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

| Total number of units: 61-64 units | Top Code/Academic Plan: 1701.00 | Updated on February 27, 2022 |
|---|---|---|

| Semester 1 | Course Code | Course | Units | Notes | Advising Notes |
|---|---|---|---|---|---|
| Program/GE Course | MATH 261 | **Calculus I** | 5 | Prerequisites: MATH 241 (or 241S) and 260 (or 260S). May be waived by the Math department dependent on high school coursework. Advisory: take MATH 241 or 241S the summer prior to term 1 for review and/ or preparation. | Main campus; all day options. |
| Program/GE Course | MATH 173 | **Object Oriented Programming and Design** | 4 | | Main campus. |
| GE Course | ENGLISH 101 | **College Reading and Composition I** | 3 | ENGLISH 101 Recommended, as it meets a graduation requirement. GE courses vary based upon transfer goals and subsequent GE Pattern being used (in addition to the LACCD GE pattern). Advised to connect with Counselor to make GE Pattern comparison. 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." |

Total Units    12

| Intersession | Course Code | Course | Units | Notes | Advising Notes |
|---|---|---|---|---|---|
| Program/GE Course | PHYSICS 011 or CHEM 065 | | 4 | This course meets GE as well as a prerequisite to take the physics or chemistry series. Either 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    4

| Semester 2 | Course Code | Course | Units | Notes | Advising Notes |
|---|---|---|---|---|---|
| Program/GE Course | MATH 262 | **Calculus II** | 5 | | Main campus; all day options. |
| Program/GE Course | MATH 273 or MATH 227/227S | **Introduction to Data Structures & Algorithms or Statistics** | 4 - 5 | OR may choose any other course listed in the choice of 14 units of the degree requirements - see current catalog for list of course options. MATH 227 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. | MATH 273 Main campus. MATH 227/227S Main or SG, all day options. |
| Program Course | PHYSICS 101 | **Physics for Engineers & Scientists I** | 5 | | |

Total Units  14 to 15

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 | LACCD: Area B2 | | 3 | | |
| GE Course | LACCD: Area C | | 3 | | |

**Total Units    6**

| Semester 3 | Course Code | Course | Units | Notes | Advising Notes |
|---|---|---|---|---|---|
| Program/GE Course | MATH 263 | **Calculus III** | 5 | | Main campus; all day options. |
| Program Course | PHYSICS 102 | **Physics for Engineers & Scientists II** | 4 - 5 | OR may choose any other course listed in the choice of 14 units of the degree requirements - see current catalog for list of course options. | |
| GE Course | LACCD: Area B1 | | 3 | HISTORY 011 or 012 recommended, but LACCD GE: Area B1 courses vary based upon transfer goals and subsequent GE Pattern being used (in addition to the LACCD GE pattern). Advised to connect with Counselor to make GE Pattern comparison. | |

**Total Units  12 to 13**

| Semester 4 | Course Code | Course | Units | Notes | Advising Notes |
|---|---|---|---|---|---|
| Program/GE Course | MATH 270 | **Linear Algebra** | 3 | | Main campus; AM or PM. |
| Program/GE Course | MATH 275 | **Ordinary Differential Equations** | 3 | | Main campus; AM or PM. |
| Program Course | PHYSICS 103 | **Physics for Engineers & Scientists III** | 4 - 5 | OR may choose any other course listed in the choice of 14 units of the degree requirements - see current catalog for list of course options. | |
| GE Course | LACCD: Area E1/E2 | | 3 | HEALTH 002 Recommended as it meets both Area E1 and E2. GE courses vary based upon transfer goals and subsequent GE Pattern being used (in addition to the LACCD GE pattern). Advised to connect with Counselor to make GE Pattern comparison. | |

**Total Units  13 to 14**

**Degree Path and Requirements:**

This is not a CSU Transfer degree, there may be additional general education coursework needed. 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:**

This map was created using the LACCD GE requirements. Students should consult a counselor for specific information about transfer, IGETC, and CSU GE requirements.

**Program Description**

The program is designed to award the Associate in Science degree to those students who have completed a specialization in mathematics. This degree program is intended to meet the needs of mathematics students who do not require a science component for their degree. The requirements were chosen to optimize student preparation for upper division coursework at a four-year institution leading to a minor in mathematics or a Bachelor's degree in a field related to mathematics.

**Career and Transfer Opportunities**

The degree program offers training in both pure and applied mathematics leading to careers in research, business, industry, and government. In addition, many areas, such as accounting, actuarial science, finance, management, and operations research depend upon the use of mathematics in developing solutions to practical problems. Visit the Transfer Center for transfer and guaranteed transfer information, which varies based on transfer college. Make an appointment with a counselor for transfer information. Students can visit Career and Job Services for career counseling and further exploration. Check out these Math careers.

**Youtube Videos**

Mathmatician Career Video

Statistician Career Video

**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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