

2013

116-02 Our Universe- The Earth Ethics in Enviromental Geology

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Recommended Citation

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Our Universe – The Earth
Ethics in Environmental Geology
PHYS 116-02
M W 1-1:50
LND 101

Instructor: Amy Bosch

Phone: 513-745-4297

Office Hours: Monday 9-10, Tuesday 12-12:30, Wednesday 12-1; Thursday 9:30-10. I am not on campus on Fridays.

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Student Learning Outcomes: As a core science course, a major goal of this course is to promote critical thinking. Students will evaluate the use of science and mathematics in society and everyday life in an informed manner. Students will explain the scientific method, including the difference between hypotheses, theories and laws. Students will formulate clear and arguable theses, supported by evidence drawn from appropriate sources, in the form of a research paper. Students will be integrated individuals who articulate a coherent, ethical perspective on the world and their place in it. Students will be aware global citizens.

Text: Environmental Geology 9th edition, by Carla Montgomery. **Taking Sides: Clashing Views on Environmental Issues, 14th Edition** by Thomas Easton.

Web Page: Visit our class homepage at the XU portal.

Course Description (This course is an E/RS elective.)

The purpose of this course is to explore topics in environmental geology, with a focus on the moral and ethical components of the decisions facing our global society. Environmental geology pertains to changes in the earth affecting human populations, as well as human actions affecting the earth. A geologic perspective is unique in its long-term view of cyclic changes, and in its assessment of the overall impact of human activity. In our study of the anthropogenic changes to the earth, we will address questions of global ethics and morality. Students are expected to read all assigned material, and to come to class ready to discuss the topics covered. **Participation is vital to successful completion of this course.**

The topics covered in this course will be viewed from various positions. The scientific data will come largely from Environmental Geology, 9th edition by Carla Montgomery, as well as from respected governmental and non-governmental organizations. This is a science course, so we will base or discussion on data rather than anecdotal evidence. Some case studies will be included, but they will be viewed broadly. The discussions will be fueled by various essays. As you move through this class, follow up on questions, concerns, and opinions that occur to you by researching topics that interest you. This course is only an introduction, a jumping off point, into many much deeper topics.

Some of the topics covered in this class will include:

- a. Is limiting population growth a key factor in protecting the global environment?
- b. Is sustainable development compatible with human welfare?
- c. How can we protect our societies from natural disasters?
- d. How should we satisfy our demand for energy resources?

Participation / Attendance: Attendance is expected at all classes. Participation is a key component in this course. Do not be afraid to “go out on a limb” in this class. Opinions should be well founded, but there are many different points of view of the material covered in this course. Discourse should be lively, but never contain personal attacks.

Homework: Homework will be assigned in class, with due dates being given in class. Reduced credit will be given for assignments handed in late. No credit will be given for assignments handed in more than one week late.

On-Line Quizzes: Upon completion of the lecture notes for each chapter, you will take the on-line quiz available on the text book home page. There is a link to this page on our portal page. It is your responsibility to submit these quizzes to me within one week of the completion of the lecture notes in class.

In-Class Quizzes: Four in-class quizzes will be given this semester. The tentative dates are Monday, September 9; Monday, September 23; Wednesday, October 30; Monday, November 18.

Research Paper (Due 5 PM, Monday, December 2): Each student will write a research paper on a topic of their choosing related to the material covered in this course. This paper is expected to be seven to ten pages long, plus a bibliography. Students may use either foot notes or end notes, and must include a complete bibliography. Further details about the paper will be made available in class.

Mid-Term Exam (Monday, October 14): A mid-term exam will be given covering the material from the first half of the semester. This exam will have multiple choice questions, true/false questions, as well as short answer questions. It will be written to fit within the fifty minute class time.

Final Exam (Wednesday, December 18, 12-1:50 PM): A final exam will be given during exam week. This exam will be comprehensive, covering the entire semester.

Grading: Course grades will be determined by the following formula:

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|---|-----|
| Participation | 5% |
| Homework | 10% |
| On-Line Quizzes | 10% |
| In-Class Quizzes | 10% |
| Mid-Term Exam (Monday, October 14) | 20% |
| Research Paper (Monday, December 2, by 5 PM) | 20% |
| Final Exam (Wednesday, December 18, 12-1:50 PM) | 25% |

A = 93-100% A- = 90-92% B+ = 87-89% B = 83-86% B- = 80-82% C+ = 77-79%
C = 73-76% C- = 70-72% D+ = 67-69% D = 60-66% F = 0-59%

The instructor reserves the right to alter this syllabus if circumstances dictate.