

ASSOCIATE OF ARTS IN UNIVERSITY STUDIES - PATHWAY TO MATH AND SCIENCE (AA)

This degree prepares students for transfer to a four-year university. Students completing this degree will have an introductory foundation in mathematics and science. Students will gain an understanding of basic mathematical concepts, quantitative reasoning and their application, experimental methodology, hypotheses testing, and the power of systematic questioning. Students will also develop a comprehension of the basic concepts of physical and biological sciences, and a sophisticated understanding of science as a human endeavor, including the limitations, as well as the power of scientific inquiry.

Program Outcomes

- Demonstrate an understanding of science and mathematical concepts relevant to inquiry at the university level by being prepared for transfer into a STEM program.

Transfer & Career Opportunities

The College maintains articulation with most CSU and UC campuses and some private colleges and universities. Course requirements vary between colleges and universities and students are encouraged to consult ASSIST.org (<http://www.ASSIST.org>) and a COS counselor for program planning and course selection. This degree prepares students for baccalaureate majors including, but not limited to: Atmospheric Science, Biotechnology, Computer Science, Engineering, Enology, Food, and Nutritional Sciences, Genetics, Health Science, Hydrology, Kinesiology, Natural Science, Pre-Nursing (B.S.N.), Physics, and many pre-professional majors: Pre-Med, Pre-Dental, Pre-Pharmacy, Pre-Optometry, Pre-Veterinary Med, and Pre-Chiropractic.

Code	Title	Units
GENERAL EDUCATION		30-39

Select one of the following General Education patterns:

California State University General Education (CSU-GE) *

Intersegmental General Education Transfer Curriculum (IGETC) **

College of the Sequoia's Associate Degree General Education (COS GE)

Students completing the COS GE option must complete the minimum 30 unit GE admission requirement for the CSU or UC (consult with a COS Counselor to create student education plan.)

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Exemptions for High Unit Majors: Students who have met the minimum admissions requirements to a UC or CSU campus in a major such as Science or Engineering, where completion of the CSU GE or IGETC is not recommended due to excessive units, can be granted an Associate degree with the completion of the COS Associate Degree General Education requirements. The PE (section 4A), and HW (section 4B) subject requirements, and the Information Competency (section 5C) requirement will be waived and the additional 3 units required per Title 5 will be met with numerous additional science and math courses required for these majors.

CONCENTRATION - MATH AND SCIENCE	18
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Complete a minimum of 18 units with a "C" grade or better, including at least one mathematics course and at least one science course from the lists below. Courses used to fulfill the general education requirements listed above may be counted as part of the 18 unit minimum.

LIST A: MATHEMATICS		3-15
BUS 020	Business Statistics *	3
BUS 119	Quantitative Methods *	3
MATH 005	Modern Mathematics	4
MATH 010	Structure and Concepts 1 *	4
MATH 011	Structures and Concepts 2 *	4
MATH 021	Introduction to Statistics *	4
MATH 035	Precalculus A	4
MATH 044	College Algebra	4
MATH 054	Precalculus B	4
MATH 070	Precalculus *	5
MATH 065	Calculus 1 *	4
MATH 066	Calculus 2 *	4
MATH 067	Calculus 3 *	4
MATH 080	Linear Algebra *	4
MATH 081	Differential Equations *	5
SSCI 025	Statistics - Social Sciences *	4
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LIST B: SCIENCE		3-15
AG 002	Environmental Conservation	3
AG 004	Soil Science	3
ANTH 011	Biological Anthropology	3
ASTR 010	Introduction to Astronomy *	3
BIOL 001	Principles of Biology 1 *	5
BIOL 002	Principles of Biology 2 *	5
BIOL 020	Frontiers in Biology *	4
BIOL 021	Plant Biology *	3
BIOL 022	Animal Biology *	3
BIOL 025	Human Ecology *	3
BIOL 030	Human Anatomy *	4
BIOL 031	Human Physiology *	4
BIOL 040	General Microbiology *	4
CHEM 001	General Chemistry 1 *	5
CHEM 002	General Chemistry 2 *	5
CHEM 010	Introduction to Chemistry	4
CHEM 020	Introduction to General Chemistry *	4
CHEM 021	Organic/Biological Chemistry *	4
GEOG 001 & 001L	Physical Geography and Physical Geography Lab *	4
GEOG 005	Introduction to Weather and Climate	3
GEOL 001	Physical Geology *	4
GEOL 005	Earth History *	4
GEOL 012	Environmental Geology *	3
NUTR 018	Nutrition	3
PHYS 020	General Physics 1 *	5
PHYS 021	General Physics 2 *	5
PHYS 055	Physics 1: Mechanics & Waves *	4
PHYS 056	Physics 2: E&M and Heat *	4

PHYS 057	Physics 3: Modern Physics *	5
PLSI 001	Introduction to Plant Science	3
PSCI 020	Physical Science *	4
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ELECTIVES		5-27
Select additional transferable courses numbered 1-199 to achieve 60 units.		
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TOTAL		60

* Courses meet General Education requirement and 6-9 units may be double counted above in A1 (CSU GE).

** 0-10 units may be double counted above in 1B (IGETC).

The Associate of Arts in University Studies- Pathway to Math and Science requirements include completion of the 60 unit program defined above with at least 12 units taken in residence at College of the Sequoias with a "C" (2.0) average (see Transfer Information and Requirements (<https://catalog.cos.edu/transfer-information-requirements/>) for additional details).