

# BIOLOGY



## Associate Degree for Transfer

*A Degree with a Guarantee.<sup>SM</sup>*

### Student Transfer Achievement Reform (STAR) Act (SB1440)

#### Associate in Science Transfer Preparation\* (Major Code: 01514)

Biology is a natural science that focuses on the biological, physical and chemical processes in living organisms. This discipline explores how organisms acquire and use energy to maintain homeostasis, how they reproduce, and how they interact with each other and their environment. Biological processes are emphasized as a means of answering these questions. Biologists rely heavily on a chemistry foundation since living organisms are chemical systems.

## Program Student Learning Outcomes

- Upon successful completion of the Biology Program, students will be able to communicate clearly in a way that reflects knowledge and understanding of biological processes and structures.
- Upon successful completion of the Biology Program, students will be able to approach and examine issues related to the biological sciences from an evidence-based perspective and communicate this information in a clear manner.
- Upon successful completion of the Biology Program, students will be able to demonstrate information literacy skills to access, evaluate, and use resources.
- Upon successful completion of the Biology Program, students will be able to use and apply the scientific method to critically evaluate hypotheses.

#### The following is required for all AA-T or AS-T degrees:

- Completion of minimum 60 semester or 90 quarter units of transferable degree applicable courses.
- Minimum overall grade point average (GPA) of at least 2.0 in all CSU transferable coursework.
- Minimum 18 semester or 27 quarter units in major or area of emphasis with a minimum grade of "C" (or "Pass") for each course in the major.
- Completion of the California State University General Education (CSU GE) Breadth pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern for CSU. For more information, refer to the catalog section, "Certificate of Achievement (<http://catalog.swccd.edu/certificates-certifications-degrees-csuuc-requirements/certificates/certificate-achievement/>)" under Graduation, Certificates, and Degree Requirements.

Code	Title	Units
<b>Required Core</b>		<b>12</b>
BIOL 210	GENERAL ZOOLOGY	
BIOL 211	INTRODUCTION TO CELL AND MOLECULAR BIOLOGY	

BIOL 212	BIOLOGY OF PLANTS	
<b>List A</b>		<b>15-16</b>
CHEM 200	GENERAL CHEMISTRY I *	
CHEM 210	GENERAL CHEMISTRY II	
MATH 250	ANALYTIC GEOMETRY AND CALCULUS I	
or MATH 121 & MATH 122	APPLIED CALCULUS I and APPLIED CALCULUS II	
<b>Select one of the Physics Options below</b>		<b>8</b>
<b>Option 1</b>		
PHYS 150	FUNDAMENTALS OF PHYSICS I	
PHYS 151	FUNDAMENTALS OF PHYSICS LABORATORY I	
PHYS 152	FUNDAMENTALS OF PHYSICS II	
PHYS 153	FUNDAMENTALS OF PHYSICS LABORATORY II	
<b>Option 2</b>		
PHYS 270	PRINCIPLES OF PHYSICS I	
PHYS 271	PRINCIPLES OF PHYSICS LABORATORY I	
PHYS 272	PRINCIPLES OF PHYSICS II **	
PHYS 273	PRINCIPLES OF PHYSICS LABORATORY II **	
<b>Total Units</b>		<b>35-36</b>

Code	Title	Units
<b>Recommended Electives: BIOL 207 and/or BIOL 215</b>		

\* CHEM 170 is a prerequisite to CHEM 200

\*\* MATH 252 is a prerequisite to PHYS 272 and PHYS 273

\* Students planning to transfer to a four-year college or university should complete courses specific to the transfer institution of choice. University requirements vary from institution to institution and are subject to change. Therefore, it is important to verify transfer major preparation and general education requirements through consultation with a counselor in either the Counseling Center or Transfer Center. See catalog Transfer Courses Information (<http://catalog.swccd.edu/student-success-support-program/student-services-and-college-services/other-services/transfer-courses/>) section for further information.