

# PHYSICS 2.0, ASSOCIATE IN SCIENCE FOR TRANSFER

The Associate in Science for Transfer in Physics 2.0 is intended for students who plan to complete a bachelor's degree in Physics or Physics Education at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular CSU campus or major. At the completion of this program, students will have achieved mastery of the program's student learning outcomes.

Each CSU campus determines which of its degrees are "similar" to the Associate in Science in Physics for Transfer. For a current list of the majors (and the options, areas of emphasis, or concentration within those majors) that 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 webpage. Students are also strongly encouraged to obtain guidance from a Ventura College counselor or the University Transfer Center.

To earn an Associate in Science in Physics 2.0 for Transfer at Ventura College, students must meet the following requirements:

- Complete a minimum of 60 CSU-transferable semester units including both of the following:
  - The California General Education Transfer Curriculum (Cal-GETC) requirements.
  - The coursework required for the AS-T in Physics 2.0 as listed in the Ventura College catalog.
- 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 §55062), it is highly recommended that students complete their major courses with a letter grade (A, B, or C).
- Obtain a minimum grade point average (GPA) of at least 2.0 in all CSU-transferable coursework. While a minimum of 2.0 is required for admission, some transfer institutions and majors may require a higher GPA. Please consult with a counselor for more information.
- Complete requirements in residency. For students in the Ventura County Community College District, a minimum of 12 semester units must be completed in residence within the college district.

Course ID	Title	Units/ Hours
<b>Required Core Courses</b>		
PHYS V04 & V04L	Mechanics for Scientists and Engineers and Mechanics Laboratory for Scientists and Engineers	5
PHYS V05 & V05L	Electricity and Magnetism for Scientists and Engineers and Electricity and Magnetism Laboratory for Scientists and Engineers	5
PHYS V06 & V06L	Optics, Heat, and Modern Physics: For Scientists and Engineers and Optics, Heat, and Modern Physics Laboratory for Scientists and Engineers	5
MATH V21A	Calculus I: Early Transcendentals	5

MATH V21B	Calculus II: Early Transcendentals	5
MATH V21C	Multivariable Calculus	5
MATH V23	Introduction to Differential Equations	3
MATH V22	Introduction to Linear Algebra	3

**Required Core Units** 36

## Required Additional Courses

List A: Select one course from the following:

CS V11	Programming Fundamentals	3
CS V13	Object-Oriented Programming	3
CS V30	Beginning C++	3
CS V40	Beginning Java	3

**Required Additional Units** 3

**Total Major Units** 39

## Cal-GETC Pattern

Required Major Units	39
Cal-GETC Pattern	34
Double-Counted Units	(7)
Elective Units	0
<b>Total Units for the A.S. for Transfer Degree</b>	<b>60</b>

**See a counselor or consult [assist.org](https://assist.org), if you plan to transfer to a UC campus or a college or university other than a CSU.**

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

- Demonstrate a working-knowledge of the fundamental principles of classical and modern physics. This requires the understanding and application of terminology, qualitative and quantitative concepts, and foundational physics equations.
- Analyze and solve problems for real and hypothetical physical systems. This requires critical thinking and a systematic approach to construct, execute, and present solutions in logical formats that use appropriate principles, equations, and mathematical methods.
- Setup and execute physics laboratory experiments, collect and analyze appropriate data, draw reasonable conclusions, and effectively summarize experiments and results in a standardized report format.