Abilene Christian University – Agricultural and Environmental Sciences

Course Title: AENV 130.02 – Environmental and Technological Science
Semester/Year: Fall 2012
Credit Hours: 3
Location/Time: ZL 103, Lecture MWF 9:00 – 9:50
Instructor: Michael Nicodemus, Ph.D. (Assistant Professor)
Office: ZL 201 C
Telephone: 325-674-2401
Fax: 325-674-6936
E-mail: man08a@acu.edu
P.O. Box: ACU 27986
Office Hours: 9-11, 1-5 Thursday, 10-11 Friday, or by appointment.

ACU Mission: To educate students for Christian service and leadership throughout the world.

College of Arts and Sciences Mission: To educate students for worldwide Christian service and leadership through programs of study and other learning experiences that blend a liberal arts education with professional and career education.

A & E Mission: To educate students for Christian stewardship of sustainable agricultural and environmental systems throughout the world.

Primary Audience: This is a survey course in environmental science and technology and can be used to satisfy the science general education requirement for all non-science majors on campus.

Course Description: A study of environmental and technological sciences including natural resources and the impact of modern technology on the human environment.

Course Goal: The goal of this course is to integrate natural, applied and social sciences to understand complex contemporary environmental issues, emphasizing ethics.

Student Learning Outcomes: Students will (1) gain experience in analyzing and interpreting data in environmental science as presented in tables and figures during lecture or in the textbook, (2) write a position paper that will require them to read and interpret scientific literature and evaluate conclusions drawn from the data therein to support their position, (3) evaluate scientific explanations of environmental phenomena in relationship to linkages with ethical, economic, historical or technological understandings, and (4) integrate environmental science concepts related to energy, biodiversity, population, pollution, and other similar topics into their understandings of impacts on people and the Earth.

Text: Enger, E. D. and B. F. Smith, 2010, *Environmental Science* 12th ed., McGraw Hill Publishers, Boston, MA.

Class Format: This course is composed of three 50 minute class sessions per week. Classroom instruction will include lecture and discussion.

Attendance: Class attendance is important and roll will be checked at the beginning of most class periods. Any student who misses greater than 20% of the course is subject to dismissal. In this case 20% is equal to 9 class meetings. Absences for illness are "excused" if accompanied by a letter of explanation from a health care professional (physician, nurse etc…). Missing class for extra-curricular activities will be counted as an "excused" absence, which will count toward total absences for the course. If dismissed from the course, students should expect to receive a final grade of "F". Tardiness (arrival after the scheduled time for the class) is unacceptable. Two tardies will be counted as an "unexcused" absence. If a student is tardy, they should let the instructor know after class, so they will not be marked as absent. At the 5th "unexcused" absence, the student's grade will be dropped one letter. Both excused and unexcused absences count toward the total absences for the course.

Academic Integrity: Each member of the ACU community is expected to uphold and maintain the integrity of scholarship on this campus. Violations of the academic integrity policy (intentions to deceive, mislead, or misrepresent) are unbecoming a Christian and will be met with severe censure, including but not limited to a grade of zero on exams and/or out of class assignments, dismissal from the course, or possibly a final course grade of "F". The full policy is available for review at the campus life web site and at the following offices: provost, college deans, dean of campus life, director of student affairs, director of residential life education and academic departments. While the university enforces the policy, the most powerful motive for integrity and truthfulness comes from one's desire to imitate God's nature in our lives.

Classroom Behavior: Students are expected to behave and be engaged in the material covered in the class. Students should not talk when others are talking to the class, whether they are teachers, guest speakers, or other students. Mobile and other electronic devices should only be used as part of a class activity and should otherwise be put away. Lap-top computers may be used for taking notes, but not for purposes unrelated to the class session. Students who disrupt the class may be asked to leave and will be counted as "tardy" for that day.

Christian Perspective: This course will discuss some issues that may be challenging to Christians. It is the intention of this course to equip the students with the knowledge to articulate their positions on environmental and technology issues. It is not the intention of this course to promote opinions on issues as the absolute Christian stance, but to promote dialogue between opinions.

Students with Disabilities: Abilene Christian University is committed to providing a learning atmosphere which reasonably accommodates qualified persons with disabilities. If you feel you have a disability which may impair your capacity to successfully complete this course, please contact the Director of Disability Services (674-2667) in Alpha Academic Services. Student Disability Services assists students with disabilities in obtaining appropriate academic accommodations.

Assignments and Grading:

Exams – There will be five exams this term (four midterms and a final), each exam will be worth 100 points.

Position Papers – Each student will prepare two reflective position papers on topics selected by the student. Position papers are to be 5 pages in length, double-spaced and word processed in 12 pt "Times New Roman" font. Anything stated as a fact (as opposed to an opinion) must be accompanied by a reference (at least five "scholarly" references). Position papers are worth 100 points each.

Course Grade:

Exams	500 points (72%)
Papers	200 points (28%)
Total	700 points

Your grade will be calculated on an accumulated point total basis. Therefore any student that accumulates 90% (630) of the total points will receive an "A" for the course, 80% (560) a "B", 70% (490) a "C", 60% (420) a "D", < 60% an "F".

An easy way to keep track of your grades is to mark down each grade as you receive it in an Excel file (or in a notebook) as well as the total possible for the assignment.

Additional Course Policies:

1. Late work will not be accepted! Assignments are due at the beginning of class!
2. No "extra credit" will be offered, do not ask.
3. All out of class assignments are to be "word-processed" in "*Times New Roman*" font and at a font size of 12, with one inch margins top-bottom-sides.
4. Make-up tests will be given only to students who have a note indicating an excused absence. The test must be completed within a week of the test date or a zero will be given (barring extenuating circumstances). It is the student's responsibility to arrange for a time to make up the test.
5. Students are expected to adhere to the university dress code outlined in the student guide. The guide is available on-line and may also be found in the campus life office on the main floor of McKinzie Hall.

Course Schedule and Material Coverage (subject to change)
Environmental and Technological Science: AENV 130

Date	Topic	Reading Assignment
August 27	Introduction /Science and Energy	Chapter 4
29	Science and Energy	Chapter 4
31	Ecology	Chapter 5
September 3	Ecology	Chapter 5
5	Ecology	Chapter 5
7	Ecology	Chapter 5
10	Biomes	Chapter 6
12	Biomes	Chapter 6
14	Environmental Science	Chapter 1
17	**Exam I**	
19	Environmental Ethics	Chapter 2
21	Environmental Ethics	Chapter 2
24	Environmental Ethics	Chapter 2
26	Population Principles	Chapter 7
28	Population Principles	Chapter 7
October 1	Biodiversity Issues	Chapter 11
3	Biodiversity Issues	Chapter 11
5	Biodiversity Issues	Chapter 11
8	**Exam II**	Chapter 8
10	Energy Consumption	Chapter 8
12	Energy Consumption	Chapter 8
15	Coal (**POSITION PAPER 1 DUE)**	Chapter 9
17	Coal	Chapter 9
19	Oil and Gas	Chapter 9
22	Oil and Gas	Chapter 9
24	Nuclear Energy	Chapter 10
26	**NO CLASS: FALL BREAK**	
29	**Exam III**	
31	Renewable Energy	Chapter 9
November 2	Renewable Energy	Chapter 9
5	Energy Conservation	Chapter 9
7	Energy Conservation	Chapter 9
9	Air Quality	Chapter 16
12	Air Quality	Chapter 16
14	Water	Chapter 15
16	Water	Chapter 15
19	**Exam IV**	
21	**NO CLASS: THANKSGIVING**	
23	**NO CLASS: THANKSGIVING**	
26	Solid Waste	Chapter 17
28	Solid Waste	Chapter 17
30	Hazardous Waste	Chapter 18
December 3	Hazardous Waste	Chapter 18
5	Agriculture	Chapter 14
7	Agriculture (**POSITION PAPER 2 DUE)**	Chapter 14
13	**Final Exam** (2-4, ZL 103)	