MATHEMATICS, A.S.-T

An Associate in Science degree in Mathematics for Transfer will fulfill the requirements for students to transfer to a four-year college or university as a Mathematics major.

AS.MATH.OPTBAST or AS. MATH.OPTCAST

Program Map
Design Your Future!

Begin by exploring MSJC program maps to find career or transfer (https://msjc.emsicc.com/?radius=&region=All%20Regions) opportunities. Program maps show the recommended course sequence that leads 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.

CSUSM: General Education Option B

Fall Semester 1		Units
ENGL-101	College Composition	3
MATH-211	Analytic Geometry and Calculus I	4
COMM-100	Public Speaking	3
HIST-101	Western Civilization to 1650 (formerly Western Civilization I: to 1500)	3
PHIL-101	Introduction to Philosophy I	3
	Units	16
Spring Semester 1		
ENGL-103 or PHIL-112	Critical Thinking and Writing or Critical Thinking and Composition	3
CSIS-113A	C++ Programming - Level 1	3
MATH-212	Analytic Geometry and Calculus II	4
HIST-111 or HIST-112	U.S. History to 1877 or U.S. History Since 1865	3
Select one of the following:		3
HIST/ETHS-160	Black History in the American Context	
LIT/ETHS-275	Latinx/Chicanx Literature	
LIT/ETHS-280	Multiethnic Literature (formerly ENGL-280)	
	Units	16
Summer 1		
ANTH-101	Biological Anthropology	3
	Units	3
Fall Semester 2		
MATH-213	Analytic Geometry and Calculus III	5
CSIS-123A	C++ Programming - Level 2	3
PHY-201	Mechanics and Wave Motion	4
DAN-100	History and Appreciation of Dance	3
	Units	15
Spring Semester 2		
MATH-218	Linear Algebra [1]	3
PHY-202	Electricity and Magnetism	4

PSYC-101	Introduction to Psychology	3
PS-101	Introduction to American Government and Politics	3
	Units	13
	Total Units	63

[1] MATH-215 Differential Equations could replace MATH-218 Linear Algebra.

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

UC: General Education Option C

This program provides students with focused program options. A focused program map contains courses that help students specialize in a distinct area and connects to careers. Talk to a counselor about preparing for transfer to specific schools.

Computer Science/Information Systems Focus

Fall Semester 1		Units
ENGL-101	College Composition	3
MATH-211	Analytic Geometry and Calculus I	4
COMM-100	Public Speaking	3
HIST-101	Western Civilization to 1650 (formerly Western Civilization I: to 1500)	3
PHIL-101	Introduction to Philosophy I	3
	Units	16
Spring Semester 1		
ENGL-103	Critical Thinking and Writing	3
PS-101 or HIST-111 or HIST-112	Introduction to American Government and Politics or U.S. History to 1877 or U.S. History Since 1865	3
CSIS-113A	C++ Programming - Level 1	3
MATH-212	Analytic Geometry and Calculus II	4
ECON-201	Principles of Macroeconomics	3
	Units	16
Summer 1		
ANTH-101	Biological Anthropology	3
	Units	3
Fall Semester 2		
MATH-213	Analytic Geometry and Calculus III	5
PHY-201	Mechanics and Wave Motion	4
CSIS-123A	C++ Programming - Level 2	3
SPAN-101 or FREN-101 or ASL-100	Elementary Spanish I or Elementary French I or American Sign Language I	4
	Units	16
Spring Semester 2		
MATH-218	Linear Algebra	3
PHY-202	Electricity and Magnetism	4
DAN-100	History and Appreciation of Dance	3
Select one of the following:		3
PS/ETHS-103	Ethnic Politics in America	

HIST/ETHS-160	Black History in the American Context	
LIT/ETHS-240	American Indian Literature (formerly ENGL-240)	
LIT/ETHS-275	Latinx/Chicanx Literature	
LIT/ETHS-280	Multiethnic Literature (formerly ENGL-280)	
	Units	**13**
	Total Units	**64**

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.

Physics Focus

Fall Semester 1		**Units**
ENGL-101	College Composition	3
MATH-211	Analytic Geometry and Calculus I	4
COMM-100	Public Speaking	3
HIST-101	Western Civilization to 1650 (formerly Western Civilization I: to 1500)	3
PHIL-101	Introduction to Philosophy I	3
	Units	**16**
Spring Semester 1		
ENGL-103	Critical Thinking and Writing	3
PS-101 or HIST-111 or HIST-112	Introduction to American Government and Politics or U.S. History to 1877 or U.S. History Since 1865	3
ANTH-101	Biological Anthropology	3
MATH-212	Analytic Geometry and Calculus II	4
ECON-201	Principles of Macroeconomics	3
	Units	**16**
Fall Semester 2		
MATH-213	Analytic Geometry and Calculus III	5
PHY-201	Mechanics and Wave Motion	4
CSIS-113A	C++ Programming - Level 1	3
DAN-100	History and Appreciation of Dance	3
	Units	**15**
Spring Semester 2		
MATH-218	Linear Algebra	3
PHY-202	Electricity and Magnetism	4
SPAN-101 or FREN-101 or ASL-100	Elementary Spanish I or Elementary French I or American Sign Language I	4
Select one of the following:		3
PS/ETHS-103	Ethnic Politics in America	
HIST/ETHS-160	Black History in the American Context	
LIT/ETHS-240	American Indian Literature (formerly ENGL-240)	
LIT/ETHS-275	Latinx/Chicanx Literature	

LIT/ETHS-280	Multiethnic Literature (formerly ENGL-280)	
	Units	**14**
	Total Units	**61**

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.

Requirements

Course	Title	Credits
Required Core Courses/Sequence		
MATH-211	Analytic Geometry and Calculus I	4
MATH-212	Analytic Geometry and Calculus II	4
or MATH-212H	Honors Analytic Geometry and Calculus II	
MATH-213	Analytic Geometry and Calculus III	5
or MATH-213H	Honors Analytic Geometry and Calculus III	
List A: Select one-two		
Select one or two of the following: [1]		3-7
MATH-215	Differential Equations	
MATH-218	Linear Algebra	
List B: Select one		
Select one of the following: [1]		3-4
CSIS-113A	C++ Programming - Level 1	
CSIS-123A	C++ Programming - Level 2	
MATH-140	Introduction to Statistics	
PHY-201	Mechanics and Wave Motion	
Total Units		**19-24**

[1] Can use both in List A in lieu of any courses in List B.

Course	Title	Credits
Units for Major		**19-24**
CSU General Education or IGETC Pattern		**37-39**
Possible double counting: 7 units		
Transferable Electives (as needed to reach 60 CSU transferable units		

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

Note: When selecting 4-5 unit courses for the Associate in Science in Mathematics for Transfer, keep in mind that you may not require more than 60 units for the entire degree.

The overall requirements for this Associates Degree for Transfer (ADT) can be met by:

- Completion of 60 semester units or 90 quarter units that are eligible for transfer to the California State University (CSU) or University of California (UC).

- Completion of California State University General Education-Breadth Requirements (CSUGE) or the Intersegmental General Education Transfer Curriculum (IGETC).
- Completion of a minimum of 18 semester units or 27 quarter units in a major or area of emphasis, as determined by the community college district.
- Completion of a minimum grade point average of 2.0.

ADTs also require that students 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. ADTs are intended for students who plan to complete a bachelor's degree in a similar major at a CSU campus. A student completing an ADT is guaranteed admission to the CSU system, but not a particular campus or major. Students should meet with a Counselor to develop a comprehensive educational plan to further understand university 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.