

Geosciences Degree Programs

GSCBA

Overview of Program Goals

The geosciences are concerned with earth processes and the evolutionary history of the Earth. Geoscientists work to discover and develop natural resources such as groundwater, metals, and energy sources; to solve environmental problems including acid mine drainage and waste disposal; to predict geological events, such as earthquakes and volcanism; and to solve fundamental questions concerning the origin and evolution of Earth and life.

Our degree programs stress data collection; investigation, analysis and synthesis of information related to complex natural problems; rigor of thought and clarity of oral and written expression.

Degree Programs within the Department

The *Bachelor of Arts* provides a basic education in geosciences, and is designed for students who envision careers that interface among science, social science, and business. Examples of these careers include environmental law, national and international planning or resource management, and K-12 teaching. The BA degree in Geosciences requires a minimum of 120 credits.

REQUIREMENTS – Geosciences Bachelor of Arts (GSCBA)

General Education requirements include Arts (GA), Humanities (GH), and Social Sciences (GS) (6 credits each), International and Intercultural Competence (US/IL: 6 credits) and Health and Physical Activity (GHS: 3 credits). General Education courses in Writing and Speaking (GWS: 6 credits) Natural Sciences (GN: 9 credits) and Quantification (GQ: 6 credits) are filled within the major.

University-wide requirements for the **Bachelor of Arts** include one additional course in each of the categories GA, GH, GS and GI. The degree program also includes proficiency (12 credits) in a foreign language. Students with prior language experience may be exempt from some or all of the language credits (check with the appropriate department to verify placement) but must still complete the total number of credits required for graduation.

Required Courses for the GSCBA

English 15	Rhetoric and composition or English 30 Honors freshman composition
English 202C	Technical writing or Speech Communications 100 Effective speech
EMSC 100S	EMS Freshman seminar (students who transfer to EMS and have not taken EMSC 100S must complete both English 202C and SpCom 100)
Math 140	Calculus with analytical geometry or Math 110 Techniques of calculus
Geoscience 001	Physical geology
Geoscience 201	Earth materials

Supporting Sciences Select two of the following sequences for 8 credits, and the third for 4 credits.

Biology

Biology 110	Basic concepts and biodiversity
Biology 220W	Populations and communities

Chemistry

Chemistry 110, 111	Chemical principles
Chemistry 112, 113	Experimental chemistry

Physics

Physics 250, 251	Introductory physics (this course sequence was previously 215-265) (Physics 211, 212, 213, 214 are appropriate for students with MATH 140, 141)
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Advanced Geosciences Select 13-14 credits in consultation with advisor

Select one of the following courses

Geoscience 310	Earth history
Geoscience 320	Geology of climate change

Select one of the following courses

Geoscience 202	Chemical processes
Geoscience 203	Physical processes
Geoscience 204	Geobiology

Select 6 additional credits among 300- and 400-level GEOSC courses

Mathematics/Statistics/Computer Science Select 2-4 credits in consultation with advisor.

Students completing Math 110 are encouraged to take Math 111 or a 200-level Statistics course. Students with Math 140 are encouraged to take Math 141.

Field/Laboratory Experience Select 3 credits in consultation with advisor.

The goal of this requirement is for students to become involved in the *doing* of science outside the classroom. If appropriate, Internship credits (Geosc 495) may apply.

Writing Across the Curriculum Select 3 credits in EMS in consultation with advisor

Supporting Courses Select 11-14 credits in other approved courses; 6 credits of ROTC may apply