



# Physics A.S. Degree - CalGETC

This program 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, the scientific method, mathematics, and chemistry to successfully transfer to a four-year institution with a major in physics.

Total Units: 68

## First Year

### Semester 1

19 Units

COURSE	UNITS	PRE-REQS <sup>^</sup>	SEMESTERS OFFERED*	GE AREA
<b>MATH 400</b> <sup>Z</sup> Calculus I	5	MATH 375, OR MATH 372 AND MATH 373, OR MATH 384	F, S	Cal-GETC Area 2
<b>CHEM 400</b> <sup>Z</sup> General Chemistry I	5	Intermediate Algebra or eligibility for transfer-level mathematics AND CHEM 300 or CHEM 305 or CHEM 309, OR one year of high school chemistry with lab	F, S, Su	Cal-GETC Area 5A & 5C
<b>CalGETC Area 1A-English Composition</b> <sup>Z</sup>	3	Recommend meeting with a counselor	F, S, Su	Cal-GETC Area 1A
<b>CalGETC Area 1C-Oral Communication</b> <sup>Z</sup>	3		F, S, Su	Cal-GETC Area 1C
<b>CalGETC Area 5B-Biological Science</b> <sup>Z</sup>	3		F, S, Su	Cal-GETC Area 5B

## 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%

**Z** 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

17 Units

COURSE	UNITS	PRE-REQS <sup>^</sup>	SEMESTERS OFFERED*	GE AREA
<b>MATH 401</b> <b>Z</b> Calculus II	5	MATH 400	F, S	Cal-GETC Area 2
<b>PHYS 411</b> <b>Z</b> Mechanics of Solids and Fluids	4	MATH 400	F, S, Su	Cal-GETC Area 5A & 5C
<b>CHEM 401</b> <b>Z</b> General Chemistry II	5	CHEM 400	F, S	Cal-GETC Area 5A & 5C
<b>CalGETC Area 1B-Critical Thinking &amp; Composition</b> <b>Z</b>	3		F, S, Su	Cal-GETC Area 1B

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## Year 2

### Semester 3

15 Units

COURSE	UNITS	PRE-REQS <sup>^</sup>	SEMESTERS OFFERED*	GE AREA
<b>MATH 402</b> <b>Z</b> Calculus III	5	MATH 401	F, S	Cal-GETC Area 2
<b>PHYS 421</b> <b>Z</b> Electricity and Magnetism	4	MATH 401 & PHYS 411	F, S	Cal-GETC Area 5A & 5C
<b>CalGETC Area 3A-Arts</b> <b>Z</b>	3		F, S, Su	Cal-GETC Area 3A
<b>CalGETC Area 4-Social &amp; Behavioral Sciences</b> <b>Z</b>	3		F, S, Su	Cal-GETC Area 4

## Median Salary in California (2021):

\$164,930/yr

### 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 or Cal-GETC Area without pre- or co-requisites 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

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## Semester 4

17 Units

COURSE	UNITS	PRE-REQS <sup>^</sup>	SEMESTERS OFFERED*	GE AREA
<b>PHYS 431</b> <b>Z</b> Heat, Waves, Light and Modern Physics	4	MATH 401 & PHYS 411	F, S	Cal-GETC Area 5A & 5C
<b>MATH 420</b> <b>Z</b> Differential Equations	4	MATH 401	F, S	Cal-GETC Area 2
<b>CalGETC Area 3B-Humanities</b> <b>Z</b>	3		F, S, Su	Cal-GETC Area 3B
<b>CalGETC Area 4-Social &amp; Behavioral Sciences</b> <b>Z</b>	3		F, S, Su	Cal-GETC Area 4
<b>CalGETC Area 6-Ethnic Studies</b> <b>Z</b>	3		F, S, Su	Cal-GETC Area 6

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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

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.