ASSOCIATE IN ARTS

GENERAL STUDIES WITH EMPHASIS IN MATHEMATICS FOR SECONDARY SCHOOL TEACHING

Upon completion of the AA degree in General Studies with an Emphasis in Mathematics for Secondary School Teaching, a student will be prepared to enter a BA or BS degree program at a four-year college or university with a major in mathematics. Further, the student will have completed education courses and Service Learning to be on track with the UC Cal Teach Program or a CSU teacher preparation program leading to a fifth-year Secondary School Credential Program. Students must complete all Area of Emphasis requirements with a "C" grade or better.

Program Learning Outcomes:

- Apply problem-solving methods to application problems involving linear equations and inequalities.
- Categorize and distinguish the particular and special characteristics of linear, quadratic, absolute value, exponential, and logarithmic functions.
- Analyze polynomial functions of higher order, and apply to them the remainder theorem, factor theorem, and fundamental theorem of algebra and its corollaries to study their rational, irrational, and complex roots.
- Apply the principles of analytical trigonometry, including fundamental identities and formulas, in solving a variety of practical problems.
- Use matrix methods to solve problems that involve systems of three or more linear equations.
- Use the methods of calculus to solve problems involving rates of change, vectors, and interpretations of areas and volumes.
- Recognize and identify best practices in teaching.
- Assess the diversity of learners in a classroom and evaluate teaching methods that address the variety of ways that students learn.
- Distinguish between learner-centered and teacher-centered curricula and distinguish between classroom approaches that are inquiry-based (hands-on) and those that are informational.
- Describe how national and state standards in science and mathematics affect curricular design and testing.

Area of Emphasis Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>MATH 071</td>
<td>Calculus I with Analytic Geometry*</td>
<td>5.0</td>
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<tr>
<td>MATH 072</td>
<td>Calculus II with Analytic Geometry</td>
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<tr>
<td>MATH 073</td>
<td>Multivariable Calculus</td>
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<tr>
<td>EDUC 012MS</td>
<td>Math &amp; Science Future Teacher Seminar I</td>
<td>3.0</td>
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<tr>
<td>EDUC 013MS</td>
<td>Math &amp; Science Future Teacher Seminar II</td>
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<tr>
<td>EDIT 010</td>
<td>Computers and Digital Media in Education</td>
<td>3.0</td>
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Area of Emphasis Requirements 24.0
General Education Requirements 36.0*
Physical Activity 1.0
Total 61.0

*3 units of General Education (area B4) can be met with Math 071