

NATURAL SCIENCE

The Natural Science degree provides students with an introduction to the nature of living things, our physical environment, matter, energy, and their interactions. The core areas covered by the degree are biology, chemistry, geology, geography, mathematics, and physics. Additionally, students pursuing this major have the option of exploring such diverse fields as environmental science, physical science, and psychology. Many of the courses emphasize exploration and study Lake Tahoe and the surrounding areas, a natural lab of outstanding beauty and richness.

Student Learning Outcomes for this major are:

- Apply the scientific method to analyze science-related organisms, structures, processes, and issues on a local, regional, national, and global level.
- Illustrate and convey how the particulate nature of matter corresponds to the microscopic and macroscopic properties of substances.
- Dissect, model, and communicate the complexity of the natural environment into its component interconnected systems.

A. GENERAL EDUCATION REQUIREMENTS

See pages 55-57 for details.

B. REQUIRED COURSES

30.5-37.25 units distributed as follows:

1. Three courses selected from the following (min. 15 units):

(Courses under this section cannot be double-counted for Area B.3.)

BIO 101	Principles of Biology I
BIO 102	Principles of Biology II
BIO 103	Principles of Biology III
CHM 101	General Chemistry I
CHM 102	General Chemistry II
CHM 103	General Chemistry III
GEG 101	Physical Geography
GEL 102	Physical Geology
GEL 103	History of the Earth and its Life
GEL 114	Introduction to Earth Sciences
PHS 117	Oceanography
PHY 104	General Physics I
PHY 105	General Physics II
PHY 106	General Physics III
PHY 107	General Physics (Calculus) - Mechanics
PHY 108	General Physics (Calculus) - Waves, Thermodynamics and Light
PHY 207	General Physics (Calculus) - Electricity and Magnetism
PHY 208	General Physics (Calculus) - Optics and Modern Physics

2. One course selected from the following (4-5 units):

MAT 102	Survey of Mathematical Ideas
MAT 103A	College Algebra (Part I)
MAT 103B	College Algebra (Part II)
MAT 104	College Trigonometry
MAT 105	Calculus and Analytic Geometry (Part I)
MAT 106	Calculus and Analytic Geometry (Part II)
MAT 107	Calculus and Analytic Geometry (Part III)
MAT 118	Calculus for Business and Social Sciences
MAT 201	Elementary Statistics
MAT 202	Calculus and Analytic Geometry (Part IV)
MAT 203	Linear Algebra
MAT 204	Differential Equations

3. Three courses selected from the following (11.5-17.25 units):

(Courses under this section cannot be double-counted for Area B.1.)

ANT 103	Physical/Biological Anthropology
BIO 101	Principles of Biology I
BIO 102	Principles of Biology II
BIO 103	Principles of Biology III
BIO 110*	Introduction to Cell and Molecular Biology

*May not be taken as an elective, if BIO 101 has been taken for credit

BIO 111** Introduction to Plant and Animal Biology

**May not be taken as an elective, if BIO 102 has been taken for credit

BIO 112	Systems Biology
BIO 113	Field Methods in Wildlife Ecology
BIO 115	Forensics
BIO 121	Musculoskeletal Anatomy
BIO 149	Ecology
BIO 201	Botany
BIO 203	Human Anatomy and Physiology I
BIO 204	Human Anatomy and Physiology II
BIO 205	Human Anatomy and Physiology III
BIO 210	Microbiology
BIO 212	Zoology
CHM 100	Introduction to General Chemistry
CHM 101	General Chemistry I
CHM 102	General Chemistry II
CHM 103	General Chemistry III
CHM 116	Introduction to Organic Chemistry
CHM 117	Introduction to Biological Chemistry
CIS 135A/GEG 134	Introduction to Geographic Information Systems
EVS 102	Environmental Science: System Dynamics
EVS 103	Environmental Science: Human Impacts
EVS 104	Laboratory Methods
EVS 105	Field Methods
GEG 101	Physical Geography
GEG 105	Conservation of Natural Resources
GEG 108	Water Resources
GEG 113	Meteorology
GEL 101	Geology of California
GEL 102	Physical Geology
GEL 103	History of the Earth and its Life
GEL 108	Environmental Geology
GEL 110	Geology of the National Parks and Monuments
GEL 114	Introduction to Earth Sciences
PHS 102	Survey of Concepts in Chemistry and Physics
PHS 111	Astronomy
PHS 117	Oceanography
PHY 104	General Physics I
PHY 105	General Physics II
PHY 106	General Physics III
PHY 107	General Physics (Calculus) - Mechanics
PHY 108	General Physics (Calculus) - Waves, Thermodynamics, and Light
PHY 207	General Physics (Calculus) - Electricity and Magnetism
PHY 208	General Physics (Calculus) - Optics and Modern Physics
PSY 210	Introduction to Biological Psychology

C. ELECTIVE UNITS to bring the total to 90.