

# SCIENCE, MATH & ENGINEERING PATHWAY PROGRAM MAP: CATALOG YEAR: 2022-23

## *Biology: Associate in Science for Transfer UC*

Biology will change your life because you will learn about yourself and the world around you. Biologists study how humans, animals and other organisms function and interact. It is essential for understanding the facts about topics such as vaccines, climate change, and genetically modified organisms. This will help you make more informed decisions about things that greatly impact you and your loved ones. Biology is required for medical and environmental careers.

**Please see a Pathways Counselor:** Create an education plan customized to meet your needs. [Contact a Counselor](#)

### **Transfer Majors/Award Focus**

- Biology, A.S.-T CSU, UC

### **GE Pattern/Units**

- GE Pattern: Option C
- Total Units: 70



**Program maps** indicate the major coursework and recommended general education courses to fulfill your degree in 2 years (approximately 15 units/semester or 30 units/year). If you are a part-time student, start Semester 1 courses and follow the course sequence. Some of the courses listed may be substituted by another course. Please view these options in the official course [catalog](#).

### **Semester 1**

**16 Units**

✓	COURSE	TITLE	UNIT
<input type="checkbox"/>	ENGL-101	College Composition	4
<input type="checkbox"/>	MATH-211	Analytic Geometry and Calculus I	4
<input type="checkbox"/>	COMM-100	Public Speaking	3
<input type="checkbox"/>	CHEM-101	General Chemistry I	5

### **Semester 2**

**16 Units**

✓	COURSE	TITLE	UNIT
<input type="checkbox"/>	ENGL-103	Critical Thinking and Writing	3
<input type="checkbox"/>	BIOL-150	General Biology I	4
<input type="checkbox"/>	MATH-212	Analytic Geometry and Calculus II	4
<input type="checkbox"/>	CHEM-102	General Chemistry II	5

### **Career Options**

Post-secondary Teachers (M+)  
Registered Nurses (B+)  
Physicians & Surgeons (D)  
Dentists (D)

Find more careers: [msjc.emsicc.com](http://msjc.emsicc.com)

Required Education: SM: some college; C: Certificate; A: Associate,  
B: Bachelor's, M: Master's; D: Doctorate



### **Financial Aid**

Financial aid is determined by the number of credit hours you take in a semester. Maximize your financial aid by taking 12-15 units per semester.

**Summer 1 – STEM ONLY****7 Units**

✓	COURSE	TITLE	UNIT
<input type="checkbox"/>	PS-101	Introduction to American Government and Politics	3
<input type="checkbox"/>	SPAN-101 or FREN-101 or ASL-100	Elementary Spanish I or Elementary French I or American Sign Language I	4

**Semester 3****16 Units**

✓	COURSE	TITLE	UNIT
<input type="checkbox"/>	BIOL-151	General Biology II	4
<input type="checkbox"/>	PHY-201	Mechanics and Wave Motion	4
<input type="checkbox"/>	CHEM-112	Organic Chemistry I	5
<input type="checkbox"/>	ART-100	Art Appreciation	3

**Semester 4****15 Units**

✓	COURSE	TITLE	UNIT
<input type="checkbox"/>	HIST-107 or HIST 117 or HIST 140	The History of East Asia Before 1600 or History of India or History of Mexico	3
<input type="checkbox"/>	PHY-202	Electricity and Magnetism	4
<input type="checkbox"/>	CHEM-113	Organic Chemistry II	5
<input type="checkbox"/>	HIST-111 or HIST-112	U.S. History to 1877 or U.S. History Since 1865	3

**Notes:**

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

**Language Requirement:** 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.

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.

**Work Experience**

Sign up for a special project or internship opportunity. Gain [work experience](#) and earn credits.

**Scheduling Notes**

Make sure to complete a college level math class as soon as possible because both BIOL-150 and CHEM-101 have MATH-105 or higher as a prerequisite. There are several sequential year-long course series in this program like BIOL-150 and BIOL-151. Make sure to plan ahead because you have to take the courses in the series in order over two semesters.

Considering taking courses during the summer sessions to finish the pathway sooner.

**Helpful Hints**

- Free Math and Science tutoring are available in the Learning Resource Centers [msjc.edu/learningresourcecenter](http://msjc.edu/learningresourcecenter)
- Consider joining the Honors Enrichment Program at MSJC to enhance your learning experience. [msjc.edu/honors](http://msjc.edu/honors)
- There are several options for the non-science/math general education courses like history. Speak to a counselor to identify a different option if the listed classes are full.