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## **Liberal Arts - Area of Emphasis for Math and Science**

### **Liberal Arts - Area of Emphasis for Math and Science AA Degree**

The Math and Science area of emphasis is designed to provide the student with foundational knowledge and skills in the following areas: the natural sciences, the physical universe, its life forms and natural phenomena. Students will be provided the opportunity to develop mathematical and quantitative reasoning skills and demonstrate understanding of the methodologies of science as investigative tools and to understand the influence scientific knowledge has on society. This area of emphasis prepares students for baccalaureate majors including but not limited to: agriculture, computer science, engineering, enology, geology, geography, genetics, health science, kinesiology, and pre-nursing.

#### **Program student learning outcomes:**

1. Students will explain relationships between humans and the natural environment.
2. Students will formulate and test hypotheses about concepts in physical and life sciences.
3. Students will collect, record, organize, analyze, and interpret data with the assistance of graphing software while recognizing the limitations of measurements.
4. Students will apply analytical methodologies with quantitative and qualitative reasoning when approaching a problem.
5. Students will clearly communicate the results of scientific work in oral, written, and/or electronic formats to both scientists and the public at large.

#### **Students must fulfill the following requirements to qualify for an Associate Degree:**

- Complete the Local General Education, CSU General Education (CSUGE) or Intersegmental General Education Transfer Curriculum (IGETC) requirements,
  - Complete a minimum of 18 additional units from the major list below,
  - Complete electives to reach a total of 60-degree applicable units,
  - Earn a grade of C or better in each major course,
  - Maintain a minimum cumulative G.P.A. of 2.00, and
  - Complete the English and math proficiency requirements with a C or better
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<i>Course #</i>	<i>Title</i>	<i>Units</i>
<b>Required Core Courses (18 Units). Students must complete at least one course in Math.</b>		
ASCI 012...	Introduction to Animal Science .....	3
BIO 010....	Fundamentals of Biology .....	3
BIO 015....	Biology for Education .....	3
BIO 032....	Human Anatomy .....	4
BIO 035....	Human Physiology .....	4
BIO 038....	Microbiology .....	4
CHEM 002A	Introductory Chemistry .....	4
CHEM 002B	Introduction to Organic Chemistry and Biochemistry .....	4
CRPSCI 001.	Introduction to Plant Science .....	3
CRPSCI 002.	Plant Science Theory .....	3
CRPSCI 006.	Introduction to Precision Agriculture .....	3
CRPSCI 007.	Advanced Precision Agriculture .....	3
GEOG 001..	Physical Geography .....	4
GEOL 001..	Physical Geology .....	4
GEOL 003..	Historical Geology .....	4
MATH 063..	Intermediate Algebra .....	5
MATH 010A	Structure & Concepts in Mathematics I .....	3
MATH 010B	Structure & Concepts in Mathematics II .....	3
MATH 025..	Introduction to Statistics .....	4
MATH 045..	Contemporary Math .....	3
MATH 001A	Introduction to Calculus .....	5
MATH 001B	Calculus With Applications .....	5
MATH 002A	Multivariate Calculus .....	4
MATH 002B	Differential Equations .....	4
PSYCH 006..	Research Methods in Psychology .....	3
SLSCI 021..	Introduction to Soil Science .....	4
	<b>Total .....</b>	<b>18</b>