

# MATHEMATICS



Associate Degree  
for Transfer  
*A Degree with a Guarantee.*<sup>SM</sup>

## Student Transfer Achievement Reform (STAR) Act (SB1440)

### Associate in Science

#### Transfer Preparation\* (Major Code: 01585)

Mathematics has become essential and pervasive in the workplace. Projections indicate that its use will expand as will the need for more workers with knowledge of college-level mathematics. In today's highly technological society, the study of mathematics has become increasingly important, particularly to computer science. Mathematics is a study that provides a foundation for problem solving and logical reasoning skills. It includes arithmetic, algebra, geometry trigonometry, calculus, statistics, and computer programming, etc. Mathematics is the science of numbers and their operations, interrelations, combinations, generalizations, and abstractions. In addition to college-level mathematics courses (numbered 100 or above) that will meet the lower-division needs of college transfer students, Southwestern College offers developmental courses consisting of arithmetic through intermediate algebra.

## Program Student Learning Outcome

- Use the basic definitions, properties, theorems, and techniques of Calculus.

### The following is required for all AA-T or AS-T degrees:

- Completion of minimum 60 semester or 90 quarter units of transferable degree applicable courses.
- Minimum overall grade point average (GPA) of at least 2.0 in all CSU transferable coursework.
- Minimum 18 semester or 27 quarter units in major or area of emphasis with a minimum grade of "C" (or "Pass") for each course in the major.
- Completion of the California State University General Education (CSU GE) Breadth pattern or the Intersegmental General Education Transfer Curriculum (IGETC) pattern. For more information, refer to the catalog section, "Certificate of Achievement (<http://catalog.swccd.edu/certificates-certifications-degrees-csuuc-requirements/certificates/certificate-achievement/>)" under Graduation, Certificates, and Degree Requirements.

| Code   | Title                                    | Units |
|--|--|-------|
| <b>Program Requirements</b>  |  |       |
| MATH 250   | ANALYTIC GEOMETRY AND CALCULUS I         | 5     |
| MATH 251   | ANALYTIC GEOMETRY AND CALCULUS II        | 4     |
| MATH 252   | ANALYTIC GEOMETRY AND CALCULUS III       | 4     |
| Select 6-7 units of the following, including at least 3 units from Group A: <sup>1</sup> |  | 6-7   |
| <b>Group A</b>   |  |       |
| MATH 253   | INTRODUCTION TO DIFFERENTIAL EQUATIONS** |       |

|                     |  |
|---------------------|--|
| MATH 254            | INTRODUCTION TO LINEAR ALGEBRA                                 |
| <b>Group B</b>      |  |
| MATH 119            | ELEMENTARY STATISTICS**  |
| MATH 130            | INTRODUCTION TO COMPUTER PROGRAMMING                           |
| PHYS 270 & PHYS 271 | PRINCIPLES OF PHYSICS I and PRINCIPLES OF PHYSICS LABORATORY I |
| <b>Total Units</b>  | <b>19-20</b>   |

<sup>1</sup> Select a minimum of 6 units with at least 3 units from Group A (3 units are required from Group A, no units are required from Group B, however all 6 units can come from Group A).

\*\* MATH 253 (<https://catalog.swccd.edu/search/?P=MATH%20253>) does not articulate with the Differential Equations courses at some CSUs. The Mathematics Department recommends the MATH 119 (<https://catalog.swccd.edu/search/?P=MATH%20119>) be taken as an elective if it is not chosen from Group B.

\* Students planning to transfer to a four-year college or university should complete courses specific to the transfer institution of choice. University requirements vary from institution to institution and are subject to change. Therefore, it is important to verify transfer major preparation and general education requirements through consultation with a counselor in either the Counseling Center or Career and Transfer Connections. See catalog Transfer Courses Information (<http://catalog.swccd.edu/student-success-support-program/student-services-and-college-services/other-services/transfer-courses/>) section for further information.