



# Physics AS-T Degree - California State University GE Breadth

The AS-T in Physics provides students with a thorough overview of the field of physics. Students will have demonstrated sufficient understanding in the fields of mechanics, electricity and magnetism, thermodynamics, mechanical and electromagnetic waves, modern physics, scientific methods, and mathematics to successfully transfer to a 4-year institution with a major in physics.

Total Units: 60

## First Year

### Semester 1

14 Units

COURSE	UNITS	PRE-REQS <sup>^</sup>	SEMESTERS OFFERED*	GE AREA
<b>MATH 400</b> <sup>Z</sup> Calculus I	5	MATH 370	F, S	CSU Area B4
<b>CSU Area A1-Oral Communication</b> <sup>Z</sup>	3		F, S, Su	CSU Area A1
<b>CSU Area A2-Written Communication</b> <sup>Z</sup>	3	Recommend meeting with a counselor	F, S, Su	CSU Area A2
<b>CSU Area C1-Arts</b> <sup>Z</sup>	3		F, S, Su	CSU Area C1

<sup>Z</sup> At least one section of this course is offered with free textbooks and is labeled as zero textbook costs (ZTC). If it is a GE area class or elective, there may be several ZTC offerings to fulfill the GE requirement. Use the Free Textbook filter to find these courses. Learn more on the [ZTC page of the college website](#).

### Semester 2

15 Units

COURSE	UNITS	PRE-REQS <sup>^</sup>	SEMESTERS OFFERED*	GE AREA
<b>MATH 401</b> <sup>Z</sup> Calculus II	5	MATH 400	F, S	CSU Area B4
<b>PHYS 411</b> <sup>Z</sup> Mechanics of Solids and Fluids	4	MATH 400	F, S, Su	CSU Area B1 & B3
<b>CSU Area D-Social Science</b> <sup>Z</sup>	3		F, S, Su	CSU Area D
<b>CSU Area A3-Critical Thinking</b> <sup>Z</sup>	3		F, S, Su	CSU Area A3

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## Career

### Options/Outlook:

Physicists with advanced degree conduct research into physical phenomena, develop theories based on observations and experiments and devise methods to apply physical laws and theories. **Career opportunities require more than an associate degree.**

### A sample of reported job titles:

Biophysics Scientist, Health Physicist, Physicist, Research Consultant, Research Physicist, Research Scientist, Scientist

### Projected job openings in California (2020-2030):

560

### Projected growth in California (2020-2030):

36% growth

### Median Salary in California with advanced degree (2021):

\$164,930/yr

# Year 2

## Semester 3

15 Units

COURSE	UNITS	PRE-REQS <sup>^</sup>	SEMESTERS OFFERED*	GE AREA
<b>MATH 402</b> <sup>Z</sup> Calculus III	5	MATH 401	F, S	CSU Area B4
<b>PHYS 421</b> <sup>Z</sup> Electricity and Magnetism	4	MATH 401 & PHYS 411	F, S	CSU Area B1 & B3
<b>CSU Area D-Social Science</b> <sup>1</sup> <sup>Z</sup>	3		F, S, Su	CSU Area D
<b>CSU Area E-Lifelong Learning &amp; Self-Development</b> <sup>Z</sup>	3		F, S, Su	CSU Area E

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<sup>1</sup> Suggestion-select a course that will also meet the CSU Graduation Requirements.

## Semester 4

16 Units

COURSE	UNITS	PRE-REQS <sup>^</sup>	SEMESTERS OFFERED*	GE AREA
<b>PHYS 431</b> <sup>Z</sup> Heat, Waves, Light and Modern Physics	4	MATH 401 & PHYS 411	F, S	CSU Area B1 & B3
<b>CSU Area C2-Humanities</b> <sup>Z</sup>	3		F, S, Su	CSU Area C2
<b>CSU Area C1-Arts or C2-Humanities</b> <sup>Z</sup>	3		F, S, Su	CSU Area C1 or C2
<b>CSU Area F-Ethnic Studies</b> <sup>Z</sup>	3		Check Class Schedule for offerings	CSU Area F
<b>CSU Area B2-Life Science</b> <sup>Z</sup>	3		F, S, Su	CSU Area B2

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<sup>^</sup>You must have passed the prerequisite course(s) with a "C" or better; Corequisite must be taken during the same semester; Advisory means it is recommended but not required to enroll in the course.

\*(O) = online available (P) = partially online

## Source:

<https://www.onetonline.org/link/summary/19-2012.00>

## Transfer notes:

Please meet with a counselor for specific transfer course evaluation or transferring to a specific 4-year institution.

## General Education (GE):

Non-specified GE courses identified by CRC Area, CSU Area or IGETC Area without pre- or co-requisite can be taken at any semester.

## Honors option:

The CRC Honors Program is designed specifically for academically accomplished students and for students with the potential for high achievement. Students who complete 15 units or more in honors-designated courses will earn special recognition as an Honors Scholar, a distinction that may entitle the student to guaranteed transfer and scholarship opportunities at select transfer colleges and universities.

## About this program map:

This program map represents one possible pathway to complete the program. Please see a counselor to create an education plan customized to meet your needs. This map is not a guarantee of course availability or financial aid applicability.

## Zero Textbook Costs (ZTC):

The Zero Textbook Costs designation and logo are added to any course that provides free access to all required instructional materials. These are typically shared with students through Canvas. Courses that are designated as ZTC may still require students to purchase supplemental materials such as lab coats, a calculator,

art supplies, etc. See full definitions and searching tips on the [Zero Textbook Costs](#) page of the college website.

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