

North Central Michigan College

NCMC MASTER COURSE SYLLABUS FOR YEARS 2001-2003

DIVISION/AREA: Sciences, Health and Human Services DEPARTMENT: Sciences

DIVISION DIRECTOR: Polly Flippo, MSN,RN ORIGINATOR: Brian Peterson

DEAN OF INSTRUCTION: Timothy Dykstra, PhD

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

COURSE NUMBER: PHYS 101 CREDIT HOURS: 5(3-2)

COURSE TITLE: Earth Sciences I

TRANSFERABLE YES: NO: TO: Most

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

None

CATALOG DESCRIPTION:

An integrated study of the Earth that includes introductions to the disciplines of geology, oceanography, meteorology, and astronomy. The emphasis is on the scientific processes common to these disciplines. The course includes laboratory and field work. Four semester hours of credit.

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 Earth processes, (2) apply the basic concepts and principles of geology, oceanography, meteorology, and astronomy to your area of academic interest, (3) apply careful observation, critical thinking and problem-solving skills to the interpretation of data in the Earth sciences, and (4) effectively use selected laboratory instruments and techniques to collect, analyze, and interpret data in the Earth sciences.

METHODS OF INSTRUCTION: Lecture, discussion, lab.

METHODS OF EVALUATION: Exams. Quizzes, lab exams

REQUIRED TEXTS:

Earth Science and the Environment, 2nd ed., by Thompson and Turk
Study Guide, by James Albanes

Reasonable accommodations may be provided for students with documented physical, sensory, cognitive, systemic, and/or psychiatric disabilities. Please contact the Education Opportunity Program (EOP) at (231) 348-6687 to arrange services for this course.

TIME ALLOWANCE AND SEQUENCE OF INSTRUCTION:

Introduction to Earth Systems (Ch. 1)

A. The Solid Earth

1. Earth Materials and Time

- a. Minerals (Ch. 2)
- b. Rocks (Ch. 3)
- c. Geologic time (Ch. 4)

2. Surface Processes

- a. Weathering, soil, and erosion (Ch. 9)
- b. Streams, lakes, and ground water (Ch. 10)
- c. Glaciers (Ch. 11)
- d. Deserts and wind (Ch. 12)

3. Internal Processes

- a. Plate tectonics (Ch. 5)
- b. Earthquakes (Ch. 6)
- c. Volcanoes (Ch. 7)
- d. Mountains (Ch. 8)

B. The Oceans

1. Ocean basins (Ch. 13)
2. Oceans and coastlines (Ch. 14)

C. The Atmosphere

1. Atmospheric Processes (Ch. 15)
2. Weather (Ch. 16)
3. Climate (Ch. 17)

D. Astronomy

1. Astronomical motions (Ch. 22)
2. The planets (Ch. 23)

APPROVED FOR ADOPTION BY THE CRD/AP COMMITTEE ON _____