



CURRICULUM GUIDE 2012-2013

MATHEMATICS

Associate in Science in Mathematics for Transfer (AS-T)

The Student Transfer Achievement Reform Act (Senate Bill 1440, now codified in California Education Code sections 66746-66749) guarantees admission to a California State University (CSU) campus for any community college student who completes an "associate degree for transfer," a newly established variation of the associate degrees traditionally offered at a California community college. The Associate in Science in Mathematics for Transfer is intended for students who plan to complete a bachelor's degree as a math major at a CSU campus. Students completing this degree are guaranteed admission to the CSU system, but not to a particular campus or major. Students will learn the basic mathematical theory which is needed to study advanced math topics at a four year university.

Mathematics is a traditional program of university study, with a heritage dating back centuries. In addition to being an academic program worthy of study for its own merits, a degree in mathematics allows a student to enter the workforce in a broad range of areas, including finance, data analysis, and teaching. A degree in mathematics also provides the background for students to pursue graduate programs in many areas such as engineering, law, medicine, and business. A degree in mathematics is often considered as a strong indication that a student possesses good critical thinking skills, the ability to process complicated ideas, and the ability to both follow and create logical processes.

In order to earn the Associate in Science in Mathematics for Transfer, students must complete a minimum of 60 required semester units of CSU-transferable coursework with a minimum GPA of 2.0. This degree may not be the best option for students intending to transfer to a particular CSU campus or to university or college that is not part of the CSU system. Students should consult with a counselor when planning to complete the degree for more information on university admission and transfer requirements.

Requirements for Associate in Science for Transfer Degree:

- a) Complete all Major and Supporting Courses with a grade of C or better.
- b) Complete Plan B or Plan C General Education requirements. These requirements are specified in the Ohlone College catalog.
- c) Complete a minimum of 60 CSU-transferable semester units.
- d) Complete a minimum grade point average (GPA) of at least 2.0 in all CSU-transferable coursework. While a minimum GPA of 2.0 is required for admission, some majors may require a higher GPA. Please consult with a counselor for more information.
- e) Complete a minimum of 21 semester units in the Mathematics major.
- f) Complete at least 12 units at Ohlone College.

Student Learning Outcomes

1. Learn the foundation mathematics necessary for further studies in engineering, mathematics, and science.
2. Demonstrate proficiency at problem solving techniques.
3. Demonstrate a rudimentary level of knowledge for the construction of formal proofs.
4. Apply their knowledge of problem solving techniques towards the solution of problems in engineering and science.

MAJOR FIELD

MATH-101A	Calculus with Analytic Geometry	5
MATH-101B	Calculus with Analytic Geometry	5
MATH-101C	Calculus with Analytic Geometry	<u>5</u>
		15

Group A

Choose a minimum of six units from Group A and Group B, with at least three units from Group A.

MATH-103	Introduction to Linear Algebra	3
MATH-104	Differential Equations	<u>5</u>
		3-5

Group B

Choose a minimum of six units from Group A and Group B, with at least three units from Group A.

CS-102	Introduction to Programming Using C++	4
MATH-111	Introduction to Matlab	3
MATH-163	Discrete Mathematics for Computers	3
PHYS-140	Mechanics	<u>4</u>
		3-4

Total Required Units 21-24