

Biology AS-T (CSU for STEM GE Track)

+If you have completed coursework at another college and/or are starting in a semester other than a Fall term, please follow up with the Counseling Department to determine if this sequence is appropriate for your academic and career goals.

Program Description: Biological Sciences covers all aspects of the scientific study of life and emphasizes both the unity and diversity of living things. The structure, function, and behavior of organisms are studied at the molecular, cellular, organismal and ecological levels. The broad course work requirements include biology, chemistry, physics, and mathematics and prepares the student for transfer to four year institutions. The biology program provides diverse course offerings serving two areas: the biology major; and nursing programs and other health professions. [The Student Transfer Achievement Reform Act \(SB 1440\)](#)

If following this map for this Associate Degree for Transfer, a student needs to complete the CSU GE for STEM, which means that within CSU GE Area C, the student only needs at least one 3-unit CSU C1-Art course and at least one 3-unit C2-Humanities course, rather than needing three courses (or 9 units) from Area C. The student also only needs two 3-unit courses from CSU Area D-Social Sciences, rather than needing three courses (or 9 units) from Area D.

Program SLO: Students will be able to interpret, analyze, and evaluate Biological knowledge using the scientific method.

Important Transfer Information: Connect with a counselor to develop an individualized student education plan through the Counseling Department @ <https://www.canyons.edu/counseling> or (661) 362-3288. This sequence listed below, may not meet all your transfer admissions requirements.

Major courses are sequenced and **BOLDED** based on recommendations by the [Department of Biology](#).

First Semester	(3-15 units)		FA = Fall; WI = Winter; SP = Spring; SU = Summer
Course	Title	Units	Major and GE Courses
BIOL 106/106H	Organismal & Environmental Biology (FA, WI, SP, SU)	4	Major Course, Area B2 and B3
*MATH 102	Trigonometry (FA, WI, SP, SU)	4	Prerequisite and Area B4
+CHEM 151/151H	Preparatory Chemistry (FA, WI, SP, SU)	4	Prerequisite, Area B1 and B3
Lifelong Learning	Choose one 3-unit course from the CSU GE Area E category (FA, WI, SP, SU)	3	Area E
Term Totals:		15	

*Based on assessment results

+Students can take Chemistry Diagnostic Exam to place into CHEM 201

Interession I	(16-18 units)		
Course	Title	Units	Major and GE Courses
COMS 105/105H or COMS 120	Fundamentals of Public Speaking <i>or</i> Small Group Communication (FA, WI, SP, SU)	3	Area A1
Term Totals:		3	

Second Semester	(19-35 units)		
Course	Title	Units	Major and GE Courses
CHEM 201/201H	General Chemistry I (FA, WI, SP, SU)	5	Major Course, Area B1 and B3
*MATH 104	Pre-Calculus (FA, SP, SU)	5	Prerequisite
ENGL 101/101H	English Composition (FA, WI, SP, SU)	4	Area A2
American Institutions – Choose Option I or II	Complete first course in chosen option – (note: must take both classes within one option) (FA, WI, SP, SU) – <i>see below</i>	3	American Institutions and Area C2
Term Totals:		17	

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Interession II		(36-40 units)	
Course	Title	Units	Major Prep and GE Courses
*MATH 211	Calculus I (FA, SP, SU)	5	Major Course
Term Totals		5	

Third Semester		(41-57 units)	
Course	Title	Units	Major and GE Courses
CHEM 202	General Chemistry II (FA, SP, SU)	5	Major Course
MATH 212	Calculus II (FA, SP, SU)	5	Corequisite for Physics 221 (or can take beforehand)
++Physics 220 or 110	Mechanics of Solids and Fluids (FA, SP, SU) or General Physics I (FA, SP, SU)	4	Major Course
**Critical Thinking	Choose one course from the CSU GE A3 category (FA, WI, SP, SU)	3	A3
Term Totals		17	

++Physics sequence varies based on transfer school. See a counselor for more information.

**Some CSU's will require a second semester of English Composition.

Interession III		(58-60 units)	
Course	Title	Units	Major and GE Courses
American Institutions	Complete second course in chosen option – (note: must take both classes within one option) (FA, WI, SP, SU)	3	American Institutions and Area D
Term Totals:		3	

Fourth Semester		(61-74 units)	
Course	Title	Units	Major and GE Courses
BIOL 107/107H	Molecular and Cellular Biology	4	Major Course
++Physics 221 or 111	Electricity and Magnetism (FA, WI, SP, SU) or General Physics II (FA, WI, SP, SU)	4	Major Course
Ethnic Studies	Choose one course from CSU GE Area F (FA, WI, SP, SU)	3	Area F
Arts Course	Choose one course from the CSU GE Area C1 (FA, WI, SP, SU)	3	Area C1
Term Totals:		14	

Total Units: 74 units

American Institutions Requirement – Select one of the options below and complete a total of 6 units

Option 1	One course from the following: Economics 170/170H, History 111/111H, History 112/112H, History 120/120H, or History 130 AND Political Science 150/150H (FA, WI, SP, SU)
Option 2	History 111/111H AND History 112/112H (FA, WI, SP, SU)

Counseling Resources

Biology Department: <https://www.canyons.edu/academics/biology/index.php>

CSU General Education Guide:

<https://www.canyons.edu/resources/documents/student-services/counseling/degrees/CSUGE20192020.pdf>

CSU/UC Articulation Agreements: www.assist.org

Cal State University: www.calstate.edu

Degree with a Guarantee: <http://adegreewithaguarantee.com/>

Clubs: Please contact the Biology Department Chair

Career Resources

California Career Zone: <https://www.cacareerzone.org/>

O*Net Online: <https://www.onetonline.org/>

Bureau of Labor and Statistics: www.bls.gov

Professional Associations:

ASM (American Society of Microbiology): <https://www.asm.org/>

ASCB (American Society of Cell Biology): www.ascb.org

APS (American Physiological Society): www.the-aps.org

HAPS (Human Anatomy & Physiology Society): www.hapsweb.org

AESS Association for Environmental Studies and Sciences: aessonline.org/