

ESS 108: Conservation of Natural Resources

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Office Hours:

MW 2:00-4:00

F 2:00-3:00

And by appointment

Mission statement for the Geography-Earth Science Department

The Geography-Earth Science Department at Shippensburg University is committed to student learning and personal development through innovative teaching, high quality field application, and use of geotechnology in all aspects of departmental programs. These commitments will deepen students' appreciation of Geography-Earth Science, encourage life-long learning, and enable Geography-Earth Science majors to teach at the middle/secondary level, to enter a geography-earth science related professional career, or to pursue a higher degree.

Book (required):

Environmental Science: The Earth as a Living Planet 8th edition. 2011. By Daniel B. Botkin and Edward A. Keller. John Wiley and Sons, Inc.

Other required materials: Occasional use of a calculator

Course Description:

This course serves as an introduction to the science of conservation. Topics will include human population growth, climate change, energy issues, air and water pollution, ecosystem management, biological diversity, and agriculture. We will examine Earth's physical resources focusing on a basic scientific understanding of each resource, natural versus human-induced changes associated with these resources, and long term estimates of resource availability and/or sustainability. Most importantly, we will discuss competing and alternative viewpoints associated with many of these issues.

Course objectives:

- To build environmental and scientific literacy
- To learn to use and analyze data and maps to study and understand geographic patterns of human and natural phenomena
- To practice and improve writing, reading, and note-taking skills

General Education Objectives:

Shippensburg University provides students with a general education that prepares them not only for their classes within their majors but most with "an awareness and understanding of the principles and intellectual skills associated with the disciplines contained in each category which are necessary for a comprehensive education and for a well-educated individual" (Shippensburg University Undergraduate Catalog 2010). This course is a category C general education course (the Biological and Physical Sciences). Objectives for category C courses are:

- To understand the role of scientific models, theories or laws as abstract representations of natural processes
- To understand how experimentation or empirical observations are used for the development, testing and application of these theories or laws
- To learn about measurement and data analysis which are both necessary to quantify the outcome of experiments and observations
- To learn about the influence of science on everyday life
- To develop an ability to critically evaluate scientific results and reports

Course Structure, Grading, and Other Requirements

Course structure, readings and lectures: This class is structured for active and applied learning. There will be lectures, but there will also be discussion assignments and in- and out-of class activities that are designed to get you engaged in the material and to apply what you have learned. The course schedule will closely follow the topics in the textbook. The readings will be supplemented and augmented by lecture material, classroom activities, and assignments. To achieve your best grade in this class, it is therefore strongly recommended that you complete all readings, attend every class, participate in class, and take notes. This course is not designed to be hard, but we will cover a great deal of material. If you get behind, it may be difficult to catch up later. If you find you are having difficulty with the material, come see me during office hours or schedule an appointment. It is important that you are proactive and address problems early!

Grading: Your grade will be based on your performance on the following exams, quizzes and assignments:

Three 100-point exams.....	300 (55%, each exam ~ 19%)
Attendance	50 (9%)
Discussion leader assignment.....	25 (5%)
Quizzes.....	110 (20%)
In-class and homework assignments.....	55 (10%)
Total points.....	540(100%)

To determine your final grade, your total points will be converted to a percentage score and will be assessed with the +/- system using this scale:

Percentage	Grade
93-100%	A
90-92%	A-
88-89%	B+
83-87%	B
80-82%	B-
78-79%	C+
70-77%	C
60-70%	D
<60%	F

Exams: There will be three non-cumulative 100-point exams (see schedule), for a total of 300 points. You are expected to take exams at the scheduled time. Only very unusual circumstances (e.g. family emergency, serious illness) are acceptable reasons for missing an exam and MUST be documented. If you know you will miss an exam due to a University sanctioned event or a religious holiday, you MUST notify me prior to the exam date. Make up exams may differ from the original. Make up exams will only be allowed for excused absences and must be taken as soon as possible either before or after the scheduled exam date. During an exam, all materials, including books, papers, cell phones, etc., must be put away. If classes are cancelled on an exam day, the exam will be given on the first meeting when classes resume.

Attendance: Attendance is critical for you to achieve your best grade and is therefore required. Fifty points is allotted for attendance. I will regularly take attendance. After three unexcused absences, each additional absence will result in a 10% deduction from your attendance grade (5 points). Please note that there is a difference between an explained absence and an excused absence. An explained absence is "My car broke down" or "I have a doctor's appointment" and will still be counted as an absence—but remember you get three "freebies." An excused absence is an absence due to a University sanctioned event or a religious holiday. Family and health emergencies will also be considered. It is your responsibility to provide me with proper documentation for your absence. If extenuating circumstances arise that will impact your attendance, come see me during office hours or schedule an appointment.

Quizzes: There will be twelve 10-point quizzes given on D2L throughout the semester (see schedule). The content of the quizzes will come from the textbook, so it is important that you purchase the textbook and keep up with the reading assignments. Your lowest quiz score will be dropped, so quizzes constitute 110 points. You are given a week to complete on-line quizzes so NO make-ups are allowed.

In-class and homework assignments: Throughout the semester there will be occasional homework assignments for you to complete, each worth 5 - 15 points each for a total of 55 points. These will be announced in class and on D2L.

Discussion leader assignment: These will be fully explained in an additional handout.

Late policy: A late penalty will be applied to assignments turned in late, at a rate of a 10% grade reduction per day (including weekend days). I will not accept any assignments that are more than one week late. Assignments should be handed directly to me or to the Geography-Earth Science Department secretary, Judy Ferrell (Shearer Hall 103, 8:00-4:30), who will date-stamp your assignment and put it in my box. For assignments that are to be completed on D2L, no late assignments will be accepted.

Electronic resources:

D2L: Electronic materials for this class are distributed via D2L (Desire to Learn). Most of the documents that are handed out in class will also be available on D2L, including this syllabus and the course schedule. Announcements and grades will also be posted. You are strongly encouraged to take advantage of this resource. Quizzes, discussion assignments, and some homeworks will take place on D2L so you will be required to log onto and become proficient with this system.

Regarding lecture materials: I will use PowerPoint lectures regularly in this class and will post those files as PDF documents on D2L. These lecture slides are not a substitute for taking good notes in class. Because my lecture material is constantly under development the PowerPoint slides may not be available until after the lecture.

E-mail: I may send important announcements to your Shippensburg University e-mail account. You will be held responsible for this information and should therefore check your e-mail regularly. I am generally very responsive to e-mails from students, although please allow 24 hours for a response from me before re-sending a question or request. I may not respond to e-mails over the weekend. Please use professional etiquette when writing an e-mail to me and I will do likewise when I respond. When communicating with me via e-mail, please include your full name and your section number or class meeting time so that I know what section you are in.

Extra credit:

There will be opportunities for extra credit. Most of these opportunities will be related to on-campus events (i.e. speakers, films, etc.). These opportunities will be announced in class and often posted on D2L. You may use up to two different events for up to 20 extra credit points (up to 10 points per event). A separate document available on D2L will explain the guidelines for extra credit.

Academic Integrity:

I expect your work in all facets of this course to adhere to University and Geography Earth-Science Department standards of academic honesty. If you are unfamiliar with University policies regarding such matters, please review the Academic Dishonesty and Plagiarism sections at the following web page: <http://www.ship.edu/catalog/HTML/ugrad09-11/index.htm>. Note that academic dishonesty includes but is not limited to:

1. Submitting another student's work as your own; also providing another student with your work.
2. Bribing or attempting to bribe, faculty or staff personnel in order to attain an unfair academic advantage.
3. Possessing course examination materials prior to administration of the examination by the instructor without the

instructor's consent.

4. Using unauthorized materials or devices such as crib notes during an examination.
5. Providing and/or receiving unauthorized assistance during an examination.
6. Using a substitute to take an examination or course.
7. Allowing others to conduct research for you or prepare your work without advance authorization from the instructor, including, but not limited to, the services of commercial term paper companies.
8. Intentionally and without authorization falsifying or inventing any information or citation in an academic exercise, such as making up data in an experiment or observation.

As stated in the student handbook, plagiarism is a form of academic dishonesty. Shippensburg University will not tolerate plagiarism and I will make every effort to discourage it, including using plagiarism detection software on D2L. Plagiarism is the unacknowledged use of another writer's own words, facts, ideas, or other materials in your own writing. When other writers' words or materials—even short phrases or specific terminology—are used, you should put these words inside quotation marks and you should then cite the source of the quotation either in the text of your writing or in footnotes. When the ideas of another writer are restated in your own words (paraphrased), you should also indicate the source of the paraphrased material in your own text or in footnotes. Citations should also be made for borrowing from media other than printed texts, such as websites, lectures, interviews, broadcast information, or computer programs.

Failure to adhere to these academic honesty policies will constitute an alleged instance of academic dishonesty, and I will pursue resolution through the Dean of Students. For first-time offenders, documentation of the offense will be placed in your confidential student file; multiple offenses may result in expulsion from Shippensburg University.

Some additional important notes:

1. Disruptive behavior of any sort, including disruptions caused by personal electronic devices (i.e. cell phones, hand-held computers, laptops, IPODS, etc.), will not be tolerated under any circumstances and will result in grade reductions up to and including an "F" and/or expulsion from the course. During exams, NO electronic devices of any kind are permitted.
2. When you are in class, your cell phones should be turned off or in silent mode (not vibrate). Students SHOULD NOT send text messages during class. NO TEXTING!! If you are observed texting in class, I reserve the right to deduct points from your grade.
3. Please come to class on time. Consistently arriving late to class will result in grade reductions at my discretion.
4. For your privacy, I do not discuss grades over the telephone or via e-mail, so please do not ask. I will not return phone calls or e-mails on this subject.
5. If a due date for an exam or assignment is missed due to a University closure (for weather or other reasons), the activity will be due / made-up during the first class period after the closure. Please note that only the President's office makes such decisions, and class will or will not be held on the basis of the President's decision. Information regarding closures or schedule changes is available at 717-477-1200 or on the University's webpage (<http://www.ship.edu>).
6. Accommodations can be made for those students with documented disabilities and who wish accommodations to be made. Please do the following during the first week of classes so that we can discuss your situation and make arrangements that fit your personal needs: (a) Schedule an appointment with me and, in preparation for our meeting, please: (b) Write down some suggestions that will allow us to structure a way for you to: maximize your class participation; complete the readings, assignments, and examinations to the best of your ability and in a comfortable way; and/or attend to any other issues that are relevant in your particular case.
7. If you expect to be absent during the semester for the observance of specific religious holidays, please provide me, in writing (e-mail is okay, but not by phone), with the dates on which you will be absent by the end of the first week of classes.

Ess 101: Conservation of Natural Resources
Fall 2011 Course Schedule (tentative)

WEEK 1, Aug. 29-Sept. 2		
<i>Monday 8/29</i> <u>Topic:</u> Course introduction <u>Reading:</u> Ch. 1, p. 1-21	<i>Wednesday 8/31</i> <u>Topic:</u> Fundamentals of Science <u>Reading:</u> Ch. 1, p. 1-21	<i>Friday 9/2</i> <u>Topic:</u> Fundamentals of Science <u>Reading:</u> Ch. 2, p. 22-40
WEEK 2, Sept. 5-9		
<i>Monday 9/5</i> NO CLASS (Labor Day)	<i>Wednesday 9/7</i> <u>Topic:</u> Human population <u>Reading:</u> Ch. 4, p. 59-79 <u>DUE:</u> Quiz 1, Ch. 1 and 2	<i>Friday 9/9</i> <u>Topic:</u> Human population <u>Reading:</u> Ch. 4, p. 59-79 <u>DUE:</u> DL posts on Population
WEEK 3, Sept. 12-16		
<i>Monday 9/12</i> <u>Topic:</u> Human population <u>Reading:</u> Ch. 4, p. 59-79	<i>Wednesday 9/14</i> <u>Topic:</u> Agriculture and food <u>Reading:</u> Ch. 11, p. 212-234 <u>DUE:</u> Quiz 2, Ch. 4	<i>Friday 9/16</i> <u>Topic:</u> Agriculture and food <u>Reading:</u> Ch. 11, p. 212-234 <u>DUE:</u> DL posts on Food
WEEK 4, Sept. 19-23		
<i>Monday 9/19</i> <u>Topic:</u> Agriculture and food <u>Reading:</u> Ch. 11, p. 212-234	<i>Wednesday 9/21</i> <u>Topic:</u> Agriculture and food <u>Reading:</u> Ch. 11, p. 212-234 <u>DUE:</u> Quiz 3, Ch. 11	<i>Friday 9/23</i> <u>Topic:</u> Forests <u>Reading:</u> Ch. 12, p. 235-256 <u>DUE:</u> DL posts on Forests
WEEK 5, Sept. 26-30		
<i>Monday 9/26</i> <u>Topic:</u> Forests <u>Reading:</u> Ch. 12, p. 235-256	<i>Wednesday 9/28</i> <u>Topic:</u> Forests <u>Reading:</u> Ch. 12, p. 235-256 <u>DUE:</u> Quiz 4, Ch. 12	<i>Friday 9/30</i> EXAM 1 Ch. 1, 2, 4, 11, and 12
WEEK 6, Oct. 3-7		
<i>Monday 10/3</i> <u>Topic:</u> Air pollution <u>Reading:</u> Ch. 21, 461-496	<i>Wednesday 10/5</i> <u>Topic:</u> Air pollution <u>Reading:</u> Ch. 21, 461-496	<i>Friday 10/7</i> <u>Topic:</u> Air pollution <u>Reading:</u> Ch. 21, 461-496 <u>DUE:</u> Quiz 5, Ch. 21 <u>DUE:</u> DL posts on Air Pollution
WEEK 7, Oct. 10-14		
<i>Monday 10/10</i> NO CLASS (Fall Break)	<i>Wednesday 10/12</i> <u>Topic:</u> Water pollution <u>Reading:</u> Ch. 19, p. 398-427	<i>Friday 10/14</i> <u>Topic:</u> Water pollution <u>Reading:</u> Ch. 19, p. 398-427 <u>DUE:</u> DL posts on Water Pollution
WEEK 8, Oct. 17-21		
<i>Monday 10/17</i> <u>Topic:</u> Water pollution <u>Reading:</u> Ch. 19, p. 398-427 <u>DUE:</u> Quiz 6, Ch. 19	<i>Wednesday 10/19</i> <u>Topic:</u> Ecosystem restoration <u>Reading:</u> Ch. 9, p. 169-184	<i>Friday 10/21</i> <u>Topic:</u> Ecosystem restoration <u>Reading:</u> Ch. 9, p. 169-184 <u>DUE:</u> DL posts on Ecosystem Restoration

WEEK 9, Oct. 24-28		
<p><i>Monday 10/24</i> <u>Topic:</u> Ecosystem restoration <u>Reading:</u> Ch. 9, p. 169-184</p>	<p><i>Wednesday 10/26</i> <u>Topic:</u> Ecosystem restoration <u>Reading:</u> Ch. 9, p. 169-184 <u>DUE:</u> Quiz 7, Ch. 9</p>	<p><i>Friday 10/28</i> <u>Topic:</u> Urban environments <u>Reading:</u> Ch. 22, p. 497-518</p>
WEEK 10, Oct. 31-Nov. 4		
<p><i>Monday 10/31</i> <u>Topic:</u> Urban environments <u>Reading:</u> Ch. 22, p. 497-518</p>	<p><i>Wednesday 11/2</i> <u>Topic:</u> Urban environments <u>Reading:</u> Ch. 22, p. 497-518 <u>DUE:</u> Quiz 8, Ch. 22</p>	<p><i>Friday 11/4</i> EXAM 2 Ch. 21, 19, 9, and 22</p>
WEEK 11, Nov. 7-11		
<p><i>Monday 11/7</i> <u>Topic:</u> Climate and climate change <u>Reading:</u> Ch. 20, p. 428-460</p>	<p><i>Wednesday 11/9</i> <u>Topic:</u> Climate and climate change <u>Reading:</u> Ch. 20, p. 428-460</p>	<p><i>Friday 11/11</i> <u>Topic:</u> Climate and climate change <u>Reading:</u> Ch. 20, p. 428-460 <u>DUE:</u> Quiz 9, Ch. 20 <u>DUE:</u> DL posts on Climate Change</p>
WEEK 12, Nov. 14-18		
<p><i>Monday 11/14</i> <u>Topic:</u> Climate and climate change <u>Reading:</u> Ch. 20, p. 428-460</p>	<p><i>Wednesday 11/16</i> <u>Topic:</u> Climate and climate change <u>Reading:</u> Ch. 20, p. 428-460</p>	<p><i>Friday 11/18</i> <u>Topic:</u> Energy: Fossil Fuels <u>Reading:</u> Ch. 15, p. 303-325 <u>DUE:</u> DL posts on Energy</p>
WEEK 13, Nov. 21-25		
<p><i>Monday 11/21</i> <u>Topic:</u> Energy: Fossil Fuels <u>Reading:</u> Ch. 15, p. 303-325 <u>DUE:</u> Quiz 10, Ch. 15</p>	<p><i>Wednesday 11/23</i> NO CLASS (Thanksgiving Break)</p>	<p><i>Friday 11/25</i> NO CLASS (Thanksgiving Break)</p>
WEEK 14, Nov. 28 – Dec. 2		
<p><i>Monday 11/28</i> <u>Topic:</u> Energy: Alternative Energy <u>Reading:</u> Ch. 16, p. 326-344</p>	<p><i>Wednesday 11/30</i> <u>Topic:</u> Energy: Alternative Energy <u>Reading:</u> Ch. 16, p. 326-344</p>	<p><i>Friday 12/2</i> <u>Topic:</u> Energy: Alternative Energy <u>Reading:</u> Ch. 16, p. 326-344 <u>DUE:</u> Quiz 11, Ch. 16 <u>DUE:</u> DL posts on Alternative Energy</p>
WEEK 15, Dec. 5-9		
<p><i>Monday 12/5</i> <u>Topic:</u> Energy: Nuclear Energy <u>Reading:</u> Ch. 17, p. 345-367</p>	<p><i>Wednesday 12/7</i> <u>Topic:</u> Energy: Nuclear Energy <u>Reading:</u> Ch. 17, p. 345-367 <u>DUE:</u> Quiz 12, Ch. 17</p>	<p><i>Friday 12/9</i> <u>Topic:</u> Energy: Nuclear Energy <u>Reading:</u> Ch. 17, p. 345-367</p>
WEEK 16, Dec. 12-16: Finals week, exam time TBA. EXAM 3, Chapters 20, 15, 16, and 17		