

# Geosciences Degree Programs

## Earth Science BS

### Overview of Program Goals

This major emphasizes *interdisciplinary* study in environmental and earth sciences. It is especially directed toward study of the problems that arise from interaction of human activities with the natural environment. A distinctive feature of this program is the treatment of natural physical processes over a wide range of spatial and temporal scales. Students must complete a core set of interdisciplinary courses, then select one of the following minors as appropriate to their interests: [Climatology](#), [Watersheds & Water Resources](#), [Marine Sciences](#), [Earth Systems](#), [Global Business Strategies](#) for Earth and Environmental Industries, [Science, Society and the Environment of Africa](#), [Chemistry](#), [Physics](#). Learning objectives for the program include clarity of thought and expression; ability to collect, analyze and interpret scientific data; ability to formulate and test hypotheses. Graduates are in demand for positions in government, industry and consulting. Professional activities include gathering and evaluating data on environments; management and coordination of programs in environmental control and modification; and industrial and government planning.

### Revisions to the Major

The new Earth major (beginning Summer 2000) represents a move from emphasis on required, disciplinary courses to flexible choices of appropriate interdisciplinary courses. It also places greater emphasis on course work at the advanced level than the old Earth major. There are two new requirements, both of which offer both flexibility and depth of study when chosen in consultation with a major advisor. These requirements are (a) completion of an interdisciplinary minor degree program, and (b) 3 credits of hands-on intensive learning in a field setting, research environment, internship or laboratory setting. The academic advisor must approve these choices in writing prior to enrollment in order to count towards major requirements.

Students declaring the Earth Sciences major after June 2000 must complete the new major program. Students who were enrolled in the major prior to that date may elect to complete the old major or the new requirements. Note that Math 110 and 111 may **not** substitute for Math 140 and 141 in the new Earth Sciences major. Note that Geog 030 may **not** substitute for Geog 430 in the new Earth Sciences major.

## REQUIREMENTS – Earth Science Bachelor of Science (EARTH)

### General Education

GWS (9 credits)  
ENGL 015 or 030  
ENGL 202C or SPCOM 100  
EMSC 100S\*  
GQ (6 credits), see below  
GN (9 credits), see below

GS (6 credits in Social and Behavioral Science)  
GA (6 credits in Arts)  
GH (6 credits in Humanities)  
GHA (3 credits in Health and Physical Activity)  
US/IL (6 credits in Intercultural Competence)

### Prescribed Courses

CHEM 110 GN (3)  
CHEM 111 GN (1)  
CHEM 112 GN (3)  
CHEM 113 GN (1)  
BIOL 110 GN (4)  
PHYS 211 GN (4)

PHYS 212 GN (4) or PHYS 213 GN (2) and PHYS 214 GN (2)  
MATH 140 GQ (4)  
MATH 141 GQ (4)  
EMSC 100S GWS (3)\*

### Introductory Earth Science

Select 15 credits from this list; courses may not double-count with minor requirements:  
EARTH 002, 100, 101, 105, 111, 150 (3 credits each)  
METEO 003 (3), 022 (2)  
GEOSC 001, 021 (3)  
GEOG 030 GS, 105, 110, 115, 121 (3)  
SOILS 101 (3)

### Advanced Earth Science \*\*

Select 15 credits from this list; courses may not double-count with minor requirements:  
GEOSC 204 (4), 320, 340, 402Y, 416 (3)  
GEOG 430, 438W, 412W (3)  
METEO 300, 431, 475W (3)

### Advanced Math/Statistics/Computer Science (3-4 credits)

Must be selected in consultation with advisor

### Field/Laboratory Experience (3 credits)

Must be selected in consultation with advisor

### Writing Across the Curriculum (3 credits)

Select 3 credits of writing-intensive courses from EMS.

Courses include the following:

GEOSC 402Y, 413W  
GEOG 412W, 310W  
METEO 471W, 475W

### Choice of Minor (18 credits)

Students must complete one of the following minor programs, in consultation with advisor.

No double counting is allowed between your major and minor.

Climatology  
Marine Sciences  
Watersheds & Water Resources  
Earth Systems

Global Business Strategies  
Chemistry  
Physics  
Science, Society and the Environment of Africa

### Supporting Courses (8-9 credits)

Select 8-9 credits in other approved courses; 6 credits of ROTC may apply

\* Students who take a Freshman Seminar outside of EMS before declaring a major substitute SP COM 100 for EMSC 100S

\*\* These courses require a grade of C or better