

# PHYSICS, ASSOCIATE IN SCIENCE DEGREE FOR TRANSFER

**Banner Code:** 3\_AST\_PHYS  
**Financial Aid Eligible**

Physics is an attempt to understand natural phenomena, and is fundamental to related fields such as astronomy, biology, chemistry, geology and engineering. The goal of the physics program is to develop students' understanding and analysis of the physical world through mathematical techniques involving qualitative and quantitative reasoning. It is strongly recommended that all physics majors take a course in linear algebra and differential equations such as MATH C285 in addition to the degree requirements, but this cannot be included as a requirement due to unit limitations.

Associate Degrees for Transfer (AA-T or AS-T) are open to all Coastline students. Students who do not plan on transferring to a California State University school should consult their Counselor regarding the benefits of an AA-T/AS-T degree based on their goals. Students earning an AA-T or AS-T and intending on transferring to a California State University school receive transfer admission benefits for specific majors at many California State University campuses. Visit the Transfer Information (<https://catalog.cccd.edu/coastline/transfer-information/>) catalog page for more information.

## Program Level Student Learning Outcomes

Upon completion of this program, students will be able to:

1. Identify and describe major concepts and theoretical principles as applied to physics.
2. Apply appropriate physical laws and mathematical techniques to analyze various physical situations.
3. Perform various scientific experiments and to analyze data to check agreement with theoretical predictions.

## Associate Degree for Transfer Requirements

1. Minimum of 60 CSU-transferable semester units. A minimum of 12 units must be in residence within Coast Colleges (Coastline College, Golden West College, and/or Orange Coast College).
2. Minimum grade point average (GPA) of at least 2.0 in all CSU-transferable coursework.
3. Completion of a minimum of 18 semester units in an Associate Degree for Transfer major as detailed in the catalog.
4. Certified Completion of the California State University General Education-Breadth pattern (CSU GE Breadth - Coastline's Option 2 General Education pattern), OR the Intersegmental General Education Transfer Curriculum (IGETC - Coastline Option 3 General Education pattern).

## Requirements for the Degree

Course	Title	Units
<b>Required Core</b>		
Complete the following:		
PHYS C185	Calculus Based Physics: Mechanics	4
PHYS C280	Calculus Based Physics: Electricity and Magnetism	4
PHYS C285	Calculus Based Physics: Modern Physics	4
MATH C180	Calculus 1	5
MATH C185	Calculus 2	5
MATH C280	Calculus 3	5
Units Required for Major		27
CSU General Education or IGETC pattern		37-39
Transfer Electives as needed to reach 60 transferable units		Varies
<b>Total Units</b>		<b>60</b>