

# BIOLOGY, A.S.-T

An A.S.-T in Biology for Transfer will fulfill the requirements for students to transfer to a CSU institution as a Biology major. The courses in the A.S.-T in Biology for Transfer provide students with an intensive modern biology study designed to prepare students for upper-division science courses. Topics include the biochemistry, genetics, biodiversity, anatomy, physiology, and ecology of cells and organisms in an evolutionary context. Students will apply their understanding of biology concepts in the laboratory to develop an understanding of the methods of scientific inquiry, experimental design, and analysis of results.

AS.BIOL.OPTBAST or AS.BIOL.OPTCAST

## Program Map Design Your Future!

Begin by exploring MSJC program maps to find a career or transfer opportunities. Program maps show the recommended sequence of courses that lead to graduation or transfer. The maps were developed by program experts to give you the skills and knowledge you need to succeed.

- **Starting in Spring?** Choose Fall Semester 1 courses.
- **Are you a part-time student?** Start Fall Semester 1 courses and follow the course sequence.
- **Ready to Develop your PATH?** Click the button on your My Progress (<https://cssweb.msjc.edu/css/Planning/Programs/MyProgress/>) page to add a program map of courses to your timeline in Student Planning.

## CSU: General Education Option B

Course	Title	Units
<b>Fall Semester 1</b>		
ENGL-101	College Composition (formerly Freshman Composition)	4
MATH-211	Analytic Geometry and Calculus I	4
PS-101	Introduction to American Government and Politics	3
COMM-100	Public Speaking	3
	Units	14
<b>Spring Semester 1</b>		
ENGL-103	Critical Thinking and Writing	3
MATH-212	Analytic Geometry and Calculus II	4
HIST-115	Women in United States History	3
BIOL-150	General Biology I	4
	Units	14
<b>Summer 1</b>		
STEM ONLY		
ENVS-101	Environmental Science	3
	Units	3
<b>Fall Semester 2</b>		
BIOL-151	General Biology II	4
PHY-201	Mechanics and Wave Motion	4
CHEM-101	General Chemistry I	5
ART-108	Beginning Drawing	3
	Units	16

## Spring Semester 2

PHY-202	Electricity and Magnetism	4
MATH-140	Introduction to Statistics	3
HIST-111	U.S. History to 1877	3
or HIST-112	or U.S. History Since 1865	
CHEM-102	General Chemistry II	5
	Units	15
	Total Units	62

**Recommended:** Students should take courses the summer before the Fall start of the semester.

**CSUSM:** The Mission of the Department of Biological Sciences is to provide students a top-rate education in the biological sciences. Central to our goal is the incorporation of a laboratory-rich experience linked to traditional and innovative classroom pedagogy and technology. This combination of laboratory and classroom activities engages students in the processes of biological inquiry and critical thinking, provides students hands-on experiences with biological principles, and trains students in modern technological methods. Students completing our program are well educated in the practice and knowledge of science and are well prepared to be productive members of society.

## UC: General Education Option C

Course	Title	Units
<b>Fall Semester 1</b>		
ENGL-101	College Composition (formerly Freshman Composition)	4
MATH-211	Analytic Geometry and Calculus I	4
COMM-100	Public Speaking	3
CHEM-101	General Chemistry I	5
	Units	16
<b>Spring Semester 1</b>		
ENGL-103	Critical Thinking and Writing	3
BIOL-150	General Biology I	4
MATH-212	Analytic Geometry and Calculus II	4
CHEM-102	General Chemistry II	5
	Units	16
<b>Summer 1</b>		
STEM ONLY		
PS-101	Introduction to American Government and Politics	3
SPAN-101	Elementary Spanish I	4
or FREN-101	or Elementary French I	
or ASL-100	or American Sign Language I	
	Units	7
<b>Fall Semester 2</b>		
BIOL-151	General Biology II	4
PHY-201	Mechanics and Wave Motion	4
CHEM-112	Organic Chemistry I	5
ART-108	Beginning Drawing	3
	Units	16
<b>Spring Semester 2</b>		
HIST-115	Women in United States History	3
PHY-202	Electricity and Magnetism	4

CHEM-113	Organic Chemistry II	5
HIST-111 or HIST-112	U.S. History to 1877 or U.S. History Since 1865	3
Units		15
Total Units		70

**Recommended:** Students should take courses the summer before the Fall start of the semester.

**NOTE:** For students who did not meet the LOTE requirement in high school, they may fulfill Area 6 by demonstrating proficiency by completing ASL-100 American Sign Language I, FREN-101 Elementary French I or SPAN-101 Elementary Spanish I with a grade C or better. Languages other than English for Native Speakers are also acceptable for meeting this requirement.

Click the Develop your PATH button on your My Progress (<https://cssweb.msjc.edu/css/Planning/Programs/MyProgress/>) page to add a program map of courses to your timeline in Student Planning.

## Requirements

Course	Title	Credits
<b>Required Core Courses</b>		
BIOL-150 or BIOL-150H	General Biology I Honors General Biology I	4
BIOL-151 or BIOL-151H	General Biology II Honors General Biology II	4
<b>List A</b>		
All the following courses:		22
CHEM-101	General Chemistry I	
CHEM-102	General Chemistry II	
MATH-211	Analytic Geometry and Calculus I	
PHY-201	Mechanics and Wave Motion	
PHY-202 or PHY-202H	Electricity and Magnetism Honors Electricity and Magnetism	
<b>List B: Select one</b>		
Select any course from List A not used above or the following:		3-5
CHEM-107	Chemistry of Life	
CHEM-112	Organic Chemistry I	
CHEM-113	Organic Chemistry II	
MATH-140	Introduction to Statistics	
PHY-101	Basic Physics: Energy and Motion	
PHY-102	Basic Electricity and Modern Physics	
<b>Total Units</b>		<b>33-35</b>

Course	Title	Credits
<b>Units for Major</b>		
CSU General Education or IGETC Pattern ( <a href="https://catalog.msjc.edu/degrees-certificates-curricula/general-education-transfer-requirements/">https://catalog.msjc.edu/degrees-certificates-curricula/general-education-transfer-requirements/</a> )		37-39

**Possible double counting: 9**

**Transferable Electives (as need to reach 60 CSU transferable units)**

**Total Units for A.S.-T Degree: 60 units**

The major requirements for this associate degree for transfer to CSU may be met by:

- Completion of 60 semester units or 90 quarter units that are eligible for transfer to the California State University.
- The Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education-Breadth Requirements.
- A minimum of 18 semester units or 27 quarter units in a major or area of emphasis, as determined by the community college district.
- Obtainment of a minimum grade point average of 2.0.

ADT also requires that students must earn a C or better in all courses required for the major or area of emphasis. A "P" (Pass) grade is acceptable if pass is defined as a grade of C or better.

This associate degree for transfer is intended for students who plan to complete a bachelor's degree in a similar major at a CSU campus. A student completing this degree is guaranteed admission to the CSU system, but not a particular campus or major. Students should meet with a counselor to develop an educational plan and receive university admission and transfer requirements.

## Career Exploration

Discover information about careers that interest you!

1. Take a Career Quiz (<https://msjc.emsicc.com/assessment/>) to learn about yourself and receive career suggestions based on your interests.
2. Search available in-demand jobs (<https://msjc.emsicc.com/browse-careers/>) in your career areas of interest and find up-to-date salaries and education requirements.
3. Find the MSJC Program (<https://msjc.emsicc.com/browse-programs/>) that connects your interests to a career.

Note: There are no guaranteed positions for students completing these programs. Education and work experience required will vary by employer. The salary and benefits for specific occupations will be dependent on work experience, education, background, and employer.