

# PHYSICS

ASSOCIATE DEGREE &amp; CERTIFICATE PROGRAMS

2023-2024 CATALOG

## DESCRIPTION

The Cuesta College Physics Program engages students in the study of how the physical world works and why materials and objects behave the way they do. Physics students will learn to deduce the underlying principles and laws of nature, and apply those principles and laws to make estimations and predictions. The Cuesta College Physics Program offers two sequences of courses. Physics 205A and 205B are courses in a general, trigonometry-based physics series designed for students who intend to earn professional post-graduate health degrees at medical, pharmacy, or veterinary schools, in addition to students who enroll in architecture and construction technology undergraduate programs. Physics 208A, 208B and 208C are rigorous courses that utilize differential and integral calculus to prepare students for physics, geophysics, science, and engineering undergraduate major programs. Students can earn an A.S. degree in Physics at Cuesta College, preparing them for transfer to four-year institutions or for employment in technical careers.

## ASSOCIATE DEGREE PROGRAMS

Students who complete an [Associate Degree for Transfer \(ADT\)](#) and transfer to a similar major at a CSU are guaranteed a pathway to finish their baccalaureate degrees in 60 semester or 90 quarter units. These degrees require students to meet both of the following requirements: (1) Completion of 60 semester units or 90 quarter units that are eligible for transfer to the California State University, including both of the following: (A) The Intersegmental GE Transfer Curriculum (IGETC) or the California State University GE-Breadth Requirements (CSU GE-Breadth). (B) A minimum of 18 semester units or 27 quarter units in a major or area of emphasis, as determined by the community college district. (2) Obtainment of a minimum grade point average of 2.0.

An [Associate Degree](#), depending on the focus of study, is designed to prepare students for transfer into upper division course work in a bachelor's degree program, or, to prepare students to enter the workforce in a particular vocational field. To qualify for an Associate's Degree, a student must: (1) complete each intraspecific course required for the degree with at least a "C" grade or better, (2) complete all Cuesta College general education, graduation and residency requirements, and (3) achieve an overall grade point average of 2.0 for all courses attempted (major, general education, elective).

## DEGREES, CERTIFICATES & AWARDS

- Associate in Science for Transfer (A.S.-T.)
- Associate in Science (A.S.)

## CAREER OPPORTUNITIES

- Natural Sciences Managers
- Nuclear Equipment Operation Technicians
- Nuclear Monitoring Technicians
- Nuclear Power Reactor Operators
- Physicists
- Physics Teachers, Postsecondary
- Secondary School Teachers, Except Special and Career/Technical Education

## CONTACT

Division Chair: **Bret Clark**  
Building: 2300  
Room: 2300  
Phone: (805) 546-3230

**ASSOCIATE DEGREE FOR TRANSFER PROGRAM**

**Physics** — Associate in Science for Transfer

Students obtaining the Associate in Science in Physics for Transfer degree (AS-T in Physics) will learn the concepts and principles upon which physical knowledge is based, including mechanics, rotational motion, fluids, thermodynamics, waves, electricity and magnetism, relativity, atomic and nuclear physics, and quantum theory. This degree provides students with sufficient understanding of physical concepts, problem solving skills and analytical thought processes to prepare them to transfer into a university level major in Physics.

**Required Courses (29 credits)**

PHYS 208A . . . Principles Of Physics 1 . . . . .	5
PHYS 208B . . . Principles Of Physics 2 . . . . .	5
PHYS 208C . . . Modern Physics . . . . .	4
MATH 265A. . . Calculus I. . . . .	5
MATH 265B. . . Calculus II . . . . .	5
MATH 283 . . . Calculus III: Multivariable Calculus . . . . .	5
<b>Total Credits:</b> . . . . .	<b>29</b>

“P” (Pass) grade is acceptable for major coursework in the Associate Degrees for Transfer. In addition to major preparation course work listed above, completion of the CSU GE or IGETC pattern is mandatory.

Courses completed for the major can also be double counted towards GE, where appropriate. See a counselor for details.

[Click Here For Program Student Learning Outcomes](#)

**TRANSFER PREPARATION**

Courses that fulfill major requirements for an associate degree may differ from those needed to prepare to transfer. Students who plan to transfer to a four-year college or university should schedule an appointment with a Cuesta College counselor to develop a student education plan (SEP) before beginning their program.

**TRANSFER RESOURCES:**

CSU and UC Articulation Agreements and Majors Search Engine:  
[www.ASSIST.org](http://www.ASSIST.org)  
 CSU System Information:  
[www2.calstate.edu](http://www2.calstate.edu)

**FINANCIAL AID**

Paying for the cost of a college education requires a partnership among parents, students and the college. As the cost of higher education continues to rise we want you to know that Cuesta College offers a full array of financial aid programs—grants, work study, scholarships, federal loan programs, and fee waivers. These programs are available to both full-and part-time students who are seeking a degree or certificate. For those who qualify, financial aid is available to help with tuition, fees, books and supplies, food, housing, transportation, and childcare. Please log onto our website for additional information:  
[www.cuesta.edu/student/studentservices/finaid/](http://www.cuesta.edu/student/studentservices/finaid/)

**ASSOCIATE DEGREE PROGRAM**

**Physics** — Associate in Science

The Cuesta College Physics Program engages students in the study of how the physical world works and why materials and objects behave the way they do. Physics students will learn to deduce the underlying principles and laws of nature, and apply those principles and laws to make estimations and predictions. The students completing this degree will have a proficiency in mechanics, fluids, thermodynamics, waves, electric and magnetic forces and fields, relativity, quantum physics, and atomic physics.

**Required Courses (34 credits)**

MATH 265A. . . Calculus I . . . . .	5
MATH 265B. . . Calculus II . . . . .	5
MATH 283. . . . Calculus III: Multivariable Calculus . . . . .	5
MATH 287. . . . Ordinary Differential Equations And Linear Algebra . . .	5
PHYS 208A . . . Principles Of Physics 1 . . . . .	5
PHYS 208B . . . Principles Of Physics 2 . . . . .	5
PHYS 208C . . . Modern Physics . . . . .	4
<b>Total Credits:</b> . . . . .	<b>34</b>

[Click Here For Program Student Learning Outcomes](#)



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