



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

This AS-T is designed to prepare students for a seamless transfer into the CSU system to complete a baccalaureate degree in Biology or a similar major. This degree is comprised of lower-division coursework typically required by CSU institutions.

**Total Units: 67-73**

## First Year

### Semester 1

18-19 Units

COURSE	UNITS	PRE-REQS <sup>^</sup>	SEMESTERS OFFERED*	GE AREA
<b>CHEM 400</b> <sup>Z</sup> General Chemistry I	5	Elementary Algebra and CHEM 300, 305, 309 or 1 yr of HS Chem with Lab	F, S, Su	CSU Area B1 & B3
<b>MATH 400</b> <sup>Z</sup> Calculus I or	5	MATH 370	F, S	CSU Area B4
<b>MATH 355</b> <sup>Z</sup> Calculus for Biology and Medicine I	4	MATH 335	Check Class Schedule for offering	CSU Area B4
<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 A1-Oral Communication</b> <sup>Z</sup>	3		F, S, Su	CSU Area A1
<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

13-18 Units

COURSE	UNITS	PRE-REQS <sup>^</sup>	SEMESTERS OFFERED*	GE AREA
<b>BIOL 400</b> <sup>Z</sup> Principles of Biology	5	CHEM 400 or 305 and MATH 120; Advisory: Eligibility for ENGWR 300	F, S	CSU Area B2 & B3

## Career Options/Outlook:

Biologists research or study the basic principles of plant and animal life, such as origin, relationship, development, anatomy, and functions. Tasks may include collecting and analyzing biological data about relationships among and between organisms and their environment, preparing technical and research reports, such as environmental impact reports, and communicating the results to individuals in the industry, government, or the general public. **Career opportunities require more than an associate degree.**

## A sample of reported job titles:

Aquatic Biologist, Aquatic Scientist, Biological Scientist, Biologist, Botanist, Horticulturist, Marine Biologist, Research Biologist, Research Scientist, Scientist

## Projected job openings nationally (2020-2030):

1,640

## Projected growth nationally (2020- 2030):

21% growth

COURSE	UNITS	PRE-REQS <sup>^</sup>	SEMESTERS OFFERED*	GE AREA
<b>CHEM 401</b> <sup>Z</sup> General Chemistry II	5	CHEM 400	F, S	CSU Area B1 & B3
<b>CSU Area A3-Critical Thinking</b> <sup>Z</sup>	3		F, S, Su	CSU Area A3
<b>Any Transferable Elective</b> <sup>1</sup>	0-5		F, S	

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<sup>1</sup> Suggestion-MATH 401 Calculus II (5 units); Pre-req: MATH 400; F, S. Units required are determined by the number of units needed to total 60 units for graduation. Refer to [Course Number](#) for the appropriate course level necessary for the degree.

## Year 2

### Semester 3

18 Units

COURSE	UNITS	PRE-REQS <sup>^</sup>	SEMESTERS OFFERED*	GE AREA
<b>BIOL 410</b> <sup>Z</sup> Principles of Botany	5	BIOL 400; Advisory: Eligibility for ENGWR 300	F, S	CSU Area B2 & B3
<b>PHYS 350</b> <sup>Z</sup> General Physics	4	MATH 335	F	CSU Area B1 & B3
<b>CSU Area C2-Humanities</b> <sup>Z</sup>	3		F, S, Su	CSU Area C2
<b>CSU Area D-Social &amp; Behavioral Sciences 1</b> <sup>Z</sup>	3		F, S, Su	CSU Area D
<b>CSU Area D-Social &amp; Behavioral Sciences</b> <sup>1</sup> <sup>Z</sup>	3		F, S, Su	CSU Area D

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<sup>1</sup> A total of 9 units from at least 2 disciplines to satisfy Area D; Suggestion-select a course that will also meet the CSU graduation requirement.

### Semester 4

18 Units

COURSE	UNITS	PRE-REQS <sup>^</sup>	SEMESTERS OFFERED*	GE AREA
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## Median Salary in California with advanced degree (2021):

\$97,260/yr

### Source:

<https://www.onetonline.org/link/summary/19-1020.01>

### 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.

### 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.

### About this map:

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

### Zero Textbook Costs (ZTC):

COURSE	UNITS	PRE-REQS^	SEMESTERS OFFERED*	GE AREA
<b>BIOL 420</b>  Principles of Zoology	5	BIOL 400; Advisory: Eligibility for ENGWR 300	F, S	CSU Area B2 & B3
<b>PHYS 360</b>  General Physics	4	PHYS 350	S	CSU Area B1 & B3
<b>CSU Area C1- Arts or C2- Humanities</b> 	3		F, S, Su	CSU Area C1 or C2
<b>CSU Area E- Lifelong Learning &amp; Self- Development</b> 	3		F, S, Su	CSU Area E
<b>CSU Area F- Ethnic Studies</b> 	3		Check Class Schedule for offering	CSU Area F

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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

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.