

# ***COCONINO COMMUNITY COLLEGE***

## ***COURSE OUTLINE***

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General Education criteria reviewed by: Cathy Cullicott, Bruce Belman  
Status: Permanent

Date: December 4, 1991  
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Date: November 13, 1998

A. Identification:

1. Subject Area: Geology
2. Course Number: GLG 112
3. Course Title: GEOLOGY OF THE GRAND CANYON
4. Credit Hrs: 2
5. Catalog Description:  
Concepts in geologic history, stratigraphy, volcanology, geomorphology, and glacial and structural geology in the Grand Canyon. Field trips. One lecture; three lab.

B. Course Goals:

To give students a greater understanding of geological history of the Grand Canyon, the processes and time element involved in its formation, and a scientific approach to studying these concepts. To have students become more aware of the geological development and uniqueness of the Grand Canyon through the study of rocks and formations and to utilize Scientific Methods in the course of this study.

C. Course Outcomes:

Students will:

1. Identify major geologic features of the Grand Canyon and the Southern Colorado Plateau.
2. Describe the geologic history of the Grand Canyon, based on rock types, depositional environments, and major theories of its conception.
3. Identify the relationship of the Grand Canyon region to the rest of Colorado Plateau: geology and geologic history.
4. Relate field observations with basic geologic principles and processes.
5. Utilize Scientific Methods in field trip studies and reporting.
6. Demonstrate a basic understanding of the geologic processes that were and are still active in the Grand Canyon today.

D. Course Content:

Will include:

1. Geography of the Grand Canyon
2. Sedimentary, igneous and metamorphic processes involved in the creation of the Grand Canyon
2. Structural and erosional processes involved in the creation of the Grand Canyon.
3. Geologic maps, topographic maps, basic map reading, and field methods.
5. Colorado River Process.
6. Effect of Dams, especially Glen Canyon, on biota.
7. John Wesley Powell's Exploration of Grand Canyon.
8. Detailed geology and geologic history of the sedimentary rock layers of the Grand Canyon.
9. Detailed geology and geologic history of the igneous and metamorphic rocks of the Grand Canyon.