MATHEMATICS

Program Description

Mathematics and related subjects play important dual roles in our culture. On the one hand, mathematics is a study in its own right; on the other hand it is an indispensable tool for expressing and understanding ideas in the sciences, engineering, and an increasing number of other fields.

Learn more about the program on the Mathematics website.

Associate Degree for Transfer

This program also offers an Associate Degree for Transfer. Learn more and review the degree requirements on the Mathematics AS-T listing.

Program Learning Outcomes

- The student will be able to clearly communicate mathematical ideas through graphs, tables of data, equations, and verbal descriptions.
- The student will be able to construct appropriate mathematical models of natural phenomena, develop those models with appropriate mathematical techniques, and interpret results of those models.

Career Opportunities

Employment opportunities for persons with training in mathematics have been expanding in recent years. The courses offered are designed to develop the skills and competencies that not only support the skill areas needed in engineering, physical, and biological sciences, but also satisfy the necessary course requirements for the first two years of a bachelor degree program.

Award Type(s)

- AS = Associate in Science Degree

Units Required

- Major: 44-49

Additional Information

Optional Recommended Courses:

Code	Title	Units
MATH 10	ELEMENTARY STATISTICS	5

Associate Degree Requirements

Code	Title	Units
English Proficiency		
Select one of the following:		
ENGL 1A	COMPOSITION & READING	5
ENGL 1AH	HONORS COMPOSITION & READING	5
ESLL 26	ADVANCED COMPOSITION & READING	5
or equivalent		
Mathematics Proficiency		
College-level math course at or above the level of Intermediate Algebra		

A minimum of 90 units is required[1] to include:

- Completion of one of the following general education patterns: Foothill General Education, CSU General Education Breadth Requirements or the Intersegmental General Education Transfer Curriculum (IGETC)
- Core courses (44-49 units)

[1] Additional elective course work may be necessary to meet the 90-unit minimum requirement for the associate degree.

Note: All courses pertaining to the major must be taken for a letter grade. In addition, a grade of "C" or better is required for all core courses used for the degree.

Core and Support Courses

Code	Title	Units
Core Courses		
MATH 1A	CALCULUS	5-6
or MATH 1AH & 1AHP	HONORS CALCULUS I and HONORS CALCULUS I SEMINAR	
MATH 1B	CALCULUS	5-6
or MATH 1BH & 1BHP	HONORS CALCULUS II and HONORS CALCULUS II SEMINAR	
MATH 1C	CALCULUS	5
MATH 1D	CALCULUS	5
MATH 2A	DIFFERENTIAL EQUATIONS	5
MATH 2B	LINEAR ALGEBRA	5
MATH 22	DISCRETE MATHEMATICS	5
or C S 18	DISCRETE MATHEMATICS	
And two courses from one of the four following options:		9-12
Option 1		
PHYS 2A	GENERAL PHYSICS	
PHYS 2B	GENERAL PHYSICS	
PHYS 2C	GENERAL PHYSICS	
Option 2		
PHYS 4A	GENERAL PHYSICS (CALCULUS)	
PHYS 4B	GENERAL PHYSICS (CALCULUS)	
PHYS 4C	GENERAL PHYSICS (CALCULUS)	
Option 3		
CHEM 1A	GENERAL CHEMISTRY	
CHEM 1B	GENERAL CHEMISTRY	
CHEM 1C	GENERAL CHEMISTRY & QUALITATIVE ANALYSIS	
Option 4		
C S 1A	OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN JAVA	
C S 1B	INTERMEDIATE SOFTWARE DESIGN IN JAVA	
C S 1C	ADVANCED DATA STRUCTURES & ALGORITHMS IN JAVA	
C S 2A	OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN C++	
C S 2B	INTERMEDIATE SOFTWARE DESIGN IN C++	
C S 2C	ADVANCED DATA STRUCTURES & ALGORITHMS IN C++	

	C S 3A	OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN PYTHON
	C S 3B	INTERMEDIATE SOFTWARE DESIGN IN PYTHON
	C S 3C	ADVANCED DATA STRUCTURES & ALGORITHMS IN PYTHON
Total Units		**44-49**