

# PHYS - Physics

Global Citizenship Program Knowledge Areas (....)	
ARTS	Arts Appreciation
GLBL	Global Understanding
PNW	Physical & Natural World
QL	Quantitative Literacy
ROC	Roots of Cultures
SSHB	Social Systems & Human Behavior

Global Citizenship Program Skill Areas (....)	
CRI	Critical Thinking
ETH	Ethical Reasoning
INTC	Intercultural Competence
OCOM	Oral Communication
WCOM	Written Communication
** Course fulfills two skill areas	

## PHYS 1710 College Physics I (3) PHYS 1711 College Physics I: Lab (1)

An introduction to physics using an algebra-based approach to explore the fundamental laws of nature. Topics covered include: kinematics, mechanics, forces, circular motion, energy, momentum, oscillations, and sound waves. This course will focus on developing problem solving skills and strategies applicable to a wide range of scientific problems. Laboratory required. Offered in the fall semester. **Prerequisites:** MATH 1430 or permission of the instructor. **Co-requisites:** PHYS 1710 and PHYS 1711 must be taken concurrently.

## PHYS 1720 College Physics II (3) PHYS 1721 College Physics II: Lab (1)

Continues and builds on PHYS 1710 and PHYS 1711 using an algebra-based approach to explore the fundamental laws of nature. Topics covered include: voltage, resistance, direct and alternating currents, DC electrical circuits, magnetism, light, optics, lenses, and wave interference and diffraction. This course will focus on developing problem solving skills and strategies applicable to a wide range of scientific problems. Laboratory required. Offered in the spring semester. **Prerequisites:** PHYS 1710 permission of the instructor. **Co-requisites:** PHYS 1720 and PHYS 1721 must be taken concurrently.

## PHYS 2030 University Physics I (3) PHYS 2031 University Physics I: Lab (1)

An introduction to physics using a calculus-based approach to explore the fundamental laws of nature. Topics covered include: vectors, kinematics, mechanics, dynamics, forces, torque, circular motion, energy, momentum, oscillations, harmonic motion, and sound waves. This course is mathematically intensive and focuses on developing problem solving skills and strategies. Laboratory required. Offered in the fall semester. **Prerequisites:**

MATH 1610 or permission of the instructor. **Co-requisites:** PHYS 2030 and PHYS 2031 must be taken concurrently.

## PHYS 2040 University Physics II (3) PHYS 2041 University Physics II: Lab (1)

Continues and builds on PHYS 2030 and PHYS 2031 using a calculus-based approach to explore the fundamental laws of nature. Topics covered include: voltage, resistance, direct and alternating currents, AC/DC electrical circuits, magnetism and electromagnetism, electric and magnetic fields, light, optics, wave interference and diffraction, and atomic spectroscopy. This course is mathematically intensive and focuses on developing problem solving skills and strategies. Laboratory required. Offered in the spring semester. **Prerequisites:** PHYS 2030 or permission of the instructor. **Co-requisites:** PHYS 2040 and PHYS 2041 must be taken concurrently.

## PHYS 4700 Independent Research in Physics I (1-4)

A specialized course for students working on an independent, research-oriented project in a topic of current interest. Students should select among the equivalent courses BIOL 4700/CHEM 4700/PHYS 4700 for the one that is most consistent with their chosen project. For PHYS 4700, the topic should have a primary basis in physics. Also offered during the summer term. May be repeated once for credit if content differs. **Prerequisite:** Permission of the instructor.

## PHYS 4710 Independent Research in Physics II (1-4)

A specialized course for students working on an independent, research-oriented project in a topic of current interest. Students should select among the equivalent courses BIOL 4710/CHEM 4710/PHYS 4710 for the one that is most consistent with their chosen project. For PHYS 4710, the topic should have a primary basis in physics. Also offered during the summer term. May be repeated once for credit if content differs. **Prerequisite:** Permission of the instructor.