

# Environmental Science Program

**FACULTY COORDINATING COMMITTEE** Taylor (Chemistry); McConnaughay (Biology); Roos (Physics).

The interdepartmental major in environmental science is sponsored jointly by the departments of biology, chemistry, and physics. The objectives of the program are to provide the student with the necessary background for a professional career in the area of environmental science or entrance into a graduate program.

A student must choose one of three concentrations: environmental science-biology, environmental science-chemistry, or environmental science-physics. Each student will be assigned an advisor from the department of the chosen concentration. For all concentrations the student must take the following core courses:

BIO 123, 124 Principles of Biology .....	8
BIO 460 Ecology .....	4
BIO 470 Seminar .....	1
CHM 110, 111, 116, 117 General Chemistry.....	9
CHM 250 Organic Chemistry.....	4
CHM 315 Environmental Chemistry .....	3
GES 101, 102 Principles of Earth Science .....	4
GES 110, 111 Principles of Historical Geology .....	4
One of the following: .....	3-4
GES 201 Mineralogy	
GES/BIO 302 Invertebrate Zoology	
GES 312 Structural Geology and Tectonics	
GES 321 Paleontology	
GES 450 Hydrogeology	
Calculus <sup>1</sup> .....	8
PHY 107, 108 General Physics .....	8
	56-57

Each concentration has the following additional requirements:

<b>Biology Concentration</b>	
BIO 223 Organismic Biology .....	5
BIO 420 Ecosystems Ecology <b>or</b>	
BIO 463 Plant Ecology .....	4
Two of the following: .....	7-8

BIO 302 Invertebrate Zoology	
BIO 319 Ethology	
BIO 323 Comparative Anatomy	
BIO 324 Plant Diversity	
BIO 334 Reproduction and Identification of Flowering Plants	
BIO 381 Comparative Animal Physiology	
BIO 395 General Microbiology	
Two additional biology courses approved by the advisor (3 of these hours may be reading/research) .....	6-8
	22-25

The student must have a grade of C or better in all biology courses.

<b>Physics Concentration</b>	
PHY 110, 201 University Physics**.....	8
PHY 202 Applied Quantum Physics .....	3
<b>and the appropriate section of PHY 350 Advanced Physics Experiments.....</b>	1
Three of the following: .....	9
PHY 320 Optics	
PHY 330 Nuclear Physics	
PHY/BIO 345 Radiation Biology	
PHY 361 Electronics	
	21

\*\*Replaces PHY 107, 108 in the core.

<b>Chemistry Concentration</b>	
CHM 191 Chemical Applications of BASIC Programming .....	1
CHM 320 Analytical Chemistry .....	4
CHM 351 Organic Chemistry .....	4
CHM 392 Chemical Literature .....	1
CHM 461 Physical Chemistry.....	3
CHM 530 Advanced Analytical Chemistry .....	4
	17

<sup>1</sup>The biology concentration requires only one semester of calculus (4 hours).