Department: GEOG

Course No.: 205

Credits: 3

Title: Introduction to Physical Geography

Contact Person: Alexander Vias

Content Area: CA3 Science and Technology

Catalog Copy: GEOG 205. Introduction to Physical Geography. Either semester. Three credits. Open to sophomores or higher. The physical elements and processes of the lithosphere, hydrosphere and atmosphere are considered in relation to one another and to the distribution of the world's environments. Emphasis on the basic concepts and theories of physical geography.

Course Information:
1. Course goals, objectives, requirements, themes, issues etc. -
a. The purpose of this course is to provide the students with an understanding of Earth's physical environments, including 1) the characteristics and global patterns of environmental systems, 2) linkages and interconnections among these environmental systems, 3) the dynamic nature of Earth's physical environment, 4) the influence of human activities on environmental processes, 5) the role that scientific research and technology can play in understanding environmental processes and in solving environmental problems, and 6) the process of hypothesis development and testing in environmental earth science.

b. Evaluation of students consists of in-class unannounced quizzes, one map exercise, two mid-term exams, and one final exam. Quizzes are given at the end of lecture and consist of one critical thinking question that requires the student to reflect on how the day's material relates to a given problem or natural phenomenon. The map exercise requires them to work with the TA to learn to interpret topographic maps. Exams are evenly split between multiple choice and short-answer questions. Readings for the course are from an introductory textbook that also has an interactive web-site with further links to current topics in environmental research and management.

c. The major themes, issues, topics, etc., to be covered include: earth structure, tectonics, mountain building, volcanism, weathering, water resources, hydrology, fluvial landforms and processes, aeolian landforms and processes, coastal landforms and processes, glacial landforms and processes, soil structure and processes, basic atmospheric structure and processes, climate change, biogeography. Included in class and textbook presentations of these topics are explicit discussions of how humans affect and are affected by each of these physical environments and processes.

Meets Goals of Gen Ed:
1. Students master an extensive new vocabulary with which to identify features of their physical environment and discuss the mechanisms that formed and maintain those features.

3. Students are required to think critically about a number of different environments, many of which they are unaware of when entering the class. Furthermore, students learn to think temporally, considering how natural processes have acted in the past to generate environmental features, how these processes are currently acting on these features, and how future changes in the rate or nature of natural processes may alter these features. Finally, intellectual versatility results from applying knowledge learned in discussions of one environmental feature to the discussion and comprehension of other features.

5. Through repeated discussions of human manipulation of natural processes, students become well versed in the human capability to modify the natural environment and the consequences of doing so in an irresponsible manner. This course contributes to the students' moral sense that we, as a technologically advanced society, need to better understand the implications of our manipulations of nature to better conserve the environment and the resources and habitats that our society relies upon.

7. The topographic map exercise provides the students with a working knowledge of how to locate and interpret topographic information, a skill that can be applied to their work in many other courses. This exercise also introduces them to on-line topographic map resources and paper map resources located in the Babbidge Library.

CA3 Criteria:

1. GEOG 205 explores physical geography and geomorphology by introducing students to a broad, coherent body of knowledge used by geoscientists in their studies of earth surface processes and landforms. Particular emphasis is placed on geographic scientific and technical methods such as geomorphic field measurements, remote sensing, and geographic information systems analysis.

2. GEOG 205 promotes an understanding of the nature of modern environmental scientific inquiry, the processes of field and laboratory investigation, and the interplay of data, hypotheses, and principles in the development and application of scientific knowledge to understanding earth surface processes and landforms. Presentation of case studies, such as the recent geomorphic development of Connecticut landforms, explicitly include discussions of hypotheses, various means of testing these hypotheses through field and laboratory experiments, and the process of taking the resulting knowledge and using it to confirm or reject the initial hypotheses.

3. GEOG 205 introduces students to many unresolved questions in physical geography, such as how climate change may affect the extent of glaciation in mountain regions, and discusses how current lines of inquiry are progressing and how future progress might be made in answering these questions.

4. GEOG 205 promotes interest, competence, and commitment to continued learning about contemporary physical geography and its impact upon the world and human society and its relationship to the physical environment through discussion of relevant case study illustrations linking the human condition to the physical processes shaping the Earth's surface.

Role of Grad Assistants: Graduate student assistants are responsible for: 1) assisting with classroom activities such as distributing handouts and answering questions before and after lectures, 2) grading exams and quizzes, and 3) holding office hours for extra help.

Supplementary Information: GEOG 205 is currently in the general education curriculum: Group 8: Science and Technology.