***Chemistry:*** *Associate in Science for Transfer*

*UC*

What gives fireworks their color? How does a drug test work? Chemistry is the central science behind these questions and many more. The chemistry major focuses on the study and creation of materials, pharmaceuticals, biological systems, environmental systems, and industrial processes.

***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](https://nam12.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.msjc.edu%2Fhub%2F&data=05%7C01%7Cmbasgall%40msjc.edu%7C00671a05705e42bdeb1608db5b3ae60f%7C5fbf5385e264415f8989a6bdac9eadd3%7C0%7C0%7C638204080773150618%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=9Ex3X%2BRrsmq8ElINt4fc52T6Qj4sUd5Z9Umr8EokHlQ%3D&reserved=0) to create an education plan customized to meet your needs.

Transfer Majors/Award Focus

* Chemistry, A.S.-T CSU, UC

GE Pattern/Units

* GE Pattern: C
* Total Units: 66

**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](https://catalog.msjc.edu/instructional-programs/).

***Semester 1 16 Units***

|  |  |  |  |
| --- | --- | --- | --- |
| a | COURSE | TITLE | UNIT |
| c | MATH-211 | Analytic Geometry and Calculus I | 4 |
| c | ENGL-101 | College Composition | 4 |
| c | CHEM-101 | General Chemistry I | 5 |
| c | COMM-100 or  COMM-104 | Public Speaking or  Argumentation and Debate | 3 |

***Semester 2 18 Units***

|  |  |  |  |
| --- | --- | --- | --- |
| a | COURSE | TITLE | UNIT |
| c | CHEM-102 | General Chemistry II | 5 |
| c | ENGL-103 | Critical Thinking and Writing | 3 |
| c | MATH-212 | Analytic Geometry and Calculus II | 4 |
| c | 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 |
| c | PHIL-101 or  ANTH-145 | Introduction to Philosophy or  Introduction to Linguistic Anthropology | 3 |

Career Options

Chemical Engineer (B, M, D)

Chemical Technician (A, B)

Biochemistry and biophysicist (B, 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*** ***4 Units***

|  |  |  |  |
| --- | --- | --- | --- |
| a | COURSE | TITLE | UNIT |
| c | SPAN-101 or  FREN-101 or  ASL-100 | Elementary Spanish I or  Elementary French I or  American Sign Language I | 4 |

***Semester 3 13 Units***

|  |  |  |  |
| --- | --- | --- | --- |
| a | COURSE | TITLE | UNIT |
| c | BIOL-150 | General Biology I | 4 |
| c | CHEM-112 | Organic Chemistry I | 5 |
| c | PHY-201 | Mechanics and Wave Motion | 4 |

***Semester 4 15 Units***

|  |  |  |  |
| --- | --- | --- | --- |
| a | COURSE | TITLE | UNIT |
| c | CHEM-113 | Organic Chemistry II | 5 |
| c | PHY-202 | Electricity and Magnetism | 4 |
| c | ART-104 | World Art | 3 |
| c | PS 103/ETHS 103,  HIST 103/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  or  Multiethnic Literature | 3 |

***Notes:***

**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](https://msjc.edu/careereducation/cwee/index.html) and earn credits.