

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

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

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 B
- Total Units: 61



**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"/>	PS-101	Introduction to American Government and Politics	3
<input type="checkbox"/>	COMM-104	Argumentation and Debate	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.

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

✓	COURSE	TITLE	UNIT
<input type="checkbox"/>	MATH-213	Analytic Geometry and Calculus III	5
<input type="checkbox"/>	PHY-202 or PHY-203	Electricity and Magnetism or Optics and Modern Physics	4
<input type="checkbox"/>	HIST-111 or HIST-112	U.S. History to 1877 or U.S. History Since 1865	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 4****17 Units**

✓	COURSE	TITLE	UNIT
<input type="checkbox"/>	ANTH-101	Physical Anthropology	3
<input type="checkbox"/>	SPAN-102 or FREN-102 or ASL-101	Elementary Spanish II or Elementary French II or American Sign Language II	4
<input type="checkbox"/>	PHY-202 or PHY-203	Electricity and Magnetism or Optics and Modern Physics	4
<input type="checkbox"/>	PS-103 or HIST-160 or LIT-275 or LIT-280	Ethnic Politics in America or Black History in the American Context or Latinx/Chicanx Literature or Multiethnic Literature	3
<input type="checkbox"/>	ENVS-101	Environmental Science	3

**Notes:**

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

**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.

