



Physics A.S. Degree

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: 60

First Year

Semester 1

16 Units

COURSE	UNITS	PRE-REQS [^]	SEMESTERS OFFERED*	GE AREA
MATH 400 ^Z Calculus I	5	MATH 370	F, S	CRC Area II(b)
CHEM 400 ^Z General Chemistry I	5	Elementary Algebra and CHEM 300, 305, 309 or 1 yr of HS Chem with Lab	F, S, Su	CRC Area IV
CRC Area II(a)-Written Communication ^Z	3	Recommend meeting with a counselor	F, S, Su	CRC Area II(a)
CRC Area I-Humanities ^Z	3		F, S, Su	CRC Area I

^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

15 Units

COURSE	UNITS	PRE-REQS [^]	SEMESTERS OFFERED*	GE AREA
MATH 401 ^Z Calculus II	5	MATH 400	F, S	CRC Area II(b)
PHYS 411 ^Z Mechanics of Solids and Fluids	4	MATH 400	F, S, Su	CRC Area IV
CHEM 401 ^Z General Chemistry II	5	CHEM 400	F, S	CRC Area IV
CRC Area III(a)-Physical Edu Activity ^Z	1		F, S, Su	CRC Area III(a)

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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%

Median Salary in California (2021):

\$164,930/yr

Source:

Textbook filter to find these courses. Learn more on the [ZTC page of the college website](#).

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

Year 2

Semester 3

15 Units

COURSE	UNITS	PRE-REQS^	SEMESTERS OFFERED*	GE AREA
MATH 402 ^Z Calculus III	5	MATH 400	F, S	CRC Area II(b)
PHYS 421 ^Z Electricity and Magnetism	4	MATH 401 & PHYS 411	F, S	CRC Area IV
CRC Area VI-Ethnic/Multicultural Studies ^Z	3		F, S, Su	CRC Area VI
CRC Area III(b)-Life Development Skills ^Z	3		F, S, Su	CRC Area III(b)

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Semester 4

14 Units

COURSE	UNITS	PRE-REQS^	SEMESTERS OFFERED*	GE AREA
PHYS 431 ^Z Heat, Waves, Light and Modern Physics	4	MATH 401 & PHYS 411	F, S	CRC Area IV
MATH 420 ^Z Differential Equations	4	MATH 401	F, S	CRC Area II(b)
CRC Area V(a)-American Institutions ^Z	3		F, S, Su	CRC Area V(a)
CRC Area V(b)-Social & Behavioral Sciences ^Z	3		F, S, Su	CRC Area V(b)

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^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

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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