

PROGRAM OF STUDY

Associate in Science in Mathematics for Transfer

The major in mathematics provides a broad foundation of problem solving and logical reasoning skills. The mathematics major learns to use patterns and relationships to analyze mathematical situations and solve a wide variety of problems.

A mathematics major may transfer to a four-year institution to complete a Bachelor's Degree in Mathematics, Physics, Computer Science, or Engineering. Career opportunities include teacher, researcher, and statistician. Graduates work in private industry, government, and many areas of technological research and computer-related fields.

Cabrillo offers options for degrees in Mathematics. The first option listed below is the Associate in Science in Mathematics for Transfer (A.S.-T), which is intended for students who plan to complete a bachelor's degree in Mathematics or related STEM field at a CSU campus. Students completing these degrees are guaranteed admission to the CSU system, but not to a particular campus or major. This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system. See a Counselor. See Associate Degree for Transfer information in the Cabrillo College *Catalog*.

The following is required for all A.A.-T or A.S.-T degrees:

Completion of 60 CSU-transferable semester units.

- Minimum grade-point average (GPA) of at least 2.0 in all CSU-transferable coursework. While a minimum of 2.0 is required for admission, some majors may require a higher GPA.
- Completion of a minimum of *18 semester units in the major with a letter grade of "C" or better, or a "P" if the course is taken on a "pass/no pass" basis.
*Note: this degree requires greater than 18 units in the major for completion.
- Certified completion of the California State University General Education-Breadth pattern (CSU GE Breadth) or the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

The second option fulfills requirements for an A.S. Degree in Mathematics at Cabrillo College.

Learning Outcomes

The Cabrillo College Core Competencies (with an emphasis in the study of Mathematics):

1. Communication: Reading, Writing, Listening, Speaking, and/or Conversing
2. Critical Thinking and Information Competency: Analysis, Computation, Research, Problem Solving
3. Global Awareness: An appreciation of Scientific Processes, Global Systems and Civics, and Artistic Variety.
4. Personal Responsibility and Professional Development: Self-Management and Self-Awareness, Social and Physical Wellness, Workplace Skills

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Completion of CSU or IGETC for CSU General Education Requirements

GE Units

37 - 39

Core		Units
MATH 5A	Analytic Geometry and Calculus I	5
MATH 5B	Analytic Geometry and Calculus II	5
MATH 5C	Analytic Geometry and Calculus III	5
Group A - 1 course		Units
MATH 6	Introduction to Linear Algebra	3
	or	
MATH 7	Introduction to Differential Equations	3
Group B - 1 course		Units
MATH 6	Introduction to Linear Algebra	3
MATH 7	Introduction to Differential Equations	3
MATH 12	Elementary Statistics	5
	or	
MATH 12H	Honors Elementary Statistics	5

MATH 23 **	Discrete Mathematics	4
PHYS 4A	Physics for Scientists and Engineers I	5
CS 11	Introduction to Programming Concepts and Methodology, C++	4
CS 12J	Introduction to Programming Concepts and Methodology, Java	4
CS 19	C++ Programming	4
CS 20J	Java Programming	4
CS 21	Introduction to Data Structures and Algorithms	4
Note: All major courses (except Computer Science courses) are also general education courses.		

Total Units **60**

**usually spring only, even years.