

# BIOLOGY ASSOCIATE IN SCIENCE FOR TRANSFER DEGREE

The Associate in Science in Biology for Transfer (AS-T) is intended for students who plan to transfer and complete a Bachelor's degree in Biology, or a similar major at a CSU campus. It serves the diverse needs of students who wish to obtain a broad and an in-depth understanding of the field. The Biology Department offers comprehensive and integrative studies in each of the introductory courses of Biology. Courses in Biology prepare students interested in careers in cell biology, genetics, physiology, developmental biology, biotechnology, zoology, botany, microbiology, evolution, ecology, behavior, environmental studies, and the health sciences. The objective of this degree is to delineate a successful career path for our community college students entering the Biology program and to provide opportunities that explore the Biology major. Upon successful completion of the AS-T in Biology, students may be able to enter majors for any of these Biology subfields. Students should consult with a counselor to determine whether this degree is the best option for their transfer goals.

The Associate in Arts for Transfer (AA-T) or the Associate in Science for Transfer (AS-T) is intended for students who plan to complete a bachelor's degree in a similar major at a CSU campus. Students completing these degrees (AA-T or AS-T) are guaranteed admission to the CSU system, but not to a particular campus or major.

To earn a Biology AS-T degree, students must meet the following requirements:

- completion of the following major requirements with grades of C or better;
- completion of 60 CSU transferable semester units with a grade point average of at least 2.0; and
- certified completion of the CSU General Education-Breadth (CSU-GE) for STEM or Intersegmental General Education Transfer Curriculum (IGETC-CSU) for STEM which requires a minimum of 31-33 units.

It is highly recommended that students complete courses that satisfy the U.S. History, Constitution, and American Ideals requirement as part of CSU-GE or IGETC before transferring to a CSU.

Students planning to transfer to a four-year institution and major in Biology should consult with a STEM counselor or general counselor regarding the transfer process and lower division requirements. Completion of CSU GE-Breadth for STEM or (IGETC-CSU) for STEM is required in addition to the major requirements.

Code	Title	Units
<b>Required Courses:</b>		
BIOL 205	Cell and Molecular Biology	4
BIOL 206	Organismal Biology	4
BIOL 207	Evolutionary Ecology	4
<b>List A:</b>		
CHEM 150	General Chemistry I	5
CHEM 151	General Chemistry II	5
MATH 250	Single Variable Calculus I	4

PHYSIC 151	General Physics for the Life Sciences I	4
PHYSIC 152	General Physics for the Life Sciences II	4

Code	Title	Units
<b>Major Total</b>		<b>34</b>
<b>Total Units That May Be Double Counted</b>		<b>9-10</b>
<b>General Education (CSU-GE or IGETC for STEM)</b>		<b>31-33</b>
<b>Elective (CSU Transferable) Units</b>		<b>0-3</b>
<b>Total Units</b>		<b>60</b>

**Use of CSU GE-Breadth for STEM or IGETC for STEM is presumed.**

See Section on Degree, Certificate, and Transfer Information for additional information on the Associate Degrees for Transfer.

To earn an SBVC Associate Degree for Transfer (AA-T or AS-T) students must complete one of the following general education patterns:

CSU GE requirements (<https://www.valleycollege.edu/student-services/counseling/csuge/>)

IGETC requirements (<https://www.valleycollege.edu/student-services/counseling/igetc/>)

## Program Learning Outcomes

**At the completion of this program, students will be able to:**

- In writing, evaluate a claim or research to determine whether it has a basis in non-science, pseudoscience, or science.
- In a written scientific report for a metabolic experiment, introduce the testable hypothesis, articulate the procedures applied, report the appropriate statistical analyses, interpret the results, and discuss uncontrolled variables.
- From a primary scientific article identify a research question, and write a 2-4 page proposal in scientific format introducing research question, background information, and methodologies that test the study question.
- In writing, demonstrate knowledge of organismal biology by relating key evolutionary characteristics of an organism (prokaryote, protist, animal or plant) to the environmental selection pressures encountered at the time of their evolution.
- Demonstrate knowledge of organismal biodiversity by identifying a group of organisms (from lab or field collections) using a combination of taxonomic keys and anatomical observations and organizing them into an appropriate taxonomic classification scheme and reporting the results in a written report.
- In writing, demonstrate knowledge of evolutionary theory by evaluating and justifying whether a claim or statement is biologically valid under the principles of evolution.
- Design and execute an experimental or observational field project. Prepare a scientific written report that includes a working hypothesis, clear description of methodology, narrative of the statistical analyses, and interpretation of the results in relationship to the working hypothesis including a discussion of uncontrolled variables.