

# PHYSICS (PH)

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## PH111 Physics in Everyday Life I (4.0 Credits)

An introduction to the basic laws of physics experienced in our everyday environment and in this world of technology. May be taken before or after PH112. 3 hours lecture, 3 hours laboratory.

## PH112 Physics in Everyday Life II (4.0 Credits)

An introduction to the basic laws of physics experienced in our everyday environment and in this world of technology. May be taken before or after PH111. 3 hours lecture, 3 hours laboratory.

## PH115 College Physics I (4.0 Credits)

Fundamental concepts and methods of classical physics, including Newtonian mechanics, electricity, magnetism, thermodynamics, sound and light waves, with an introduction to contemporary physics. Trig-based course. PH115 must be taken before PH116. 3 hours lecture, 3 hours laboratory.

Prerequisite(s): MA110 or math placement or permission of math chairperson.

## PH116 College Physics II (4.0 Credits)

Fundamental concepts and methods of classical physics, including Newtonian mechanics, electricity, magnetism, thermodynamics, sound and light waves, with an introduction to contemporary physics. Trig-based course. 3 hours lecture, 3 hours laboratory.

Prerequisite(s): PH115.

## PH121 University Physics I (4.0 Credits)

Fundamental concepts and methods of classical physics, including Newtonian mechanics, electricity, magnetism, thermodynamics, sound and light waves, with an introduction to contemporary physics. PH121 must be taken before PH122. 3 hours lecture, 3 hours laboratory.

Prerequisite(s): MA115.

## PH122 University Physics II (4.0 Credits)

Fundamental concepts and methods of classical physics, including Newtonian mechanics, electricity, magnetism, thermodynamics, sound and light waves, with an introduction to contemporary physics. 3 hours lecture, 3 hours laboratory.

Prerequisite(s): PH121.

## PH315 Topics in Physics (3.0 Credits)

Explore a topic in physics. Lecture and/or lab for 3 or 4 credits. Offered on application.

Prerequisite(s): Approval of instructor.

## PH334 Astronomy & Cosmology (4.0 Credits)

Study of the concepts of astronomy and cosmology. Topics include evolution of our concept of the universe from Ptolemaic beliefs to modern cosmology; space exploration and the instruments through which the wonders of the universe are revealed to us. Laboratory will include outdoor/telescopic observations, weather permitting. 3 hours lecture, 3 hours laboratory.

## PH337 Physics of Meteorology (4.0 Credits)

A study of the physics of meteorology and dynamic nature of our atmosphere, the physical processes that shape weather and climate and the factors that control prediction of the weather. 3 hours lecture, 3 hours laboratory.

## PH370 Research Project (1.0 Credits)

Research project in physics with a physics faculty member. Research areas include x-ray diffraction, x-ray fluorescence spectrometry, optical properties of solids, holography and solid state (condensed matter) physics. One to four semesters, 1–4 credits per semester. Only 8 credits applied to the major. PH370, PH371 taken as a junior; PH470, PH471 taken as a senior. Open to all science majors.

## PH371 Research Project (1.0 Credits)

Research project in physics with a physics faculty member. Research areas include x-ray diffraction, x-ray fluorescence spectrometry, optical properties of solids, holography and solid state (condensed matter) physics. One to four semesters, 1–4 credits per semester. Only 8 credits applied to the major. PH370, PH371 taken as a junior; PH470, PH471 taken as a senior. Open to all science majors.

## PH448 Intern/Externship Program (1.0 Credits)

Students have the opportunity to work in an industrial or research laboratory atmosphere under the direction of a selected scientist. Credit will be determined by the length of the experience. 1 to 4 credits.

## PH470 Research Project (1.0 Credits)

Research project in physics with a physics faculty member. Research areas include x-ray diffraction, x-ray fluorescence spectrometry, optical properties of solids, holography and solid state (condensed matter) physics. One to four semesters, 1–4 credits per semester. Only 8 credits applied to the major. PH370, PH371 taken as a junior; PH470, PH471 taken as a senior. Open to all science majors.

## PH471 Research in Physics (1.0 Credits)

Research project in physics with a physics faculty member. Research areas include x-ray diffraction, x-ray fluorescence spectrometry, optical properties of solids, holography and solid state (condensed matter) physics. One to four semesters, 1–4 credits per semester. Only 8 credits applied to the major. PH370, 371 taken as a junior; PH470,471 taken as a senior. Open to all science majors.