

ROCKS AND MINERALS

Course Design

1999-2000

Course Information

Organization:	EASTERN ARIZONA COLLEGE
Division:	Science & Allied Health
Course Number:	GLG 015
Title:	ROCKS AND MINERALS
Credits:	2
Developed by:	BONNIE BRISCOE
Lecture/Lab Ratio:	2 hours of lecture per week
Transfer Status:	None
Extended Registration	
Class:	No
CIP Code:	40.0601
Assessment Mode:	pre-post test (Questions = 50, Points = 100)
Awareness Course:	No
Intensive Writing	
Course:	No
Prerequisites:	1. None
Educational Value:	This is a community-interest type of course for anyone who wants to learn how to identify rocks and minerals.
Goals:	1. to develop an understanding of the process of identifying common rocks and minerals
Description:	Identification, classification and origin of rock and minerals with emphasis on materials common to Arizona.
Textbooks:	Joseph C Cepeda. <i>INTRODUCTION TO MINERALS AND ROCKS</i> . MacMillan College Publishing, 1994. This textbook is required. Source: campus bookstore.
Supplies:	none

Competencies and Performance Standards

1. Examine the properties of minerals as the building blocks of rocks and their economic uses			
<i>Domain--Cognitive</i>	<i>Level--Analysis</i>	<i>Importance--Essential</i>	<i>Difficulty--High</i>
<p>Criteria--Performance will be satisfactory when:</p> <ul style="list-style-type: none"> <input type="checkbox"/> learner can identify the major minerals found in rock material <input type="checkbox"/> learner can explain the economic importance of the major minerals 	<p>Conditions--Competence will be demonstrated:</p> <ul style="list-style-type: none"> <input type="checkbox"/> in objective/ essay tests <input type="checkbox"/> in lab activity reports 	<p>Learning Objectives:</p> <ul style="list-style-type: none"> a. Explain the definition of a mineral b. Identify the physical properties of major minerals with the basic field tests c. Explain the basic structure of an atom and the formation of compounds d. Explain the composition of the major minerals e. Explain the formation of minerals f. Identify the major rock-forming minerals g. Describe the economic importance of major minerals 	
2. Compare the properties and processes that form the three classes of rocks that make up the rock cycle			
<i>Domain--Cognitive</i>	<i>Level--Analysis</i>	<i>Importance--Essential</i>	<i>Difficulty--High</i>
<p>Criteria--Performance will be satisfactory when:</p> <ul style="list-style-type: none"> <input type="checkbox"/> learner can explain the rock cycle <input type="checkbox"/> learner can identify the three major classes of rocks <input type="checkbox"/> learner can identify the major rocks associated with each class of rocks 	<p>Conditions--Competence will be demonstrated:</p> <ul style="list-style-type: none"> <input type="checkbox"/> in objective/ essay tests <input type="checkbox"/> in lab activity reports 	<p>Learning Objectives:</p> <ul style="list-style-type: none"> a. Explain the definition of a rock b. Explain the order and processes that form the three classes of rocks c. Identify the texture and composition associated with each class of rocks d. Identify the individual rocks in each class e. Explain landform features associated with each class of rocks 	

Types of Instruction

instructions for lab procedures
rock and mineral identification labs
field trips optional

Grading Policy

Evaluation Methods: PRE-TEST - to be given first week of classes = (0%)
ANALYSIS & IDENTIFICATION LAB WORK = (58%)
ANALYSIS & IDENTIFICATION TESTS = (20%)
SPECIAL PROJECTS & ATTENDANCE = (10%)
FINAL EXAM + POST-TEST (10%) (same as pre-test) = (12%)

Grading Scale:

Grade	Requirement
A	90-100%
B	80-89%
C	70-79%
D	60-69%

Learning Plans

Learning Plan 1-- Minerals

Overview: Introduce the learner to the major rock-forming minerals.

Competency: 1. **Examine the properties of minerals as the building blocks of rocks and their economic uses**

Learning Activities:

- _____ 1. Read text assignments
- _____ 2. Observe lab demonstrations
- _____ 3. Listen and take notes during lab instructions
- _____ 4. View and take notes on videos and slides
- _____ 5. Ask questions during labs and demonstrations
- _____ 6. Participate in class and small group discussions
- _____ 7. Complete mineral identification lab activities

Performance Assessment Activities: _____ 1. Complete objective/essay tests
 _____ 2. Submit lab reports

Learning Plan 2-- Rocks

Overview: Introduce the learner to the components of the rock cycle and the identification of major rocks in each rock class.

Competency: 2. **Compare the properties and processes that form the three classes of rocks that make up the rock cycle**

Learning Activities:

- _____ 1. Read text assignments
- _____ 2. Observe lab demonstrations
- _____ 3. Listen and take notes during lab instructions
- _____ 4. View and take notes on videos and slides
- _____ 5. Ask questions during labs and demonstrations
- _____ 6. Participate in class and small group discussions
- _____ 7. Complete mineral identification lab activities

**Performance
Assessment Activities:**

1. Complete objective/essay tests
2. Submit lab reports