

BIOLOGY, ASSOCIATE IN SCIENCE DEGREE FOR TRANSFER

Banner Code: 2_AST_BIOL
Financial Aid Eligible

This Associate in Science degree in General Biology is designed to allow students to study a variety of topics in cell and molecular biology, animal and plant diversity. The coursework prepares students to use the scientific method, critical thinking, and applied reasoning to analyze real world situations. Upon completion, students will be ready for transfer to a four-year institution leading to a degree in biology or disciplines such as microbiology, botany, zoology and careers in teaching.

Program Level Learning Outcomes

Upon completion of this program, students will be able to:

1. Compare different life forms that inhabit earth regarding modes of reproduction, metabolism, and adaptation.
2. Describe the various interrelationships that exist between life forms and also the interactions that occur in different ecosystems on earth.
3. Relate how the theory of evolution unifies the significant principles of biological science.
4. Perform various experiments and activities in biology lab classes, including the proper use of different types of standard biology lab equipment.
5. Apply critical thinking and analytical skills to interpret data.
6. Explain biological concepts, theories, current research or other related topics in the form of lab reports, essays, formal written papers or oral presentations.
7. Explain how biology correlates with other sciences such as chemistry, astronomy, ecology, geology or physics.

Associate Degree for Transfer Graduation Requirements

Associate Degrees for Transfer require students to meet the following requirements:

- Completion of 60 semester units or 90 quarter units of degree-applicable courses,
- Minimum overall grade point average of 2.0,
- Minimum grade of "C" (or "P") for each course in the major, and
- Completion of IGETC and/or CSU GE-Breadth.

Students should consult a GWC counselor in order to select the best pathway to meet their educational goals. For students who intend to transfer, the choice of general education will be specific to both their major and transfer institution.

Course	Title	Units
Required Courses		
<i>Select one of the following:</i>		10-13
Option 1:		

Course	Title	Units
BIOL G180 & BIOL G186	Cell and Molecular Biology and Diversity of Organisms	10
Option 2:		
BIOL G180 & BIOL G182 & BIOL G183	Cell and Molecular Biology and Zoology and Botany	13
List A		
		22
CHEM G180 & CHEM G185	General Chemistry A and General Chemistry B	10
MATH G180	Calculus 1	4
<i>Select one of the following:</i>		
PHYS G120 & PHYS G125	Algebra Based Physics: Mechanics and Algebra Based Physics: Electricity/Magnetism	8
PHYS G185 & PHYS G280	Calculus Based Physics: Mechanics and Calculus Based Physics: Electricity/Magnetism	8
Major Total		32-35
GE Pattern (CSU GE-Breadth or IGETC)*		33-31
Total units that may be double-counted		9-10
Transferable Electives (as needed to reach 60 units)		1-6
Total Units		60

*This Transfer Model Curriculum presumes completion of IGETC or CSU GE Breadth for STEM, allowing for completion of 6 units of non-STEM GE work after transfer.

Recommended Program Sequence

These sequences are general course maps for students to finish all major and general education requirements for two-year completion of degrees, completion of short-term certificates, and/or fulfillment of transfer requirements. However, this may not be an appropriate path for all students. The two-year sequence is based on English and Math placement and meeting other course prerequisites. **Students are advised to meet with a GWC Counselor to review course selections and sequences to ensure that completion of this program will meet a student's transfer and career goals.**

Year 1:

Course	Title	Units
Semester 1		
CHEM G180	General Chemistry A	5
ENGL G100	Freshman Composition ^A	4
Area A1: Oral Communication course		3
Area E: Lifelong Learning & Self-Development course		3
<i>Units</i>		<i>15</i>
Semester 2		
CHEM G185	General Chemistry B	5
MATH G140 or MATH G180	Business Calculus Calculus 1	4
Area A3: Critical Thinking course		3-4

Course	Title	Units
Area C1: Arts course		3
<i>Units</i>		<i>15-16</i>

Year 2:

Course	Title	Units
Semester 3		
BIOL G180	Cell and Molecular Biology	5
PHYS G120	Algebra Based Physics: Mechanics	4
or PHYS G185	Calculus Based Physics: Mechanics	
Area D: Social & Behavioral Science course		3
Area F: Ethnic Studies course		3
<i>Units</i>		<i>15</i>

Course	Title	Units
Semester 4		
BIOL G186	Diversity of Organisms	5
PHYS G125	Algebra Based Physics: Electricity/ Magnetism	4
or PHYS G280	Calculus Based Physics: Electricity/Magnetism	
HIST G170	History Of The United States To 1876 (Area C2: Humanities course)	3
or HIST G175	History of the United States Since 1876	
Area C: Arts & Humanities course		3
Area D: Social & Behavioral Science course		3
<i>Units</i>		<i>18</i>
Total minimum units required		60

[^] Program sequence may not be recommended for students who self-place into ENGL G100S. Students should see a Counselor for appropriate advisement.