**Contra Costa College**

**Associate in Science in Mathematics for Transfer Narrative**

**ITEM 1: Goals and Objectives**

The Department of Mathematics is committed to assisting students in achieving their educational, vocational, and lifelong learning goals. Our curriculum is designed to support completion of degree and transfer programs at Contra Costa College and other colleges and universities. Degree completion is one of the primary goals of our college and this department.

The **Associate in Science in Mathematics for Transfer** degree program is designed as a roadmap for course selection and as the primary pathway for transfer students intending to earn a CSU baccalaureate degree in **mathematics**. Particularly, this degree is intended to assist students in seamlessly transferring to a California State University. Although university-specific articulation agreements can be found at assist.org, a transfer student now has a general roadmap for major requirements with this degree. Transfer degrees such as this one can be considered a major stepping stone in the transfer process based on California’s first attempt to create uniform lower division curricula. Students transferring to a CSU campus that accepts this degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree.

**Student Learning Outcomes**

Upon completion of this degree students will be able to: (1) Demonstrate an increased appreciation for mathematics, (2) Recognize and identify applications of mathematics to the world around us, (3) Increase their ability to use mathematical reasoning to solve problems, and (4) Use symbolic, graphical, numerical, and written representations of mathematical ideas.

**ITEM 2: Catalog Description**

**Program Description:** The Department of Mathematics is committed to assisting students in achieving their educational, vocational, and lifelong learning goals. Our curriculum is designed to support completion of degree and transfer programs. We offer day, evening, and on-line courses ranging from Elementary Algebra through Differential Equations. Our Department Office, located in AA-210, also serves as a drop-in mathematics tutoring area for students and is staffed by faculty, an instructional assistant, and student tutors.

**Some possible careers:** Mathematicians work in a variety of fields including actuarial science, analytical research, computer programming and mathematical modeling, cryptography, and education. A strong mathematics background is also required for careers in engineering and the physical sciences, social science, and computer science.

**Program Student Learning Outcome Statement:**

Upon completion of this degree students will be able to:

* Demonstrate an increased appreciation for mathematics.
* Recognize and identify applications of mathematics to the world around us.
* Increase their ability to use mathematical reasoning to solve problems.
* Use symbolic, graphical, numerical, and written representations of mathematical ideas.

The Associate in Science in Mathematics for Transfer (AS-T) degree program is designed as the primary pathway for transfer students intending to earn baccalaureate degree in mathematics at a California State University (CSU). Successful completion of the AS-T in Mathematics allows priority admissions into the California State University system, but not a particular campus or major. Students transferring to a CSU campus that does accept this degree will be required to complete no more than 60 units after transfer to earn a bachelor's degree. The AS-T 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. The AS-T requires completion and certification of the California State University General Education (CSU GE) or the Intersegmental General Education Transfer Curriculum (IGETC) as well as the specific major degree requirements. Students should work with a counselor to identify major coursework that can be used to fulfill CSU GE or IGETC categories. Students planning to transfer should contact a counselor to identify major coursework that can be used to fulfill GE requirements and for more information on college specific transfer program requirements.

Pursuant to SB1440, section 66746, as student must complete the following requirements in order to earn an AS-T in Mathematics:

* Complete 60 semester units that are eligible for transfer to the California State University, including both of the following:
  + The Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education – Breadth Requirements.
  + A minimum of 18 semester units in a major or area of emphasis,
    - Obtainment of a minimum grade point average of 2.0.
    - Earn a grade of “C” or better in all courses required for the major or area of emphasis. A “P” (Pass) grade is not an acceptable grade for courses in the major

**ITEM 3: Program Requirements**

The AS-T in Mathematics requires a total of 21-22 major units of required courses. A minimum grade of “C” or better is required in all courses.

**REQUIRED CORE COURSES (14 UNITS)**

MATH 190 Analytic Geometry with Calculus I 5

MATH 191 Analytic Geometry with Calculus II 4

MATH 290 Analytic Geometry with Calculus III 5

**Choose a minimum of 7 units from the lists below. At least 4 units must be from List A.**

**LIST A** (Select one to two) **(4-8 UNITS)**

MATH 292 Introduction to Differential Equations 4

MATH 200 Introduction to Linear Algebra 4

**LIST B** (Select one) **(3 UNITS)**

MATH 185 Discrete Mathematics 3

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| --- | --- |
| Major Total: | 21-22 units |
| Total Units that May Be Double-Counted: | 3 units |
| General Education (CSU/IGETC): | 37-39 units |
| Electives (CSU Transferrable): | 2-5 units |
| Degree Total: | 60 |