one- and two-dimensional kinematics, dynamics, work and energy, conservation theorems, linear and angular momentum, collisions, rotational dynamics, and simple harmonic motion.

**PHY-1727 Physics II - Electricity and Magnetism**

5 credit hours, 6 contact hours (4 hours lecture and 2 hours lab). Prerequisite: Grade of C (2.00) or better in PHY-1726. Course is graded A-E.

This algebra-based course presents an experimental and analytical study of electrostatics, electric fields, DC and AC circuits, magnetism, electromagnetic induction, electromagnetic waves, including the laws of Coulomb, Faraday, Gauss, Ampere, and Kirchhoff.

**PHY-1728 Physics III - Heat, Light and Sound**

5 credit hours, 6 contact hours (4 hours lecture and 2 hours lab). Prerequisite: Grade of C (2.00) or better in PHY-1727 or grade of C (2.00) or better in EET-3029. Course is graded A-E.

This algebra-based course presents an experimental and analytical study of the thermal properties of matter, laws of thermodynamics, the kinetic molecular theory, calorimetry, Carnot cycle, heat engines, heat pumps, the nature of light, geometrical and physical optics, as applied to reflection, refraction, polarization, interference, and diffraction, and the nature of sound.