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.

Upon completion of the math and science program, the student will be able to:

- Use mathematical models and/or concepts to solve real-world applications.
- Label and identify prokaryotic and eukaryotic cell parts and describe their functions.
- Describe the processes of nutrient catabolism in human body cells.
- Differentiate between human tissue types and their respective functions.
- Describe the transcription and translation of a human gene.
- Use molecular models to interpret chemical systems.
- Use graphing software to interpret data.
- Demonstrate the ability to use maps and other geographic representations, tolls, and technologies to acquire, process, and report information from a spatial perspective.
- Demonstrate and understanding of how physical systems affect human systems and of how human actions affect physical systems.
- Understand the Earth as a system with many separate but interacting parts.
- Understand the relationship between people and the natural environment and will understand how the discipline of geology can be used to solve problems that arise from these interactions.
- Understand how scientific hypotheses are formulated and tested in general and will specifically understand the evolution and development of major geological science theories.

Students must fulfill the following requirements to qualify for an associate degree:

- Complete the Associate Degree requirements
- Complete major course requirements as specified in the catalog with a C or better
- Complete electives to reach a total of 60 degree applicable units
- Maintain a grade point average of 2.00 overall
- Complete the English and math competency requirements with a C or better

Select at least 18 units from the following courses. Students must complete at least one math course:

Course #	*Title*	*Units*
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
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
* PHYSCI 001	Survey of the Physical Sciences	4
PSYCH 006	Research Methods in Psychology	3
SLSCI 021	Introduction to Soil Science	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 015	Precalculus	5
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
	Total	**18**

**This course offered infrequently*