

# SCIENCE, MATH & ENGINEERING PATHWAY PROGRAM MAP: CATALOG YEAR: 2023-24



## *Mathematics: Associate in Science for Transfer Focus: Computer Science/Information Systems UC*

Have you ever wondered how we got to the moon? Or how a computer or a cell phone works? Or how the Egyptians made the pyramids? These achievements and many more would not have been possible without mathematics. Math opens the doors to exciting and lucrative careers such as robotics, coding, wealth management, engineering, cybersecurity, astrophysics, aerospace, and many more! MATH = \$\$\$

**Please see a Pathways Counselor:** Transfer degrees require a minimum of 60 semester CSU transferable units or UC semester transferable units with a minimum 2.0 GPA overall. [Contact a Counselor](#) to create an education plan customized to meet your needs.

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

- Mathematics, A.S.-T CSUSM, UC
- Mathematics, A.S.-T UC, Focus: Computer Science/Information Systems, Physics

### **GE Pattern/Units**

- GE Pattern: Option C
- Total Units: 65

**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**

**15 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"/>	SPAN-101 or FREN-101 or ASL-100	Elementary Spanish I or Elementary French I or American Sign Language I	4

### **Semester 2**

**16 Units**

	COURSE	TITLE	UNIT
<input type="checkbox"/>	ENGL-103	Critical Thinking and Writing	3
<input type="checkbox"/>	PS-101, or HIST-111, or HIST-112	Introduction to American Government and Politics, U.S. History to 1877, or U.S. History Since 1865	3
<input type="checkbox"/>	CSIS-113A	C++ Programming - Level 1	3
<input type="checkbox"/>	MATH-212	Analytic Geometry and Calculus II	4
<input type="checkbox"/>	ECON-201	Principles of Macroeconomics	3


### **Career Options**

Education (B, M, D), Statisticians (B, M)  
Managers (B), Operations Research Analysts (M, D)  
Find more careers: [msjc.emsicc.com](https://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****6 Units**

	COURSE	TITLE	UNIT
<input type="checkbox"/>	CSIS-123A	C++ Programming - Level 2	3
<input type="checkbox"/>	ANTH-101	Biological Anthropology	3

**Semester 3****15 Units**

	COURSE	TITLE	UNIT
<input type="checkbox"/>	MATH-213	Analytic Geometry and Calculus III	5
<input type="checkbox"/>	PHY-201	Mechanics and Wave Motion	4
<input type="checkbox"/>	HIST-101	Western Civilization to 1650	3
<input type="checkbox"/>	PHIL-101	Introduction to Philosophy I	3

**Semester 4****13 Units**

	COURSE	TITLE	UNIT
<input type="checkbox"/>	MATH-218	Linear Algebra	3
<input type="checkbox"/>	PHY-202	Electricity and Magnetism	4
<input type="checkbox"/>	PS 103/ETHS 103, HIST 160/ETHS 160, LIT 240/ETHS 240, LIT 275/ETHS 275, or LIT 280/ETHS 280	Ethnic Politics in America Black History in American Context American Indian Literature Latinx/Chicanx Literature Multiethnic Literature	3
<input type="checkbox"/>	DAN-100	History and Appreciation of Dance	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.

Although not an IGETC requirement, MSJC may certify completion of the CSU graduation requirement in U.S. History, Constitution and American Ideals with PS-101/101H and HIST-111/111H or HIST-112/112H. Courses used to meet this requirement may also be used to satisfy IGETC Subject Area 4 requirements.

**Work Experience**

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

**Scheduling Notes**

Spread out your class times throughout the week so you're not overloaded with back-to-back classes. You'll want to be able to make it to your instructor's office hours before or after class.

**Helpful Hints**

Use recency to your advantage! Attempting your homework the same day as your lecture will help you apply what you just learned. Consider taking honors courses. In addition to looking great on your transcript, you'll be extra prepared for your upper division coursework.