

EVRN 149/GEOG 149: Principles of Environmental Studies: Honors

Fall 2006

Lecture:

Times: W F 1:00 - 2:15
Location: 210 Lindley Hall

Professor:

Johannes Feddema
Office: 204 Lindley Hall
Office Hours: Thursday 9:30-12:30 or by appointment
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Course Objectives:

This course is intended to give the student a better understanding of environmental processes and the interactions between people and their environment. Initially we will evaluate the distribution of energy, water and natural resources on the Earth's surface, and evaluate how each of these affect the distribution of life and ecosystems on the planet. Following this basic introduction we will evaluate the impact and scale of human actions on natural ecosystems; topics include basic ecological principles, human disturbance of ecosystems, human impacts on extinction, and efforts to conserve ecological regions and species. As part of this discussion we will consider how different cultures view and value their environment and how these views impact our relations with our environment and natural resources. The later part of the course will discuss issues of environmental quality, pollution and concepts of sustainable development. Students are expected to gain a better understanding for the ways different societies affect their environments and the implications that these actions have on sustainable development in the future. At the end of the course students should be able to make more informed decisions about natural resource use and development issues; and understand how these issues are affected by political and social factors.

Grading:

Attendance is required. You will be held responsible for all the material presented in class, in your homework, class discussions, and from reading assignments in the textbooks. Final scores will be based on your performance in exercises and examinations based on the following weighting scheme:

Class assignments and discussion	30 %
Two midterm examinations	40 % (20 % each)
Final examination	30 %

Assignments will be given out at least 2 weeks before the due date and one or more assignments may form part of class projects. Detailed information on the lab sessions will be provided in the lab syllabus. The primary source of information on exercises and class materials will be through the class web site. Lecture material will make up about 75% of the examination materials, and the final exam will be cumulative and will include materials from the class assignments. Any homework is expected to be your own, and any evidence of cheating or plagiarism or the inappropriate use and dissemination of class materials will be dealt with according to University regulations. Any student in this course who has a disability that may prevent him/her from fully demonstrating his/her abilities should contact me personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate the educational opportunity.

Textbooks:

Botkin and Keller. 2002. [Environmental Science: Earth as a Living Planet](#), 4th edition. John Wiley & Sons, Inc. ISBN 0-471-38914-5.

Diamond, Jared (2005). *Collapse: How Societies Choose to Fail or Succeed*. ISBN 0143036556.

Course Outline -- Subject to revision

Date	Topic	Reading (Chapters)
8/18	Introduction and Scientific concepts	1 and 2
8/23	Understanding the Environment: the Systems Approach	2 and 3
8/25	Global energy cycles	3 and 5
8/30	Global water cycles	3 and 5
9/1	Nutrient cycling	5
9/6	Ecological concepts, species interactions	6 - 9
9/8	Productivity and Succession	6 - 9
9/13	Biogeography	8
9/15	Biomes/Human Impacts	8
9/20	Biomes/Human Impacts and aquatic systems	8
9/22	MIDTERM I	
9/27	Human population issues	4
9/29	Early human impacts	10 and 11
10/4	Humans as a biological agent	14
10/6	Food resources	13 and 20
10/11	Pest ecology and pest control	11
10/13	Fall Break	
10/18	Risk assessment and Environmental Chemistry	15, 27
10/20	Soil resources	26, 29
10/25	Soil degradation case study and Desertification	10 - 13, 26
10/27	Energy resources	16-19
11/1	Energy conservation	16-19
11/3	MIDTERM II	
11/8	Water resources – Distribution	20
11/10	Water and ocean resources – Quality	21
11/15	Air pollution	23 - 25
11/17	Air pollution case study – What cemeteries can tell us	23 - 25
11/22	Land-use change and urbanization	23
11/24	Thanksgiving	
11/29	Climate change	22
12/1	Climate Change Impact Assessment	22
12/6	Concept of sustainable development and land use	30
12/8	Conclusions	

12/12 Tuesday --- FINAL EXAM --- 10:30 am – 1:00 pm in 210 Lindley

Readings are intended to support lecture materials and to provide background information. For the exams students should concentrate on the topics covered in lecture.

Special readings: We will read one chapter of *Collapse* each week of the semester. You should be prepared to discuss this chapter when you get to class on Fridays