

# PHYSICS, ASSOCIATE IN SCIENCE FOR TRANSFER

Physics is the science of understanding that which is around us. It spawns from the questions posed by ancient philosophers seeking to understand their existence. Physics ultimately utilizes mathematics, observations, and logic to coherently model the natural phenomena that we encounter daily; from something as simple as how an object falls to something as complex as the ongoing expansion of the Universe. Physics imbues us with the ability to know what happens next, given the parameters and intricacies of a system. This, in turn, allows us to devise and develop technologies that utilize our knowledge and propel us as a people into the future.

The Associate in Science in Physics for Transfer degree (AS-T in Physics) is intended for students who plan to complete a bachelor's degree in a "similar" major at a CSU campus. For a current list of what majors (and what options or areas of emphasis within that major) have been designated as "similar" to this degree at each CSU campus, please refer to CSU's Associate Degree for Transfer Major and Campus Search (<https://www.calstate.edu/apply/transfer/Pages/associate-degree-for-transfer-major-and-campus-search.aspx>) and seek guidance from an Oxnard College counselor. Students completing this degree are guaranteed admission to the CSU system, although not necessarily to a particular CSU campus or major.

To earn an AS-T in Physics, students must:

1. Complete a minimum of 60 CSU-transferable semester units including both of the following:
  - a. Certified completion of the Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education Breadth (CSU GE-Breadth) requirements.
  - b. A minimum of 30 semester units in the Physics major as listed in the Oxnard College catalog.
2. Obtain a minimum grade point average (GPA) of 2.0 in all CSU-transferable coursework. While a minimum of 2.0 is required for admission, some majors may require a higher GPA. Please consult with a counselor for more information.
3. Obtain a grade of "C" or better or "P" in all courses required in the major. Even though a "pass-no-pass" is allowed (Title 5 section 55063), it is highly recommended that students complete their major courses with a letter grade.
4. Complete requirements in residency. For students in the Ventura County Community College District, a minimum of 12 units must be completed in residence at the college granting the degree.

Students transferring to a CSU campus that accepts the Mathematics AS-T will be required to complete no more than 60 units after transfer to earn a bachelor's degree (unless the major is a designated "high-unit" major at a particular campus). This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system. Students should consult with a counselor when planning to complete the degree for more information on university admission and transfer requirements.

Course ID	Title	Units/ Hours
<b>Required Core Courses</b>		<b>15</b>
PHYS R131	Physics for Scientists and Engineers 1	

PHYS R132	Physics for Scientists and Engineers 2	
PHYS R133	Physics for Scientists and Engineers 3	
<b>Required Mathematics Courses</b>		<b>15</b>
MATH R120	Calculus with Analytic Geometry I	
MATH R121	Calculus with Analytic Geometry II	
MATH R122	Calculus with Analytic Geometry III	
<b>Total Required Major Units</b>		<b>30</b>
IGETC Pattern		37
Double-Counted Units		-7
Free Electives Required		0
<b>Total Units Required for AS-T Degree</b>		<b>60</b>

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

- Apply the fundamental principles of physics to solve quantitative problems involving physical systems given certain parameters.
- Appropriately utilize physics equipment and the skills needed to gather and analyze data pertaining to physical systems.
- Extract information from graphs containing relations between physical quantities and use it to draw conclusions pertaining to the given system.
- Interpret and develop diagrams depicting physical systems and use them to draw conclusions, formulate mathematical representations, and solve for unknown quantities.
- Utilize communication skills (e.g. written, oral, web-based) to effectively report observational results and conclusions based on these results.