COSM **EARTH AND ENVIRONMENTAL SCIENCES**

SYLLABUS

II COURSE INFORMATION

Course Title

Concepts in Earth Science for Educators

Title for Student Record:

Concep Earth Sci for Edu

Course Description (60 words max)

This course is an introductory survey of geoscience, from rocks and minerals, through plate tectonics, geologic time, oceanography and meteorology, to planetary science. Lecture is interspersed with hands-on activities intended to reinforce concepts and to provide the students with ideas for teaching their own classes. Students will also develop lesson plans on several topics.

Course Abbreviation and Number

EES 3450

Course Duration:

Permanent

Grading System:

Standard (ABCDF)

Course Credit Hours

3.5

Quarter Equivalent:

EES 345

General Education Course __X__
Writing Intensive Course __
Service Learning Course __
Laboratory Course ____
Ohio TAG (Transfer Assurance Guide) Course _X_
Ohio Transfer Module Course ___
Other _____

Type of Course:
___Clinical
___Independent Study
___Internship
___Lab
___Lecture
_X_Lecture/Lab Combination (Integrated within same meet time)
___Lecture/Recitation Combination (Integrated within same meet time)
___Practicum
___Recitation
___Seminar

III COURSE REGISTRATION

Prerequisites

(PHY 2450 or PHY 2460) and CHM 2450

Co-requisites

Restrictions

Other

IV STUDENT LEARNING OUTCOMES

By completing this course in Element 6 (Natural Sciences) of the Wright State Core, students will meet the general learning outcomes, and will

a. Understand the nature of scientific inquiry
b. Critically apply knowledge of scientific theory and methods of inquiry to evaluate information from a variety of sources
c. Distinguish between science and technology and recognize their roles in society
d. Demonstrate an awareness of theoretical, practical, creative and cultural dimensions of scientific inquiry
e. Discuss fundamental theories underlying modern science

Students will also meet the leaning outcomes specific to this course and will be able to

1. Use scientific methods to identify rocks and minerals and to study the behavior of soils
2. Understand geologic time and plate tectonics and the consequences of these ideas
3. Understand planetary processes involving the atmosphere and ocean
4. Understand the origin and use of resources including water and energy sources
5. Demonstrate familiarity with inquiry techniques of teaching
6. Develop original lesson plans to teach the science standards
7. Recognize and teach the significance of geology to their lives and those of the students

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V. Suggested Course Materials (required and recommended)

Reynolds, S.J., Johnson, J.K., Kelly, M.M., Morin, P.J., Carter, C.M. 2010. *Exploring Geology*. 2nd Edition. New York: McGraw-Hill Higher Education. ISBN 978-0-07-727040-7.

VI. Suggested Method of Instruction

Lecture/Lab Combined

VII. Suggested Evaluation and Policy

Lesson Plans	33%
Quizzes	33%
Projects	33%

VIII. Suggested Grading Policy

Final course grades will normally be determined using the following scheme:

A: 90-100 %
B: 80-89%
C: 70-79%
D: 60-69%
F: less than 60%

IX. Suggested Assignments and Course Outline

Week	Topic	Chapters in Text (read prior to lecture)
1	Minerals	4
2-3	Rocks	3:50-69, 5:105-121, 7:174-197, 8:204-207 & 214-220
4	Volcanoes	6
5	Earthquakes	12
6	Resources	17-18
7	Soils	15
8-9	Geologic Time	9, outside references
10	Rivers	16
11-12	Weather & Climate	13
13	Oceans	10
14	Solar System	19

X. Other Information