

PHYSICS (PHY)

PHY-120 Introductory Physics (3)

Provides basic work with scientific reasoning and fundamental concepts in classical and modern physics. Provides opportunities for measurements and application of concepts in a lab setting. Arts & Sciences Elective Code: A

Hours per week: 2.0 lecture, 2.0 lab

Prerequisite: Take MAT-102, MAT-707, MAT-716, or a qualifying placement test score.

PHY-162 College Physics I (4)

Emphasizes introductory physics concepts and methods of scientific reasoning. Introduces the structure and properties of matter, descriptions of motion, Newton's Laws, conservation laws, rotational motion, fluid statics, fluid dynamics and thermodynamics. Arts & Sciences Elective Code: A

Hours per week: 3.0 lecture, 2.0 lab

Prerequisite: Take MAT-102, MAT-708, or a qualifying placement test score.

PHY-172 College Physics II (4)

Continues College Physics I. Includes static and current electricity, electromagnetism, wave motion, optics, atomic and nuclear physics. Integrates applications to the life sciences with material throughout the semester. Arts & Sciences Elective Code: A

Hours per week: 3.0 lecture, 2.0 lab

Prerequisite: Take PHY-162.

PHY-180 Applied Physics I (2)

Introduces the basic science of applied physics for industrial settings. Teaches Newton's law, physics of matter, temperature and heat, fluids and pressures, thermodynamics, and psychometrics. Arts & Sciences Elective Code: B

Hours per week: 1.0 lecture, 2.0 lab

Prerequisite: Take MAT-232.

PHY-190 Physics I (3)

Covers physical concepts needed to understand and practice mechanical engineering technology. Includes measurement and vectors, static equilibrium, torque, uniformly accelerated motion, Newton's laws, friction, work, energy and power, and simple machines. Emphasizes problem solving, teamwork and data collection using PC-based data acquisition equipment. Arts & Sciences Elective Code: B

Hours per week: 2.0 lecture, 2.0 lab

Prerequisite: Take MAT-076 or MAT-607, or qualifying placement test score.

PHY-192 Physics II (3)

Continues Physics I with topics useful to mechanical engineering technology. Includes impulse/momentum, rotational motion, dynamics of rotation, fluids, properties of materials and simple harmonic motion, temperature, matter and heat energy, and introductory thermodynamics.

Emphasizes problem solving, teamwork and data collection using PC-based data acquisition equipment. Arts & Sciences Elective Code: B

Hours per week: 2.0 lecture, 2.0 lab

Prerequisite: Take PHY-190. Take MAT-745.

PHY-212 Classical Physics I (5)

Introduces physics using calculus-level mathematics. Covers vectors, linear and rotational kinematics, statics, dynamics, and oscillatory and wave motion. Arts & Sciences Elective Code: A

Hours per week: 4.0 lecture, 2.0 lab

Prerequisite: Take MAT-210.

PHY-222 Classical Physics II (5)

Continues Classical Physics I. Includes thermodynamics, static and current electricity, electromagnetism, geometric and wave optics, and a brief introduction to modern physics. Arts & Sciences Elective Code: A

Hours per week: 4.0 lecture, 2.0 lab

Prerequisite: Take MAT-216. Take PHY-212

PHY-230 Technical Physics I (3)

Studies the technical applications of motion, force, momentum, statics, work, rotation and simple machines. Emphasizes concepts through laboratory and lecture. Arts & Sciences Elective Code: B

Hours per week: 2.0 lecture, 2.0 lab

Prerequisite: Take MAT-746.

PHY-232 Technical Physics II (3)

Subjects studied include matter, fluids, temperature and heat transfer, properties of gases, wave motion and sound, light, reflection and refraction, color, and modern physics. Concepts are emphasized through laboratory and lecture. Arts & Sciences Elective Code: B

Hours per week: 2.0 lecture, 2.0 lab

Prerequisite: Take PHY-230.

PHY-924 Honors Project (1)

Allows a qualified honors student to pursue a special concentration of study under the guidance of a faculty member. Requires completion of an honors project contract. May be taken more than once. Arts & Sciences Elective Code: A; Comments: Permission of instructor and dean

Hours per week: 1.0 lecture