COURSE INFORMATION FORM

DISCIPLINE: Geology/Geography  
COURSE TITLE: Historical Geology

CR. HR: 4  
LECT HR: 3  
LAB HR: 2  
CLIN/INTERN HR: ___  
CLOCK HR: ___

CATALOG DESCRIPTION

History of the earth from its origin as a planet to the present time. Succession of geologic formations and their contained fossils in revealing the evolution of the earth and forms of life throughout four and a half billion years of geologic time. Laboratory analysis of geologic problems and identification of fossils. Optional field trip.

PREREQUISITES

None

EXPECTED STUDENT OUTCOMES IN THE COURSE

Upon completion of this course, the student will be able to:

1. Solve geologic problems using geologic cross-sections and geologic maps.
2. Identify basic types of fossils.
3. Describe how fossils are used to recognize ancient environments of deposition.
4. Demonstrate an understanding of the vastness of geologic time.
5. Explain the basic evolutionary relationships of organisms through time.
6. Assess the significance of plate tectonics as it relates to climate change and evolutionary patterns.
7. Analyze the major extinction events that have occurred throughout earth’s history.
8. Describe how the physical earth has changed from its beginning to the present.
CLASS-LEVEL ASSESSMENT MEASURES

Student accomplishment of expected student outcomes will be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

1. Tests (1-8)
2. Quizzes (1-8)
3. Class activities (1-8)
4. Lab Tests (1-2)

PROGRAM-LEVEL OUTCOMES ADDRESSED

1. Use the scientific method to develop and test hypotheses and to draw defensible conclusions.
2. Evaluate scientific evidence and arguments.
3. Describe and apply the current theoretical explanations of the origin of the physical universe and the laws governing it.
4. Describe and apply the current theoretical explanation of the nature, organization and evolution of living systems.
5. Explain how human choices affect earth and the living systems.

General Education Outcomes

Specify which general education outcomes, if any, are substantially addressed by the course by completing the “Course/Program Assessment Matrix” to show the relationship between course and program outcomes and assessment measures.

Occupational Program Outcomes

Specify which occupational program outcomes, if any, are substantially addressed by the course by completing the “Course/Program Assessment Matrix” to show the relationship between course and program outcomes to assessment measures.
Individual instructors may order this outline as fits the needs of their individual courses. In addition, they may place more emphasis on some areas than on others. What is assured is that this particular list is covered in the course. Other topics may be added to a course as the instructor sees fit, and as time and interest allow. An *asterisk can be used to mark an item as optional.

I. Geologic Time
   A. Relative Time
   B. Absolute Time

II. The Sedimentary Record
    A. Historical Record
    B. Environmental Indicators

III. The Fossil Record
     A. As Evidence for Evolution
     B. Identification of Major Phyla
     C. Extinctions
     D. Uses of Fossils

IV. Stratigraphic Correlation

V. Geologic Maps

VI. Earth’s History and the Fossil Record
    A. Precambrian
    B. Paleozoic Era
       1. Cambrian Period
       2. Ordovician Period
       3. Silurian Period
       4. Devonian Period
       5. Mississippian Period
       6. Pennsylvanian Period
       7. Permian Period
    C. Mesozoic Era
       1. Triassic Period
       2. Jurassic Period
       3. Cretaceous Period
    D. Cenozoic Era
       1. Tertiary Period
       2. Quaternary Period