

PHYSICS (PHYS)

About the program

Physics is the study of the fundamental processes of nature, including motion, light, heat, and matter. Physics employs theoretical models involving force, momentum, energy, fields, waves, and particles to describe nature and through mathematics formulate precisely testable, quantitative predictions. Physics is an experimental science where all theories are subject to independently repeated, quantitative verification based on data from carefully designed experiments.

The associate in science in physics for transfer degree provides a student with the general introductory requirements for transferring to a CSU or other four-year school to earn a degree in physics, applied physics, or astronomy. As well, this degree is a good fit for students intending to pursue engineering. This program includes twelve units of physics course work and three semesters of calculus. For students intending to pursue astronomy it is highly recommended to select a course in astronomy as the elective for this degree.

Degrees/Certificates within this Program:

- Associate in Arts Degree for Transfer, Physics

Transfer Opportunities

Learn more about transferring with an Associate Degree for Transfer at www.adegreewithaguarantee.com and www.redwoods.edu/transfer

For more information

- Counseling & Advising, 707-476-4150

Associate in Science in Physics for Transfer

	Units	CSU GE	IGETC Area	C-ID Descriptor
Required Core	24.0			
PHYS 4A* Calculus Based Physics: Mechanics	4.0	B1, B3	5A, 5C	PHYS 205
PHYS 4B Calculus Based Physics: Electricity and Magnetism	4.0			PHYS 210
PHYS 4C Calculus Based Physics: Heat, Optics, Waves, and Modern Physics	4.0			PHYS 215
MATH 50A* Differential Calculus	4.0	B4	2A	MATH 210
MATH 50B Integral Calculus	4.0			MATH 220
MATH 50C Multivariable Calculus	4.0			MATH 230
Total Units for the Major:	24.0			
General Education (CSU GE or IGETC) units:		39.0	37.0	
Elective (UC or CSU Transferable) units:		as needed to complete 60 units total		
Total Degree Units (maximum):		60.0	60.0	

* Course may be double counted toward General Education.

Suggested Program Sequence

For information about the program length and suggested sequence of courses for this degree, please see an Academic Advisor.

Program Learning Outcomes

- Apply methods of scientific inquiry to investigate questions, and explain the limitations of this approach.
- Perform experiments, collect and analyze data, evaluate sources of uncertainty, and determine if an experiment correctly verifies theory within expected errors.
- Use concepts from physics theories to analyze and describe natural phenomena.
- Use physical laws, theories, and appropriate mathematics to make quantitative predictions.