

# Bemidji State University

## GEOL 1120: Historical Geology

### A. COURSE DESCRIPTION

Credits: 4

Lecture Hours/Week: \*.\*

Lab Hours/Week: \*.\*

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: Goal 03 - Natural Science

Introduction to the history of Earth. Includes study of major fossil groups and significant geologic events with an emphasis on North America. Lecture and laboratory. Liberal Education Goal Area 3 (LC).

**B. COURSE EFFECTIVE DATES:** 08/26/1997 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Introduction, How we interpret Earth's history. Some basic geologic principles. Earth's structure.
2. Rock-forming minerals-formation of igneous rocks.
3. Formation of sedimentary and metamorphic rocks.
4. Stratigraphic principles,
5. Absolute geologic time,
6. Fossils--formation and interpretation
7. Diversity of life
8. Interpretation of fossils. Paleocology and organic evolution.
9. Understanding mountains and ocean basins
10. Understanding mountains and ocean basins.
11. Geochemical cycles. History of the Archean and Proterozoic eons.
12. Cambrian and Ordovician History
13. Silurian and Devonian History
14. Late Paleozoic History
15. Triassic and Jurassic history
16. Cretaceous history
17. Cenozoic history

#### **D. LEARNING OUTCOMES (General)**

1. demonstrate higher order thinking skills by interpreting geologic data through application of geologic, chemical, physical, and biologic principles.
  - collect data or review geologic settings
  - construct hypotheses to explain the data or geologic setting
  - test their hypotheses by comparison of data to known geologic situations
2. identify geologic problems related to Earth History and propose solutions to the problems based upon fundamental geological principles
3. gain specialized knowledge of geologic materials and principles that are essential to interpret Earth history
4. have the opportunity to demonstrate effective communication skills through oral and written means

#### **E. Minnesota Transfer Curriculum Goal Area(s) and Competencies**

Goal 03 - Natural Science

1. Formulate and test hypotheses by performing laboratory, simulation, or field experiments in at least two of the natural science disciplines. One of these experimental components should develop, in greater depth, students' laboratory experience in the collection of data, its statistical and graphical analysis, and an appreciation of its sources of error and uncertainty.
2. Evaluate societal issues from a natural science perspective, ask questions about the evidence presented, and make informed judgments about science-related topics and policies.
3. Demonstrate understanding of scientific theories.

#### **F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

#### **G. SPECIAL INFORMATION**

None noted