

COURSE TITLE AND NUMBER: PHYSICAL GEOLOGY GEOL 101

North Central Michigan College

NCMC MASTER COURSE SYLLABUS

Last Date Revised: 11/15/04

DIVISION/AREA: Sciences, Health and Human Services

DEPARTMENT: Science

DIVISION DIRECTOR: Mark Gaylord

ORIGINATOR: Kurt Yuengling

DEAN OF INSTRUCTION: Timothy Dykstra, PhD

TOTAL HOURS OF INSTRUCTION: LECTURE:3 LAB: 2 TOTAL CONTACT HOURS: 88

COURSE NUMBER: GEOL 101

CREDIT HOURS: 4(3-2)

COURSE TITLE: Physical Geology

TRANSFERABLE YES: NO: TO: Most

PREREQUISITE(S)/COREQUISITE(S)/ADVISORY:

None

CATALOG DESCRIPTION:

An introductory course designed to develop an understanding of Earth materials and processes. Students will learn to identify and interpret rocks and minerals. We will explore the relationships between earthquakes, volcanoes, mountains, and plate tectonics. Through field trips and lab exercises we will witness the effects of processes that shape the Earth's surface: wind, waves, streams and glaciers.

GENERAL EDUCATION OUTCOMES:

The purpose of General Education requirements in our degree programs is to enable students to develop their ability to reason, to communicate effectively in both oral and written form, and to acquire sufficient knowledge of their heritage to participate fully in society and the world.

COURSE OBJECTIVES & OUTCOMES:

Upon successfully completing this course, you should be able to: (1) interpret your observations of the world around you in terms of fundamental geologic processes, (2) apply the basic concepts and principles of geology to your area of academic interest, (3) apply careful observation, critical thinking and problem-solving skills to the interpretation of geologic data, and (4) effectively use selected laboratory instruments and techniques to collect, analyze, and interpret geologic data.

METHODS OF INSTRUCTION: Lecture, discussion, lab, field trips.

METHODS OF EVALUATION: Labs, projects, exams

REQUIRED TEXTS:

Essentials of Geology, by Marshak, Stephen. W.W. Norton and Company. ISBN# 0-393-92411-4

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Reasonable accommodations may be provided for students with documented physical, sensory, cognitive, systemic, and/or psychiatric disabilities. Please contact Learning Support Services (LSS) at (231) 348-6682 to arrange services for this course.

TIME ALLOWANCE AND SEQUENCE OF INSTRUCTION:

A. Earth Materials and Time

- Week 1. Origin and Composition of the Earth
- Weeks 2 and 3. Minerals
- Weeks 4 and 5. Rocks
- Week 6. Geochronology and Geologic Time

B. Surface Processes

- Week 7. Mass Wasting
- Week 8. Streams and Rivers
- Weeks 9. Coastal Processes
- Week 10. Deserts and Eolian Deposits
- Week 11. Glaciers

C. Internal Processes

- Week 12. The theory of plate tectonics
- Week 13. Earthquakes and Seismic Waves
- Week 14. Volcanoes
- Week 15. Geologic structures
- Week 16. Planetary Geology

APPROVED FOR ADOPTION BY THE CRD/AP COMMITTEE ON: 11/15/04