

Area II Emphasis Patterns

Earth and Space Science

Select one course from each category, including at least one course with a laboratory experience. At least six units must be upper division.

Category A—Astronomy (select one)	
ASTR 115/116	Introduction to Astronomy/Introduction to Astronomy Laboratory (3/1)
ASTR 350	History of Astronomy
Category B—Geology (select one)	
GEOL 105	History of Life
GEOL 110	Physical Geology (4)
GEOL 270	Environmental Geology
GEOL 302	The Violent Earth
GEOL 350	Geology of the National Parks
GEOL 356	Geology of California
Category C—Meteorology (select one)	
METR 100/101	Introduction to Meteorology/Introduction to Meteorology Laboratory (3/1)
METR 302	The Violent Atmosphere and Ocean
METR 356	California Weather Events
Category D—Integrated Geosciences (select one)	
OCN 102/103	Introduction to Oceanography/Introduction to Oceanography Laboratory (3/1)
GEOL/METR/OCN 309	Land, Sea, and Air Interactions
GEOL/METR/OCN 405	Planetary Climate Change (4)

Environmental Science

Select at least one course from Category A and at least one from Category B, including at least one course with a laboratory experience. At least six units must be upper division.

Category A—Life Sciences	
BIOL 313	Principles of Ecology
BIOL 317	California's Ecological Legacy
BIOL 318	Our Endangered Planet

Category B—Physical Sciences/Engineering	
CHEM 115	General Chemistry I: Essential Concepts of Chemistry (5)
CHEM 380	Chemistry Behind Environmental Pollution
ENGR 210	Introduction to Environmental Pollution Control
ENGR 220	Energy, Resources, and Conservation
GEOG 402	The Climatic Challenge
GEOL 270	Environmental Geology
GEOL/METR/OCN 405	Planetary Climate Change

Life Science

Select at least one course from Category A and one from Category B, including at least one course with a laboratory experience. (BIOL 310 cannot count for both.) Remaining courses can be selected from any category. At least six units must be upper division.

Category A—Cells, Genetics, and Physiology	
BIOL 230	Introductory Biology I (5)
BIOL 310	Biology for Today's World
BIOL 326	Disease!
BIOL 333	Genetic Revolution
BIOL 610	Principles of Human Physiology
Category B—Organismal Biology, Ecology, and Evolution	
BIOL 100/101	Human Biology/Human Biology Laboratory (3/1)
BIOL 150	World of Plants
BIOL 160	Marine Biology
BIOL 170	Animal Diversity
BIOL 240	Introductory Biology II (5)
BIOL 300	Nature Study
BIOL 310	Biology for Today's World
BIOL 313	Principles of Ecology
BIOL 317	California's Ecological Legacy
BIOL 318	Our Endangered Planet
Category C—Other Courses	
BIOL 327	AIDS: Biology of the Modern Epidemic
BIOL 330	Human Sexuality
CHEM 115	General Chemistry I: Essential Concepts of Chemistry (5)

Mathematics

- **K-8 MATHEMATICS PATTERN**

Consult with a Liberal Studies adviser to complete the K-8 Mathematics Pattern.

- **CALCULUS-BASED PATTERN**

Choose four courses; at least six units must be upper division.

MATH 226	Calculus I (4)
MATH 227	Calculus II (4)
MATH 228	Calculus III (4)
MATH 300	History of Mathematics
MATH 301	Exploration and Proof (3-4)
MATH 310	Number Theory
MATH 324	Probability and Statistics with Computing
MATH 325	Linear Algebra
MATH 350	Geometry

Physics and Astronomy

Students selecting this pattern must complete at least twelve units, six of which must be upper division. No course may double count toward both the Area II Emphasis and the Physical Science core.

Category A—Physics (choose one)	
PHYS 101/102	Conceptual Physics/Conceptual Physics Laboratory (3/1)
PHYS 111/112	General Physics I/General Physics I Laboratory (3/1)
PHYS 121/122	General Physics II/General Physics II Laboratory (3/1)
SCI 140	Physics and Chemistry Concepts
Category B—Astronomy	
ASTR 115/116	Introduction to Astronomy/Introduction to Astronomy Laboratory (3/1)
Category C—History of Science (choose one)	
ASTR 350	History of Astronomy
PHIL 365	Science and Civilization