

EVS3000 Environmental Science

Fall 2009



Section: 4593

Course Description:

*Interactions of humans and their environments; the earth's resources (fuels, metals, minerals, biotic resources), pollution (air, water, land), and environmental management and valuation. **For EVS majors only.***

Instructor:

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Class Meeting Schedule

T 4th period, 10:40-11:30 A.M.
R 3rd-4th period, 9:35-11:30 A.M.

Location
McCarty Hall B (MCCB) Room 3096

Course Text

Botkin, DB, and EA Keller (2007) Environmental Science: Earth as a Living Planet, 7th ed. John Wiley and Sons, Inc.

Course Goals

Specific student learning objectives for this course include:

- ✓ Understanding the relationship between humans and the environment
- ✓ Understanding major environmental problems including their causes and consequences
- ✓ Determining the differences between science, pseudoscience, and beyond the realm of science
- ✓ Understand energy sources and associated environmental constraints
- ✓ Understanding the need for a global perspective on environmental problems
- ✓ Understanding that decision making about environmental issues involves scientific information as well as society, politics, culture, economics, and values (i.e., environmental science is a multi-disciplinary endeavor)

E-Learning

We will be using E-Learning for all course materials and to save paper whenever possible. This means that you will need to log into E-Learning regularly (<http://lss.at.ufl.edu/>).

Course Alterations

Due to unforeseen circumstances (e.g., inclement weather, power outages, stimulating discussions, etc.), it may be necessary to alter the information given in this syllabus during the course of the semester. All changes to the syllabus will be announced in class. It is your responsibility to keep up with any syllabus alterations.

Course Expectations

1. Attend class
2. Read the text and other course materials
3. Keep up with course materials
4. Turn in assignments on-time
5. Ask questions
6. Be an active participant

Miscellany

- I will only bring graded exams to class one time.
- I will keep all exams on file.
- If there are handouts, I will only bring them to class on the day they will be used.
- Do not hold cell phone conversations in the classroom during the class period.

EVALUATION AND GRADING

Assignment	Due Date	Weight
In the News	Variable by student	5%
Topic Papers		
Earths Resources	Draft – 9/17/09; Final – 9/24/09	10%
Energy Resources	Draft – 10/8/09; Final – 10/15/09	10%
Pollution	Draft – 11/5/09; Final – 11/12/09	10%
Valuation	Draft – 12/3/09; Final – 12/10/09	10%
Exams		
Midterm Exam	10/22/09	25%
Final Exam (cumulative)	12/17/09	30%

Grading Scale

A	92.0-100.0%	A-	90.0-91.9%	B+	88.0-89.9%
B	82.0-87.9%	B-	80.0-81.9%	C+	78.0-79.9%
C	72.0-77.9%	C-	70.0-71.9%	D+	68.0-69.9%
D	62.0-67.9%	D-	60.0-61.9%	E	<60.0%

In the News

Each student will be assigned a week to briefly present a current news story related to our weekly topic in class. The student will post a link to their news article and answer the questions posed below in the e-learning environment no later than the start of class on Tuesday of their assigned week. During the last five minutes of Tuesday class, the student will present an oral description of the article, answering the questions:

Who? What? Where? When? Why? How? Scientific merit?

Grades will be based on the course grading scheme for the oral presentation. Students are also required to respond with professional posts to a minimum of two news discussion threads during the course of the semester. Failure to post scientifically based messages to the e-learning discussion threads will result in no credit awarded for the “In the News” assignment, regardless of work completed during your assigned week. Suggestions for news sources include: the Associated Press, the Alligator, the Gainesville Sun, the BBC, MSNBC, CNN, etc. The final question, regarding scientific merit, will require you to analyze the news source and consider the scientific background for the story. Late assignments will not be awarded credit.

Topic Paper

This course has been divided into four major course topics based on the catalogue course description: biotic resources, energy resources, environmental pollution, and valuation & management. For each of these topics, students will write a scientifically based paper in response to assigned readings, listed below. These papers should serve to further develop the student in thinking and writing in scientific style and provide more in-depth details for selected topics. Grading will follow the “Course Grading Scheme for Written Assignments.” Selected papers will be available in electronic format through e-learning.

Biotic Resources: Scheer SJ, Sthapit S (2009) Farming and land use to cool the planet. In: 2009 State of the World: Into a Warming World, Starke L (editor), New York, New York: WW Norton & Company, pp 30-49

Energy Resources: Sawin JL, Moomaw WR (2009) An enduring energy future. In: 2009 State of the World: Into a Warming World, Starke L (editor), New York, New York: WW Norton & Company, pp 130-150

Environmental Pollution: Evans JM, Cohen MJ (2009) Regional water resource implications of bioethanol production in the Southeastern United States. Global Change Biology DOI: 10.1111/j.1365-2486.2009.01868.x

Valuation & Management: Dodman D, Ayers J, Huq S (2009) Building resilience. In: 2009 State of the World: Into a Warming World, Starke L (editor), New York, New York: WW Norton & Company, pp 151-168

Paper format: Each paper should be approximately 3-4 pages in length, excluding bibliographic materials, written in Times New Roman, 12 point font, with 1 inch margins on all sides and double spaced. Students should include a title, author’s name, and write in a scientific,

professional voice. These are meant to serve as response papers. The suggested process includes:

1. Reading the assigned materials.
2. Taking notes on specific ideas of interest, this could be as:
 - a. a comparison/contrast framework
 - b. ideas you agree with
 - c. ideas you disagree with
 - d. considerations for the future
3. Organize your paper with a strong and clear thesis statement and develop your paper around this idea.
4. Find at minimum three additional scientifically based resources that provide support for your ideas. Properly cite them in your paper.
5. Include a catchy title.

This is not meant to serve merely as a summary of the assigned readings, but rather should integrate scientific ideas and further the student's understanding. References should be properly cited in the text with a reference section following the text that clearly presents all of the information needed. Suggested format is from the journal EcoHealth (Start at <http://www.ecohealth.net/>; navigate to Submissions → Instructions for Authors → scroll down half way through the page to find examples).

Each first draft will be due in-class on the Thursday listed above. Bring one double-sided printed copy. Class time will be set aside for peer review. Failure to attend class on the day of peer review will result in a zero for the peer review portion of your grade for that topic paper. On the following Thursday, students will submit the final draft, printed (double-sided desired) AND the first draft showing peer review comments AND the peer review worksheet completed in-class by a classmate. Failure to submit all three items will result in reduced credit for the assigned topic paper. The point of peer review is to allow time for students to read, digest, write, and revisit course materials. The peer review process should be considered an asset to scientific development. Constructive comments are anticipated. Late assignments will not be awarded credit.

Exams

All information presented in class or covered in reading assignments will be considered acceptable exam material. The exams are intended to reward the student for comprehension and synthesis of course materials. The in-class meeting sessions are designed to initiate class discussion and present a detailed look at specific topics and case studies. As such, some material presented in the assigned course textbook may not be fully covered during class time. It is the responsibility of each student to ask questions that address any uncertainties they encounter with assigned materials.

Exams will consist of a mixture of question styles that can best be described as free response. Questions may be short answer, calculations, matching, short essay, and/or essay questions. The format of the exam is subject to change depending on the needs of the students. The final exam is scheduled as 17A – Thursday, December 17, 2009, 7:30-9:30 am. Exams cannot be made up without clear proof of a severe and documented emergency. In such a circumstance, please

contact me prior to the exam if possible. If school is canceled either the day of an exam or the class period preceding an exam the exam will be postponed one class period.

Academic Honesty (See UF Rule 6C1-4.017):

Students are required to be honest in all of their university class work. Faculty members have a duty to promote ethical behavior and avoid practices and environments that foster cheating. Faculty should encourage students to bring incidents of dishonesty to their attention. A faculty member, in certain circumstances, can resolve an academic dishonesty matter without a student disciplinary hearing. The procedures and guidelines are available from the Director of Student Judicial Affairs. In the fall of 1995, the UF student body enacted a new honor code and voluntarily committed itself to the highest standards of honesty and integrity. (See UF Rule 6C1-4.0172)

The Honor Code: We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity. On all work submitted for credit by students at the university, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."

Students requesting classroom accommodation must first register with the Dean of Students Office (202 Peabody Hall, 392-7066, www.dso.ufl.edu). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

Campus Helping Resources:

Students experiencing crisis or personal problems that interfere with their general wellbeing are encouraged to seek the university's counseling resources. Both the Counseling Center and Student Mental Health provide confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal crises or lacking clear career and academic goals, which interfere with their academic performance.

1. *University Counseling Center*, 301 Peabody Hall, 392-1575; personal and career counseling: www.counsel.ufl.edu
2. *Student Mental Health*, Student Health Care Center, 392-1171, personal counseling: www.hsc.ufl.edu/shcc/smhs.htm
3. *Sexual Assault Recovery Services (SARS)*, Student Health Care Center, 392-1161, sexual assault counseling; and
4. *Career Resource Center*, Reitz Union, 392-1601, career assistance and counseling.

Course Grading Scheme for Written Assignments*

All class assignments should be written and/or presented in grammatically correct English, using proper sentences, paragraphs, punctuation, etc. Writing should be succinct and to the point. An incoherent narrative will be considered an expression of faulty scientific reasoning. The evaluation of written work is holistic, with quality levels and criteria as stated below. Numbers are listed in parentheses beside each quality level, based on a grading scale of 100 points.

EXCEPTIONAL (95 - 100 points)

The work goes well beyond the task assigned. It is impressive, unusually complete, and imaginative. Excellent use is made of the reference material cited within the paper or of examples cited in the essay. The scientific conclusions are clearly supported by the data presented and there is evidence of originality in the analysis. Reference material shows excellence with respect to both breadth and depth. Only outstanding submissions will be designated as Exceptional.

STRONG (85 - 94 points)

The work fully engages the major scientific principles embodied in the topic. Data are good and/ or are well chosen to convey information. The scientific analysis makes good use of the data presented. The writing demonstrates a clear understanding of the fundamental issues of the topic being explored. Reference material is appropriate for the topic being discussed.

RESPECTABLE (75 - 84 points)

A sensible approach to addressing the issues contained in the topic being explored is shown. The writing engages most of the appropriate scientific issues and principles. Some problems are evident: the choice of data or examples is correct, but incomplete; the scientific analysis, though generally correct, shows gaps; pertinent information may be missing. These omissions do not seriously hinder the usefulness of the work. Reference material is good but incomplete.

MARGINAL (70 - 74 points)

The work partially engages the major scientific principles embodied in the topic being explored. The work generally relates to the assigned task, but gaps and problems are prominent and interfere with its effectiveness. Data or examples are poorly chosen and do not contribute substantially to the scientific analysis. The analysis has serious gaps. Reference material is shallow or only marginally appropriate.

WEAK (60 - 69 points)

The work shows little depth. The effort is spotty with only fragmentary evidence of understanding the data, examples, and reference material in reporting on the subject. The analysis is grossly incomplete, and reference material is absent or inappropriate.

MINIMAL (less than 60 points)

There is little or no meaningful effort in evidence. The approach taken is devoid of knowledge of the principles embodied in the topic being explored. Analysis is absent or shallow. No appropriate references are cited.

**Adapted from instructors at Kennesaw State University and Dartmouth College.*

EVS3000: Environmental Science Course Schedule

Fall 2009

Week	Starting	Topic	B&K	
1	8/24/09	Introduction to Environmental Science	1-3	
2	8/31/09	----- Biotic Resources -----	Biotic Resources	4-5
3	9/7/09		Biotic Resources	6-8
4	9/14/09		Biotic Resources R 9/17/09 DRAFT/PEER REVIEW Topic Paper 1	9-11
5	9/21/09		Biotic Resources R 9/24/09 Topic Paper 1 DUE	12-14
6	9/28/09		- Energy Resources -	Non-Renewable Fossil Fuel Energy
7	10/5/09	Non-Renewable Alternative Energy R 10/8/09 DRAFT/PEER REVIEW Topic Paper 2		18-19
8	10/12/09	Renewable Alternative Energy R 10/15/09 Topic Paper 2 DUE		18
9	10/19/09	--- Environmental Pollution ---	Introduction to Environmental Health, Pollution, & Toxicology R 10/22/09 MIDTERM EXAM	15
10	10/26/09		Water Resources & Water Pollution	20-21
11	11/2/09		The Science of the Atmosphere, including Global Climate Change R 11/5/09 DRAFT/PEER REVIEW Topic Paper 3	22-23
12	11/9/09		Air Pollution R 11/12/09 Topic Paper 3 DUE	24-25
13	11/16/09	----- Valuation & Management -----	Environmental Economics & The Urban Environment	26-27
14	11/23/09		Waste Management R 11/26/09 NO CLASS	28
15	11/30/09		Mining & The Environment & Sustainability R 12/3/09 DRAFT/PEER REVIEW Topic Paper 4	29-30
16	12/7/09		Off to the Future R 12/10/09 Topic Paper 4 DUE R 12/10/09 NO CLASS	30
17	12/14/09	FINAL EXAM R 12/17/09 7:30-9:30 am		

B&K = Botkin and Keller