

Natural Science Emphasis

A.A. DEGREE: 60 units

DESCRIPTION

The Area of Emphasis for Studies in Natural Science recognizes the integrated role that Biology, Chemistry, Physics, and Mathematics play in the description and understanding of our everyday world.

PROGRAM LEARNING OUTCOMES

Upon successful completion of this program, students will be able to:

- ▶ Employing the scientific method as a basis for evaluating theoretical and laboratory derived information, students will gain an understanding of the biological and/or physical worlds.
- ▶ Students will also gain a working familiarity with mathematics and an understanding of mathematics as it applies to modeling in the sciences and as an elegant stand-alone discipline.

REQUIREMENTS: (18 UNITS)

Choose any combination of courses for a minimum of 18 units. You must select at least one course from Mathematics and one course from one of the Science disciplines:

BIOLOGY

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| BIO8 or | General Microbiology | 5 |
| AH8 | General Microbiology | 5 |
| BIO9 or | Human Physiology | 5 |
| AH9 | Human Physiology | 5 |
| BIO15 or | Survey of Human Anatomy and Physiology | 5 |
| AH15 | Survey of Human Anatomy and Physiology | 5 |
| BIO1 | Cell and Molecular Biology | 4 |
| BIO4 | General Zoology | 4 |
| BIO5 | General Botany | 4 |
| BIO7 | Human Anatomy | 4 |
| BIO21 | Field Ecology1 | 4 |

CHEMISTRY

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| CHEM1A | General Chemistry | 5 |
| CHEM1B | General Chemistry | 5 |
| CHEM12A | Organic Chemistry | 5 |
| CHEM12B | Organic Chemistry | 5 |

ECOLOGY

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| ECOL1 | Conservation of Natural Resources | 4 |
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GEOLOGY

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| GEOL1 | Introduction to Geology | 4 |
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MATHEMATICS

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| MATH1A | Single-Variable Calculus and Analytic Geometry | 4 |
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| MATH1B | Single-Variable Calculus and Analytic Geometry | 4 |
| MATH1C | Multivariable Calculus | 4 |
| MATH2 | Linear Algebra | 3 |
| MATH2C | Differential Equations | 3 |
| MATH5 | Introduction to Statistics | 3 |
| MATH7 | Finite Mathematics | 3 |
| MATH8A | First Half of Precalculus | 4 |
| MATH8B | Second Half of Precalculus | 4 |

PHYSICS

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|--------|---|---|
| PHYS2A | General Physics I | 4 |
| PHYS2B | General Physics II | 4 |
| PHYS4A | Physics for Scientists and Engineers - Mechanics | 4 |
| PHYS4B | Physics for Scientists and Engineers - Electricity and Magnetism | 4 |
| PHYS4C | Physics for Scientists and Engineers - Heat, Optics, Modern Physics | 4 |

GENERAL EDUCATION REQUIREMENTS: (35 - 39 UNITS)

A student may complete the Gavilan College A.A./A.S. general education, the CSU-GE Breadth or the IGETC pattern, plus sufficient electives to meet a 60 unit total. See a counselor for details.

NOTE: A course may be used to satisfy both general education and major courses. See "Double Counting Rule".

