COURSE INFORMATION

Course Title

Earth Systems

Course Description (60 words max)

Comprehensive treatment of earth materials (minerals, rocks, fossils) and the external (weathering, erosion, mass wasting) and internal (igneous, metamorphic, deformation) geologic processes that shape the earth. Water systems (surface and ground water) are also addressed. Three hours lecture, two hours lab.

Course Abbreviation and Number

EES 2510

Course Credit Hours

4 semester hours

Course Cross Listing(s) Abbreviation and Number

None

This course is an Element 6 Core Course of the Wright State Core.

General Education Course _X_
Writing Intensive Course __
Service Learning Course __
Laboratory Course _____
Ohio TAG (Transfer Assurance Guide) Course _X_
Ohio Transfer Module Course ________
Other _____Lecture and Lab

COURSE REGISTRATION

Prerequisites

None

Co-requisites

None

Restrictions

None

Other

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 learning outcomes specific to this course and will be able to

1. Understand characteristics of the earth systems
2. Recognize properties and classifications of earth’s materials
3. Describe surficial process including weathering, erosion and landform evolution
4. Recognize hydrologic systems and features
5. Describe concepts of plate tectonics
6. Identify earth’s internal processes leading to igneous and metamorphic rocks and structural deformation
7. Understand the evolution of significant geologic concepts
8. Recognize glacial processes
9. Describe/recognize applications and impacts of earth sciences to society
10. Apply methodologies of scientific inquiry
11. Interpret topographic and geologic maps

SUGGESTED COURSE MATERIALS

REQUIRED


SUGGESTED METHOD OF INSTRUCTION

Lecture _____
Seminar _____
Distance Learning _________
Web-Based ______
Other ____ Lecture, Lab _________

SUGGESTED EVALUATION AND POLICY

Labs:
Lab will consist of a brief introduction with an accompanying exercise. Assignments may include brief write-ups, inquiry based learning activity, hands on identification, etc.

**Exams**

There will be three exams given during the semester. These exams will consist of multiple choice, short answer, and essay questions.

**Class Policies:**

While attendance is not mandatory, it is highly recommended.

Classroom announcements will be made on changes to the syllabus, such as changes in exam and assignment dates, topics covered, and reading assignments; all changes are the responsibility of the student. Make-up exams are strongly discouraged. Exams cannot be made up except in case of absence due to illness, court appearance, or military duty when properly authenticated in writing by the appropriate authority. Make-up tests will only be given to students that have a valid excuse (Medical/Family Emergency). Make up exams are at the discretion of the Instructor.

**SUGGESTED GRADING POLICY**

The final grade for EES 2510 will be calculated in the following manner:

- Exam 1 ...................................20%
- Exam 2 ...................................25%
- Exam 3 ...................................25%
- In-class exercises and participation ...5%
- Lab ........................................25%

Final grades will be assigned letter grades based on the following scale:

- 90 – 100..............................................A
- 80 – 89..............................................B
- 70 – 79..............................................C
- 60 – 69..............................................D
- Below 60..........................................F

**SUGGESTED ASSIGNMENTS AND COURSE OUTLINE**

(Topic and/or typical assignments)

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Text (read prior to lecture)</th>
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<tbody>
<tr>
<td>Week 1</td>
<td>Introduction/Minerals</td>
<td>1,2</td>
</tr>
<tr>
<td>Week 2</td>
<td>Igneous Rocks</td>
<td>3</td>
</tr>
<tr>
<td>Week 3</td>
<td>Weathering and Soils</td>
<td>5</td>
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</tbody>
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Topical outline for the laboratory component.

Week 1    No Lab
Week 2    Minerals
Week 3    Igneous Rocks
Week 4    Weathering and Soils
Week 5    Sedimentary Rocks and Structures
Week 6    Metamorphic Rocks
Week 7    Plate Tectonics
Week 8    Plate Tectonics
Week 9    Introduction to Maps and Mapping
Week 10   Topographic Maps
Week 11   Geologic Maps Part 1
Week 12   Geologic Maps Part 2
Week 13   Geology Lessons Learned from Maps
Week 14   Laboratory Final