

114 / Geography, Geology

Electives

Choose 6 hours from topical geography:

Geog 311 Political Geography 3

Geog 322 Economic Geography. 3

Geog 330 Human Use of the Environment 3

Geog 422 Geography of the United States & Canada 3

Geog 457 Urban Geography 3

Geog 498 Seminar in Geography (human/cultural) . 3

*For course description, see under Geology.

For additional information contact:

Dr. Richard B. Miller
 Office: Webster Hall 245
 Phone: 417.625.9565
 Email: miller-r@mssu.edu

Course Descriptions

Geog 101 (S, Odd) 3 hrs. cr.
Introduction to Geography

An introduction to geography, with the goal of increasing geographic literacy and recognizing the importance of geography in every day life. This course introduces students to the discipline, its basic principles, and major concepts, tools, techniques, and methodological approaches. It traces the development of modern geography and surveys its physical and human sub-disciplines.

Geog 211 (F, S) 3 hrs. cr.
Regions and Nations

Survey of the peoples of the earth and how their activities are influenced by climate, topography, and natural resources.

Geog 298 (Demand) 3 hrs. cr.
Topics in Geography

Special geography topics of current interest. Subjects and instructors are changed each semester. Students are encouraged to submit areas of interest to the Social Science Department.

Geog 302 (S, Odd) 3 hrs. cr.
Human Use of the Environment

A global survey of the environmental disasters, both natural and man-made, that plague the world community, including earthquakes, volcanoes, floods, avalanches, atmospheric phenomena, climate modification, radiation, destruction of tropical rainforests, declining biodiversity, resource depletion, stratospheric ozone depletion, urbanization and overpopulation; discussion of global carrying capacity and limits to growth; analysis of "sustainable" global communities; an overview of global responses to environmental issues through economic policies, the United Nations, international treaties, and the "Green" political movement; and critical review of the various philosophies which underpin contemporary evaluations of the condition of the environment. Prerequisite: Physics 100 and Biology 101.

Geog 304 (F, Odd) 3 hrs. cr.
Geographic Information Systems

Explores the expanding use of Geographic Information Systems (GIS) in ecology, environmental health, and related fields. Satisfies the computer literacy requirement for environmental health majors. Prerequisite: Bio 101 or 112 or 121 or 122. (Cross listed in biology and environmental health.)

9 Geog 310 (F, S) 3 hrs. cr.
Human and Cultural Geography (Writing Intensive)
 Study of the outcome of interaction between humankind and environment as expressed in the spatial organization of human activities, culture, and settlement patterns. Prerequisite: Junior standing.

6 Geog 311 (S, Odd) 3 hrs. cr.
Political Geography
 Geographic factors which have influenced international relations and the policies of states as political units. Emphasis on geopolitics, religion, racial and ethnic groupings, and other factors which may contribute to unity or disunity.

18 Geog 322 (S, Odd) 3 hrs. cr.
Economic Geography
 World commodities and geographic factors which affect their production and make them significant to the world economy. Prerequisite: Junior standing.

Geog 422 (F) 3 hrs. cr.
Geography of the United States and Canada
 Geographic analysis of the United States and Canada with emphasis on regional variations of social, economic, and physical phenomena. Prerequisite: Junior standing.

Geog 457 (S, Even) 3 hrs. cr.
Urban Geography
 Analysis of the characteristic pattern of urban space, spatial organization of urban settlement, and urban societies. Prerequisite: Junior standing.

Geog 498 (Demand) 3 hrs. cr.
Advanced Topics in Geography
 Study and analysis of selected topics in advanced regional geography.

Geog 499 (Demand) 1-3 hrs. cr.
Independent Study
 For students who wish to do an in-depth study of some specialized topic or who wish to pursue a topic not considered in the departments course offerings. The individualized project will be directed by an instructor/adviser from the geography faculty in consultation with the student.



Faculty Sloan - Head, Knapp

Geology, the study of the processes shaping planet earth, is of interest to civil engineers, environmental scientists, geographers, and biologists. Professionals find their background in geology useful for graduate studies, land-use planning, assessment of natural environmental hazards, resource development, and waste disposal.

Geophysics studies the underlying forces responsible for geologic processes and develops the technology for probing the subsurface and interior of the earth. Professional geophysicists work to understand the nature of volcanic eruptions, the behavior and potential prediction of earthquakes, the mecha-

nisms behind continental drift, how to better predict the behavior of the atmosphere, and to develop technologies to search for new mineral and energy resources.

The Physical Science Department participates in a cooperative transfer program with the University of Missouri-Rolla which allows students to complete their first two years of study toward a Bachelor of Science degree in either geology or geophysics at Missouri Southern and then transfer to UMR for the completion of the last two years of the degree. Interested students should pick up a transfer booklet from the Physical Science Department that lists the entire course sequence at MSSU and UMR. The program is adaptable so that students may also complete the degree at the University of Missouri at Columbia or Missouri State University in Springfield.

The geology courses at Southern support majors in other fields such as geography and environmental health and enable students to meet state certification requirements for teaching general science and earth science at the 7th through 12th grade levels.

For additional information contact:

Dr. John Knapp
Office: Reynolds Hall 208
Phone: 417.625.9720
Email: knapp-j@mssu.edu

Course Descriptions

Geol 110 (F) 5 hrs. cr.

Introduction to Geology

Materials of the earth, structures, and geologic features of the surface in relation to the processes and forces producing them. Laboratory study of minerals and rocks and topographic and geologic maps. Additional one-day field trips may be required. Three lectures, two two-hour labs per week.

Geol 180 (S, Even) 3 hrs. cr.

Introduction to Meteorology

Fundamentals of the circulation of the atmosphere, sequence of weather events. Includes interpretation of weather maps. Three lectures per week. Prerequisite: Physics 100 or equivalent.

Geol 201 (S, Even) 3 hrs. cr.

Physical Geography

Study of the physical or natural aspects of man's environment, with emphasis on land form development, oceanographic features, and climate. Students may not receive credit for both Geol 110 and Geol 201.

Geol 202 (Demand) 1 hr. cr.

Map and Photo Interpretation

An introduction to the interpretation of topographic maps, aerial photos, and satellite images. One 3-hour laboratory per week. Designed to compliment Geol 201. Prerequisite: Geol 201 or equivalent, may be taken concurrently. Students may not receive credit for both Geol 110 and Geol 202.

Geol 210 (F, S, Odd & F, Even) 3 hrs. cr.

Fundamentals of Earth and Space Science

Materials of the earth, geologic features and landscapes of the earth's surface in relation to the processes producing them; interrelationships between geologic processes and the earth's atmosphere and oceans; geologic description of the solar system; basic concepts in astronomy and meteorology. Prerequisite: Physics 100, 101, or consent of instructor. Three lectures per week.

Geol 211 (F, S, Odd & F, Even) 4 hrs. cr.

Fundamentals of Earth and Space Science

Materials of the earth, geologic features and landscapes of the earth's surface in relation to the processes producing them; interrelationships between geologic processes and the earth's atmosphere and oceans; geologic description of the solar system; basic concepts in astronomy and meteorology. Laboratory study of rocks and minerals, landscape features as revealed in maps and stereo photos, weather maps, and data, astronomical observations and earth-sun-solar system interrelationships. One-day field trips and some night-time astronomical observations may be required. This course is designed primarily for students specializing in elementary education. Prerequisite: Physics 100, 101, or consent of instructor. Three lectures and one 3-hr laboratory per week.

Geol 300 (S, Odd) 3 hrs. cr.

Environmental Geology

An introduction to our relationship to the earth's environment. The limitations of natural resources and discussion of consequences of the exploitation of natural resources are considered along with the demands of humanity upon the environment. Overview of natural environmental hazards, including volcanoes, earthquakes, subsidence landslides, floods, and asteroid impacts. Prerequisite: Five credits in physical science, physics, and/or chemistry. (*Cross listed in environmental health.*)

Geol 320 (Demand) 4 hrs. cr.

Historical Geology

A comprehensive study of the history of the earth within a plate-tectonics context. Emphasizes the global evolution of landscapes and the fossil record. Laboratory includes geologic mapping, the interpretation of geologic history from map and fossil data, and fossil identification. Three lectures, one two-hour lab per week. Prerequisites: Geol 110 (*Bio 101 or equivalent recommended*).

Geol 430 (Demand) 1-3 hrs. cr.

Internship in Geology

In conference with departmental representatives at least six weeks in advance, the student shall elect to work and observe in any area of applied geology in which on-the-job experience would be beneficial to the student's training. Prerequisites, Junior standing in chemistry, physics, biology, or pre-engineering or by permission.

Geol 498 (Demand) 1-3 hrs. cr.

Studies in Geology

In depth study of the geology of a particular region or system of regions through classroom sessions and/or field trips. Extended field trips will require a special lab fee and, in some cases, special physical conditioning or training. The region or area of interest varies from year to year. Prerequisites: Geol 320 and/or consent of the instructor.

Geol 499 (Demand) 1-3 hrs. cr.

Geology Field Studies

Individual work under the supervision of a staff member with credit and hours to be arranged. Problems may be undertaken in any field of geology with adequate preparation and the consent of the supervising instructor. Prerequisite: Minimum GPA of 3.0 in 20 hrs. of science, Geol 110 and a proven interest in geology.