

MATHEMATICS, ASSOCIATE IN ARTS DEGREE

Banner code: 2_AA_MATH

Financial aid: Eligible

The Associate in Arts degree in Mathematics is designed for students to study a variety of mathematical topics: calculus, linear algebra, differential equations, calculus based physics, computer programming, and statistics. These topics aid students in other STEM related fields and applications, building a students critical thinking and applied reasoning to solve and analyze real world applications.

Program Level Learning Outcomes

Upon completion of this program, students will be able to:

1. State and interpret the definition of derivatives, and compute the derivatives of basic and transcendental functions of one or more variables.
2. Apply concepts of differential and integral calculus of one or more variables to solve problems involving rates, area, volume, and lengths of arcs.
3. State and interpret the definition of integrals, and calculate definite and indefinite integrals involving basic and transcendental functions.
4. Graph equations in the rectangular, polar, cylindrical, and spherical coordinate systems, curves defined parametrically, conic sections, vectors, and vector valued functions.
5. Solve first-order differential equations and compute partial derivatives.
6. Perform matrix operations, eigenvalue and eigenvector computations and applications.

Associate Degree Graduation Requirements

(See GWC website (<http://www.goldenwestcollege.edu>) for the most up-to-date information on Associate Degree Requirements (<https://catalog.cccd.edu/golden-west/general-education/asscociate-degree/>.)

1. Completion of General Education Requirements by one of the following methods:
 - a. Completion of a minimum of 18 units as listed under Areas A through E, including the Cultural Diversity Requirement.
 - b. Completion of a minimum of 39 units of CSU General Education requirements. Students who complete this pattern are also eligible to receive the Certificate of Achievement in CSU General Education Breadth (<https://catalog.cccd.edu/golden-west/general-education/csu-ge/>).
 - c. Completion of a minimum of 34 (UC) or 37 (CSU) units of Intersegmental General Education Transfer Curriculum (IGETC) requirements. Students who complete this pattern are also eligible to receive the Certificate of Achievement in IGETC (<https://catalog.cccd.edu/golden-west/general-education/igetc/>).
2. Completion of a Major or Area of Emphasis—a minimum of 18 units.
3. Completion of additional elective units to a total of 60 units.

4. 2.0 overall Grade Point Average at GWC and 2.0 overall Grade Point Average for all colleges attended.
5. At least 12 units completed at GWC.

Students should consult a GWC counselor in order to select the best pathway to meet their educational goals. For students who intend to transfer, the choice of general education will be specific to both their major and transfer institution.

Course	Title	Units
Required Courses		
MATH G180	Calculus I	5
MATH G185	Calculus 2	5
MATH G280	Calculus 3	5
<i>Select one of the following:</i>		4-5
MATH G235	Applied Linear Algebra	4
MATH G282	Ordinary Differential Equations	4
MATH G285	Introduction to Linear Algebra and Differential Equations	5
Major Total		19-20
GE Pattern (Local, CSU GE-Breadth, or IGETC)		18-39
Total Units		60