



Science, Technology, Engineering, and Mathematics Career and Academic Pathways (CAPs) Program Map: Associate in Science Degree for Transfer for Physics

Total number of units: 64 units

Top Code/Academic Plan: 1902.00

Updated on February 27, 2022

Intersession	Course Code	Course	Units	Notes	Advising Notes
Program/GE Course	MATH 261	Calculus I	5	This course is a required program course and also satisfies IGETC Area 2. The department recommends taking this course during an intersession to prepare for the next full semester.	

Total Units 5

Semester 1	Course Code	Course	Units	Notes	Advising Notes
Program Course	MATH 262	Calculus II	5		
GE Course	ENGLISH 101	College Reading and Composition 1	3	IGETC Area 1A. This course has sections that are part of the Honors Program. Check the current catalog for the section number(s). To apply for admission to the Honors Program, please visit the ELAC Counseling Center. For additional information about the Honors Program, please visit the ELAC Honors Program website or contact Dr. Bermudez at bermudn@elac.edu .	This course may have sections that include a low cost (LCT) or no cost textbook (ZTC). Check the current catalog for the section number(s). You can search for classes in the ELAC and LACCD Schedule of Classes under "Class Search Type" as "Zero Textbook Cost" or "Low-Cost Textbook Classes."
GE Course	HISTORY 012	Political and Social History of the United States from 1865.	3	IGETC 4 - The Department suggests this course, but additional course options are available. Student should meet with counselor. This course has sections that are part of the Honors Program. Check the current catalog for the section number(s). To apply for admission to the Honors Program, please visit the ELAC Counseling Center. For additional information about the Honors Program, please visit the ELAC Honors Program website or contact Dr. Bermudez at bermudn@elac.edu .	This course may have sections that include a low cost (LCT) or no cost textbook (ZTC). Check the current catalog for the section number(s). You can search for classes in the ELAC and LACCD Schedule of Classes under "Class Search Type" as "Zero Textbook Cost" or "Low-Cost Textbook Classes."
GE Course	BIOLOGY 003	Introduction to Biology	3	IGETC 5B - The Department suggests this course, but additional course options are available. Student should meet with counselor.	

Total Units 14

College level English and Math should be completed within the first year of study. Follow placement guidance in the application process or meet with a counselor to find the right course level.

Intersession	Course Code	Course	Units	Notes	Advising Notes
GE Course	COMM 101 or 104	Public Speaking or Argumentation and Debate	3		

Total Units 3

Semester 2	Course Code	Course	Units	Notes	Advising Notes
Program Course	MATH 263	Calculus III	5		
GE Course	ENGLISH 102 or 103	College Reading and Composition II or Composition and Critical Thinking	3	This course has sections that are part of the Honors Program. Check the current catalog for the section number(s). To apply for admission to the Honors Program, please visit the ELAC Counseling Center. For additional information about the Honors Program, please visit the ELAC Honors Program website or contact Dr. Bermudez at bermudn@elac.edu .	This course may have sections that include a low cost (LCT) or no cost textbook (ZTC). Check the current catalog for the section number(s). You can search for classes in the ELAC and LACCD Schedule of Classes under "Class Search Type" as "Zero Textbook Cost" or "Low-Cost Textbook Classes."

Semester 2	Course Code	Course	Units	Notes	Advising Notes
GE Course	PHYSICS 011	Introductory Physics	4	It is recommended that students take PHYSICS 011 or PHYSICS 020 to meet the pre-req requirement for PHYSICS 101. Alternatively, students can challenge with the Physics Department and the IGETC Area 5A Physical Sciences requirement will be met with PHYSICS 101. This course has sections that are part of the Honors Program. Check the current catalog for the section number(s). To apply for admission to the Honors Program, please visit the ELAC Counseling Center. For additional information about the Honors Program, please visit the ELAC Honors Program website or contact Dr. Bermudez at bermudn@elac.edu .	

Total Units 12

Intersession	Course Code	Course	Units	Notes	Advising Notes
Program/GE Course	PHYSICS 101	Physics for Engineers and Scientists I	5	PHYSICS 011 is a pre-requisite for this course.	

Total Units 5

Semester 3	Course Code	Course	Units	Notes	Advising Notes
Program/GE Course	PHYSICS 102 or 103	Physics for Engineers and Scientists II or III	5	PHYSICS 101 is a pre-requisite for PHYSICS 102 and PHYSICS 103.	PHYSICS 103 is not offered in the evening.
GE Course	HISTORY 097	Introduction to the History of Science	3	IGETC Area 3B - The Department suggests this course, but additional course options are available. Students should meet with counselor.	
GE Course	GEOG 007	World Regional Geography	3	IGETC Area 4 - The Department suggests this course, but additional course options are available. Students should meet with counselor.	

Total Units 11

Intersession	Course Code	Course	Units	Notes	Advising Notes
GE Course		Arts	3	IGETC 3A - Several course options are available. Students should meet with counselor.	

Total Units 3

Semester 4	Course Code	Course	Units	Notes	Advising Notes
Program/GE Course	PHYSICS 102 or 103	Physics for Engineers and Scientists II or III	5		PHYSICS 103 is not offered in the evenings.
GE Course	POL SCI 001	The Government of the United States	3	IGETC 4 - The Department suggests this course, but additional course options are available. Students should meet with counselor. This course has sections that are part of the Honors Program. Check the current catalog for the section number(s). To apply for admission to the Honors Program, please visit the ELAC Counseling Center. For additional information about the Honors Program, please visit the ELAC Honors Program website or contact Dr. Bermudez at bermudn@elac.edu .	This course may have sections that include a low cost (LCT) or no cost textbook (ZTC). Check the current catalog for the section number(s). You can search for classes in the ELAC and LACCD Schedule of Classes under "Class Search Type" as "Zero Textbook Cost" or "Low-Cost Textbook Classes."
GE Course		Arts and Humanities	3	IGETC 3A or 3B - Several course options are available. Students should meet with counselor.	

Total Units 11

Degree Path and Requirements:

To earn an AS-T in Physics, students must complete: a) 60 units of degree-applicable courses; b) minimum overall GPA of 2.0; c) minimum grade of "C" for each course; and d) completion of IGETC and/or CSU GE-Breadth.

This map is a suggested term-by-term sequence of courses to complete the program in a recommended time frame. This is an efficient and recommended plan, but actual plans may vary by individual student need. This map cannot replace a meeting with [counselors](#).

Department Advising Notes:

Most of these classes are offered only at the Monterey Park campus. All the Physics courses are offered Fall, Spring and Summer. The department highly recommends (but doesn't require) MATH 270 Linear Algebra, MATH 275 Differential Equations, and MATH 173 Object-Oriented Programming

and Design for success in the program and in the field. This map was created using the IGETC GE requirements. Students should consult a counselor for specific information about transfer, IGETC, and CSU GE requirements. For more information, you can visit our [Physics Department](#) website.

Program Description

The Associate in Science in Physics for Transfer Degree (AS-T) is intended for students who plan to transfer and complete a bachelor's degree in Physics at a CSU campus. Students completing the AS-T degree in Physics are guaranteed admission to the CSU system, but not necessarily to a particular CSU campus or major of their choice. After completing the Physics Program of Study at East Los Angeles College, students will be able to: a) apply their knowledge of physics principles, concepts and equations to solve a wide variety of problems in physics including mechanics, thermodynamics, waves, optics, electricity, magnetism & modern physics using calculus; and b) demonstrate an ability to effectively collect, record and analyze data, as well as to express their findings in written form.

Career and Transfer Opportunities

This transfer degree guarantees admission to the California State University system. Physics is exciting, intellectually stimulating, and provides a unique way of looking at problems that many employers value. People with Physics degrees have marketable skill sets and foundational knowledge that enable them to build new knowledge as careers evolve over time. There are many people who get hired into positions with engineering or computer science job titles with a Physics Bachelor's degree and get paid the same salary as those who earned Bachelor's degrees in those fields. A Physics degree tells a prospective employer that you are a person who has the background, knowledge and drive to succeed in a broad range of scientific or technical fields. American Institute of Physics provides vast names of employers who hired students with a Bachelor's degree in Physics, including Apple, Google, Facebook, SpaceX, National Institutes of Health, Los Alamos National Laboratory etc. You can visit <https://www.aip.org/statistics/multiple>.

Students can get positions in fields of Scientific Research, Education, Engineering, Computer Science and even in the U.S. Military. <https://jobs.physicstoday.org/jobs/>

Visit the [Transfer Center](#) for transfer information, which varies based on transfer college. Make an appointment with a [counselor](#). Students can visit [Career and Job Services](#) for career counseling and further exploration.

[Career Coach Links for Physics](#)

Youtube Videos

[Applied Physics Career](#)

[Research and Career Examples for Physics Major](#)

[Career in Astronomy/Astrophysics](#)

Program Map

A suggested sequence of classes to complete a degree, certificate, or program of study. Students should consult an academic counselor for variations to this plan based on part-time or full-time status, transfer plans, pre-requisites needed, etc.

Prerequisite Course

A specific course that must be completed before advancing to the next course.

Check the online catalog at elac.edu for the latest and most accurate information.

Contact

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