Physics (PHYS)

Courses

PHYS 130 College Physics I* (5 Hours)
Prerequisites: MATH 171 or placement scores

In this introductory course for pre-professional and general education, students will learn the fundamentals of selected areas of classical physics. Using the tools of algebra and trigonometry, the course develops the topics of kinematics, mechanics, fluid mechanics, thermal energy and thermodynamics, and concludes with waves. The two-semester PHYS 130/131 sequence is designed to meet the requirements of area pre-professional programs. This is a transfer course that meets the college's requirements for associate's degree programs and also meets transfer requirements of area colleges and universities. This course does not normally fulfill the requirement of engineering programs. The course includes an integrated laboratory component the completion of which is a necessary part of the total instructional package. 4 hrs. lecture, 3 hrs. lab/wk.

PHYS 130H HON: General Physics I (1 Hour)
One-credit hour honors contract is available to qualified students who have an interest in a more thorough investigation of a topic related to this subject. An honors contract may incorporate research, a paper, or project and includes individual meetings with a faculty mentor. Student must be currently enrolled in the regular section of the courses or have completed it the previous semester. Contact the Honors Program Office, COM 201, for more information.

PHYS 131 College Physics II* (5 Hours)
Prerequisites: PHYS 130

In this introductory course for pre-professional and general education, students will learn the fundamentals of selected areas of classical physics. Using the tools of algebra and trigonometry, the course develops the topics of electricity and magnetism, waves, light and optics and some elements of modern physics, such as relativity and quantum physics. The two-semester PHYS 130/131 sequence is designed to meet the requirements of area pre-professional programs. This is a transfer course that meets the college's requirements for associate's degree programs and also meets transfer requirements of area colleges and universities. This course does not normally fulfill the requirements of engineering programs. The course includes an integrated laboratory component the completion of which is a necessary part of the total instructional package. 4 hrs. lecture, 3 hrs. lab/wk.

PHYS 133 Applied Physics* (5 Hours)
Prerequisites: MATH 130 or higher passed with a grade of 'C' or higher in the past three years

This is a one-semester, comprehensive physics course intended for students enrolled in the biotechnology certificate program or an associate of applied science degree program. The course will cover all areas of applied physics, including mechanics, heat, thermodynamics, waves, electricity, magnetism, light, optics and some elements of modern physics. Emphasis will be placed on concepts and applications to real-life problems. This course includes an integrated laboratory component the completion of which is a necessary part of the total instructional package. 4 hrs. lecture, 3 hrs. lab/wk.

PHYS 191 Math Physics for Games I* (4 Hours)
Prerequisites: MATH 171 or MATH 173 with grade of C" or higher or appropriate score on math assessment test and GAME 121

This introductory course focuses on the mathematics and physics concepts needed to program a variety of video game scenarios. Students will learn to use vectors and matrix transformations to model the motion of physical objects in two and three dimensions. Students will also learn various computer programming methods in order to model these mathematical and physical concepts. 3 hrs. lecture and 2 hrs. lab/wk.

PHYS 214 Introduction to Teaching Math and Science* (1 Hour)
Prerequisites: MATH 171 with a grade of "C" or higher OR appropriate score on the math assessment test OR BIOL 135 OR (CHEM 124 and CHEM 125) OR PHYS 220

This course allows math and science students to explore and develop an appreciation for teaching as a career. To support their learning, students will be introduced to the theory and practice that is necessary to design and deliver quality instruction. They will plan and implement lessons of an inquiry-based curriculum in an elementary classroom during the semester. MATH 214, ASTR 214, BIOL 214, CHEM 214, GEOS 214, PHYS 214 and PSCI 214 are the same course; enroll in only one. 1 hrs. lecture/wk.

PHYS 220 Engineering Physics I* (5 Hours)
Prerequisites or corequisites: MATH 242

This is an introduction to physics for engineering and science students. Included will be mathematical approaches to the study of mechanics, wave motion and thermodynamics. 4 hrs. lecture, 3 hrs. lab/wk.

PHYS 220H HON: Engineering Physics I (1 Hour)
One-credit hour honors contract is available to qualified students who have an interest in a more thorough investigation of a topic related to this subject. An honors contract may incorporate research, a paper, or project and includes individual meetings with a faculty mentor. Student must be currently enrolled in the regular section of the courses or have completed it the previous semester. Contact the Honors Program Office, COM 201, for more information.

PHYS 221 Engineering Physics II* (5 Hours)
Prerequisites: PHYS 220 and MATH 242

This is an introduction to physics for engineering and science students. Included are mathematical approaches to the study of electricity, magnetism, sound, optics and modern physics. 4 hrs. lecture, 3 hrs. lab/wk.