

# BIOLOGY - ASSOCIATE IN SCIENCE TRANSFER DEGREE

Plan Code: 5505B/C

This program provides students with a foundation in core principles of biological sciences, including scientific reasoning, cell/molecular biology, principles of genetics, evolution, organismal, and ecology in preparation for transfer to a baccalaureate degree program in biology at a university. Students at the four-year university have the opportunity to pursue a bachelor's degree specializing in areas such as anatomy and physiology, botany, cell and molecular biology, clinical science, ecology, environmental biology, field biology, marine biology, microbiology, organismal biology, or zoology. A bachelor's degree in biology may lead to opportunities in graduate/professional school or careers in research, biotechnology, dentistry, pharmacy, medicine, and veterinary medicine among many other diverse fields.

## Program Student Learning Outcomes

- Demonstrate the ability to attain the Institutional Student Learning Outcomes (ISLOs).
- Utilize the components of the scientific method to evaluate appropriately designed experiments, analyze scientific data to formulate reasonable conclusions, and properly communicate the results.
- Recognize and evaluate the relationship between structure and function at all levels: molecular, cellular, and organismal (morphological, physiological, and developmental).
- Apply ecological and evolutionary concepts to explain the diversity and interrelationships of organisms on earth, including human impact on the biosphere.

## Program Requirements

This degree requires the completion of General Education coursework plus the following:

Code Number	Course Title	Units
<b>REQUIRED CORE COURSES</b>		
BIO 1A	Biology for Science Majors	5
BIO 1B	Biology for Science Majors	5
<b>Subtotal Units</b>		<b>10</b>
IN ADDITION, complete all courses from LIST A:		
LIST A		
CHEM 1A	General Chemistry (5.5)	
CHEM 1B	General Chemistry (5.5)	
MATH 60	First Calculus Course (5)	
PHYS 2A	General Physics (4.5)	
PHYS 2B	General Physics (4.5)	
<b>Subtotal Units</b>		<b>25</b>
<b>Required Subtotal</b>		<b>35</b>
Complete one of the following: <sup>1</sup>		37-39

CSU GE Breadth (Plan B) (<https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-b/>)

IGETC Pattern (Plan C) (<https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-c/>)

Transferable Electives (as needed to reach 60 transferable units) <sup>2</sup>

**Degree Total** **60**

<sup>1</sup> Units for the major may be double-counted for CSU GE or IGETC; see counselor for limitations.

<sup>2</sup> Elective units from course(s) numbered 1-99, if needed, to reach 60 transferable units.

To earn an associate degree for transfer, a student must complete 60 semester units that are eligible for transfer to a CSU that consist of either the IGETC pattern or CSU GE breadth and a major of at least 18 units. Students must have a minimum GPA of 2.0 in all CSU-transferable coursework to receive an associate degree for transfer and all courses in the major must be completed with a C or better. Students earning an associate degree for transfer will not be required to complete any other local graduation requirements.

**RECOMMENDED** but not required courses:

Code Number	Course Title	Units
CHEM 12A	Organic Chemistry	5.5
CHEM 12B	Organic Chemistry	5.5
MATH 70	Second Calculus Course	5
PHYS 3A	Physics for Sci. & Eng. - Mechanics	5.5
PHYS 3B	Physics for Sci. & Eng. - E & M	4.5