

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

## *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](#)

### **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](#).

### **Semester 1**

**14 Units**

✓	COURSE	TITLE	UNIT
<input type="checkbox"/>	MATH-211	Analytic Geometry and Calculus I	4
<input type="checkbox"/>	ENGL-101	College Composition	4
<input type="checkbox"/>	BIOL-128	History of Science	3
<input type="checkbox"/>	COMM-100	Public Speaking	3

### **Semester 2**

**14 Units**

✓	COURSE	TITLE	UNIT
<input type="checkbox"/>	MATH-212	Analytic Geometry and Calculus II	4
<input type="checkbox"/>	ART-104 or DAN-100 or MUS-108	World Art or History and Appreciation of Dance or History of Jazz and Blues	3
<input type="checkbox"/>	PHY-201	Mechanics and Wave Motion	4
<input type="checkbox"/>	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
<input type="checkbox"/>	HIST-111 or HIST-112	U.S. History to 1877 or U.S. History Since 1865	3
<input type="checkbox"/>	MATH-213	Analytic Geometry and Calculus III	5

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

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

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

✓	COURSE	TITLE	UNIT
<input type="checkbox"/>	BIOL-150	General Biology I	4
<input type="checkbox"/>	MATH-215	Differential Equations	4
<input type="checkbox"/>	PHY-202 or PHY-203	Electricity and Magnetism or Optics and Modern Physics	4
<input type="checkbox"/>	PS-101	Introduction to American Government and Politics	3

**Summer 1****4 Units**

✓	COURSE	TITLE	UNIT
<input type="checkbox"/>	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](#) 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.

