Physics (PHYS)

Courses

PHYS 100. Concepts of Physics. 4 Credits.
An introduction to the concepts of physics as they apply to everyday life. Ideas are presented with a conceptual rather than mathematical approach.
Typically Offered: Fall, Spring.

PHYS 110. Introductory Astronomy. 4 Credits.
An introductory study of the universe including the solar system, stars, stellar evolution, galaxies, black holes, big bang cosmology, and the expanding universe. Laboratory experiments, visual observations, and telescopic observations are included to reinforce the concepts covered.
Typically Offered: Fall.

PHYS 161. Introductory College Physics I. 4 Credits.
A general physics sequence for those who do not plan to take advanced courses in science. Topics include Newtonian mechanics and gravitation, work and energy, solids and fluids, vibrations and waves, electricity and magnetism, lights and optics. PHYS 161 has no mathematical prerequisite but knowledge of elementary algebra is recommended.
Typically Offered: On sufficient demand.
Same As: PHYS 161/PHYS 211.

PHYS 162. Introductory College Physics II. 4 Credits.
A general physics sequence for those who do not plan to take advanced courses in science. Topics include Newtonian mechanics and gravitation, work and energy, solids and fluids, vibrations and waves, electricity and magnetism, lights and optics.
Typically Offered: On sufficient demand.
Prerequisite: PHYS 161.
Same As: PHYS 162/PHYS 212.

PHYS 199. Special Topics. 1-4 Credits.
Courses not offered in the regular catalog that provide an opportunity to extend student learning.
Typically Offered: On sufficient demand.
Repeatable: Up to 12 Credits.

PHYS 211. College Physics I. 4 Credits.
This non-calculus general physics course is recommended for pre-medical or pre-professional students. Topics: Newtonian mechanics and gravitation, work and energy, solids and fluids, heat and thermodynamics. The laboratory is a component of this course. A student may not receive credit for PHYS 211 and PHYS 212, and also PHYS 161 and PHYS 162.
Typically Offered: Fall.
Prerequisite: a General Education Math class.
Same As: PHYS 161/PHYS 211.

PHYS 212. College Physics II. 4 Credits.
The non-calculus general physics course sequence recommended for pre-medical or preprofessional students. Topics: vibrations and waves, electricity and magnetism, light and optics, and an introduction to modern physics. The laboratory is a component of this course. A student may not receive credit for PHYS 211 and PHYS 212, and also PHYS 161 and PHYS 162.
Typically Offered: Spring.
Prerequisites: PHYS 211.
Same As: PHYS 162/PHYS 212.

PHYS 251. University Physics I. 5 Credits.
A general physics sequence for students majoring in chemistry, physics, or engineering. Topics include Newtonian mechanics and gravitation, work and energy, solids and fluids, heat and thermodynamics, vibrations and waves, electricity and magnetism, light and optics, and an introduction to modern physics. This course includes laboratory.
Typically Offered: Fall, odd years.
Prerequisite: MATH 165.

PHYS 252. University Physics II. 5 Credits.
A general physics sequence for students majoring in chemistry, physics, or engineering. Topics include Newtonian mechanics and gravitation, work and energy, solids and fluids, heat and thermodynamics, vibrations and waves, electricity and magnetism, light and optics, and an introduction to modern physics. This course includes laboratory.
Typically Offered: Spring, even years.
Prerequisites: MATH 166 and PHYS 251.

PHYS 275. Planetarium Science. 0-1 Credits.
Students will learn about the operation and maintenance of the Spitz Space System 512 Planetarium and be able to demonstrate the astronomical principles which this instrument models including star and constellation identification and the planetary analog. They will participate in the production and performance of planetarium shows. This course may be repeated for credit up to 3 semester credit hours.
Typically Offered: Fall, Spring.
Repeatable: Up to 3 Credits.

PHYS 294. Independent Study. 1-3 Credits.
Directed reading, study, and/or activities in selected topics.
Typically Offered: On sufficient demand.
Repeatable: Up to 12 Credits.

PHYS 299. Special Topics. 1-4 Credits.
Courses not offered in the regular catalog that provide an opportunity to extend student learning.
Typically Offered: On sufficient demand.
Repeatable: Up to 12 Credits.

PHYS 376. Embedded Systems. 3 Credits.
A study of micro-controller hardware and software with an emphasis on interfacing the micro-controller with external electronic devices such as transceivers, sensors and actuators for communications and control within an embedded system.
Typically Offered: Spring.
Same As: PHYS 376/SE 376.

PHYS 395. Laboratory Preparation and Management. 1 Credit.
A practicum-like course giving students the opportunity to directly assist the instructor in numerous aspects of laboratory instruction delivery. The course is designed to improve the competency of teaching laboratory by storeroom management, laboratory preparation and operation, evaluation of laboratory, equipment maintenance and repair, safety, classroom demonstrations and related topics. This course may be repeated for credit up to three semester credit hours.
Typically Offered: Fall, Spring.
Repeatable: Up to 3 Credits.

PHYS 399. Special Topics. 1-4 Credits.
Courses not offered in the regular catalog that provide an opportunity to extend student learning.
Typically Offered: On sufficient demand.
Repeatable: Up to 12 Credits.

PHYS 490. Secondary Science Methods and Techniques. 3 Credits.
A course designed to prepare prospective science teachers in the areas of curriculum planning, textbook selection, supplemental teaching aids, laboratory procedures, and in the ordering of equipment and supplies. The course includes laboratory practicum experience.
Typically Offered: Fall.
Prerequisite: Admitted to Teacher Education.

PHYS 494. Undergraduate Research. 3-12 Credits.
The course is designed to integrate subject matter from major coursework and other disciplines into a project that leads to the creation of an original body of knowledge.
Typically Offered: On sufficient demand.
Prerequisite: Junior Standing or Senior Standing.
Repeatable: Up to 12 Credits.

PHYS 497. Internship. 3-12 Credits.
An opportunity for students to apply classroom learning to an on-the-job work experience. Internship must be related to the student's major or minor course of study and may be in any geographic location. Credit is granted in the range of three to twelve hours per semester and may be repeated up to a maximum of 12 credit hours. Application and approval through Career Services.
Typically Offered: Fall, Spring, Summer.
Prerequisites: Junior Standing or Senior Standing and cum GPA of 2.50 or higher.
Grading: S/U only.
Repeatable: Up to 12 Credits.