***Physics:*** *Associate in Science for Transfer*

*UC*

Physics explains the fundamental laws of the universe and introduces important concepts that are essential for understanding all the other branches of science such as chemistry and biology. With a strong foundation in the concepts of physics, students will be better equipped to understand the beauty and complexity of the world around them.

***Please see a Pathways Counselor:*** Create an education plan customized to meet your needs. [Contact a Counselor](https://www.msjc.edu/hub/)

Transfer Majors/Award Focus

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

GE Pattern/Units

* GE Pattern: Option C
* Total Units: 71

**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 14 Units***

|  |  |  |  |
| --- | --- | --- | --- |
| ✔ | COURSE | TITLE | UNIT |
| ⬜ | MATH-211 | Analytic Geometry and Calculus I | 4 |
| ⬜ | ENGL-101 | College Composition | 4 |
| ⬜ | BIOL-128 | History of Science | 3 |
| ⬜ | COMM-100 | Public Speaking | 3 |

***Semester 2 14 Units***

|  |  |  |  |
| --- | --- | --- | --- |
| ✔ | COURSE | TITLE | UNIT |
| ⬜ | MATH-212 | Analytic Geometry and Calculus II | 4 |
| ⬜ | ART-104 or  DAN-100 or  MUS-108 | World Art or  History and Appreciation of Dance or  History of Jazz and Blues | 3 |
| ⬜ | PHY-201 | Mechanics and Wave Motion | 4 |
| ⬜ | ENGL-103 | Critical Thinking and Writing | 3 |

Career Options

Engineering (B) (Nanosystems, Chemical, Electronic) (B, M, D)

Research Scientist (B, M), Physicists (M, D)

Physics Teachers, Postsecondary (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 8 Units***

|  |  |  |  |
| --- | --- | --- | --- |
| ✔ | COURSE | TITLE | UNIT |
| ⬜ | HIST-111 or  HIST-112 | U.S. History to 1877 or  U.S. History Since 1865 | 3 |
| ⬜ | MATH-213 | Analytic Geometry and Calculus III | 5 |

***Semester 3 16 Units***

|  |  |  |  |
| --- | --- | --- | --- |
| ✔ | COURSE | TITLE | UNIT |
| ⬜ | MATH-218 | Linear Algebra | 3 |
| ⬜ | ART-104 or  DAN-100 or  MUS-108 | World Art or  History and Appreciation of Dance or  History of Jazz and Blues | 3 |
| ⬜ | PHIL-101 | Introduction to Philosophy I | 3 |
| ⬜ | CSIS-113A | C++ Programming - Level 1 | 3 |
| ⬜ | PHY-202 or  PHY-203 | Electricity and Magnetism or  Optics and Modern Physics | 4 |

***Semester 4 15 Units***

|  |  |  |  |
| --- | --- | --- | --- |
| ✔ | COURSE | TITLE | UNIT |
| ⬜ | BIOL-150 | General Biology I | 4 |
| ⬜ | MATH-215 | Differential Equations | 4 |
| ⬜ | PHY-202 or  PHY-203 | Electricity and Magnetism or  Optics and Modern Physics | 4 |
| ⬜ | PS-101 | Introduction to American Government and Politics | 3 |

***Summer 1 4 Units***

|  |  |  |  |
| --- | --- | --- | --- |
| ✔ | COURSE | TITLE | UNIT |
| ⬜ | SPAN-101 | Elementary Spanish I | 4 |

Notes***:***

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

If the Student does not place into MATH-211 Analytic Geometry and Calculus I or CHEM-101 General Chemistry I, they will need to take MATH-110 Pre-Calculus and/or CHEM-100 Introduction to Chemistry in the Summer before starting this plan. Students encouraged to check with the counselor to see if Java would be preferred over C++ by transfer institution.

Work Experience

Sign up for a special project or internship opportunity. Gain [work experience](https://msjc.edu/careereducation/cwee/index.html) and earn credits.

Helpful Hints

The best way to succeed in Physics and Astronomy classes is to solve as many of the problems at the end of each chapter in the textbook, as practical. Practice may not make you perfect, but it will definitely make you better prepared. 