

## Associate in Science in Natural Science and Mathematics

The Natural Science and Mathematics emphasis focuses on the study of the physical universe, its life forms, and the relationship between science and other human activities. To fulfill the requirements for this degree, students will complete the required courses and work with a counselor to determine the appropriate pattern of general education courses based on the student's individual educational goals.

### Core Requirements

Students must complete 18 units selected from the courses listed below, including a minimum of 3 units of Mathematics, 3 units of Physical Sciences, and 3 units of Biology.

<b>A. Mathematics</b>	<b>Units</b>
MATH 94 Intermediate Algebra	5
MATH 99 Intermediate Algebra, Part B	3
MATH 106 College Algebra	5
MATH 108 Trigonometry	3
MATH 115 Applied Calculus	5
MATH 120 Calculus I	5
MATH 121 Calculus II	5
MATH 220 Linear Algebra	3
MATH 221 Multivariable Calculus	5
MATH 222 Differential Equations	3
MATH 232 Statistics	4
MATH 235 Finite Mathematics	3
<b>B. Physical Sciences</b>	<b>Units</b>
ASTR 110 Descriptive Astronomy	3
ASTR 111 Practical Astronomy	3
CHEM 110 Introduction to Chemistry	4
CHEM 111 Intro to Organic & Biological Chemistry	4
CHEM 120 General Chemistry 1	5
CHEM 121 General Chemistry 2	5
CHEM 240 Organic Chemistry 1	4
CHEM 241 Organic Chemistry 2	4
CHEM 242 Quantitative Analysis	4
EART 110 Earth Science: Earth, Sea, and Sky	4
ENVS 115 Energy, the Environment & Sustainability	3
GEOG 110 Physical Geography	3
GEOG 114 California Geography	3
GEOG 120 Geographic Info Systems & Science 1	4
GEOG 121 Geographic Info Systems & Science 2	4
GEOL 110 Physical Geology	3
GEOL 111 Physical Geology Laboratory	1
GEOL 112 Fossils, Time and Earth History	3
GEOL 116 Geology, Hazards and Humanity	2
PHYS 105 General Applied Physics	3
PHYS 110 Descriptive Physics	3
PHYS 111 Descriptive Physics Laboratory	1

PHYS 120 General Physics 1	4
PHYS 121 General Physics 2	4
PHYS 140 Physics for Scientists & Engineers 1	4
PHYS 240 Physics for Scientists & Engineers 2	4
PHYS 241 Physics for Scientists & Engineers 3	4

<b>C. Biology</b>	<b>Units</b>
BIOL 103 Introduction to Nutrition	3
BIOL 105 Human Biology	4
BIOL 110 Survey of Biology	4
BIOL 112 Introduction to Ecology	3
BIOL 117 Wildlife Biology	3
BIOL 120 General Biology	4
BIOL 218 Human Anatomy	5
BIOL 219 Human Physiology	5
BIOL 220 General Microbiology	5
BIOL 240 General Zoology	5
BIOL 241 General Botany	5

<b>D. Area of Emphasis Elective Courses</b>	<b>Units</b>
ANTH 120 Biological Anthropology	3
TECH 107 Technical Mathematics II	3

**Total Units** **18**