BRANDMAN University Chapman University System

School of Arts & Sciences Course Syllabus

Course Number/Title/Credits: ESCU 101 / Introduction to Environmental Science / 3 credits

Catalog Course Description: An introduction to the causes of environmental problems as well as strategies for potential solutions from both a natural science and a social science perspective. Scientific understanding of the environment is emphasized. The course gives an overview of major environmental problems and scientific principles, with a focus on managing environmental problems and important natural resources. Online only. 3 credits.

LEARNING OUTCOMES and ASSESSMENT:

Learning Outcomes are statements that specify what learners will know, understand, or be able to demonstrate at the end of a learning experience.

Types of Learning Outcomes include:

- ✓ Course Learning Outcome – Result of finishing a course.
- ✓ Program Learning Outcome – Result of finishing a program.
- ✓ Institutional Learning Outcome – Result of finishing a degree at an institution, reflecting the core learning values and experiences of all graduates.

A Signature Assignment is an assignment used to measure a student's mastery of a program or institutional learning outcome. If a course you are taking includes a Signature Assignment, it will be clearly marked (**SIGNATURE ASSIGNMENT**).

Access the following link(s) for information on the Program Learning Outcomes (PLOs) and Curriculum Map related to this course:

Click Here for Learning Outcomes

Access the following link(s) for information on the Institutional Learning Outcomes (ILOs) and Curriculum Map related to this course:

Click Here for Learning Outcomes

Prerequisites: None

Restrictions: None

Essential Equipment and Facilities: Students must have the ability to access both the Brandman website and the Blackboard portal to their class site. During the first class meeting, each student must demonstrate an ability to log on and access these and other key locations indicated by the professor. For those students accessing the web from home, it is recommended that either Windows Explorer or Mozilla Fire Fox be used as their internet browser. Both are available as free downloads. The University is now using Microsoft Office version 2007 on all its computers, and if students are using an earlier version of MS Office, they may need the free conversion software available at:

http://www.microsoft.com/downloads/details.aspx?familyid=941b3470-3ae9-4aee-8f43-c6bb74cd1466&displaylang=en

JavaScript is also required for courses, and students should ensure JavaScript is enabled in their browser.

Last Revision Date: 7/6/2016

Academic Integrity: As a learning community of scholars, Brandman University emphasizes the ethical responsibility of all its members to seek knowledge honestly and in good faith. Students are responsible for doing their own work, and academic dishonesty of any kind will not be tolerated. Violations of academic integrity include, but are not limited to, cheating, plagiarism, or misrepresentation of information in oral or written form. Plagiarism means presenting someone else's idea or writing as if it were your own. If you use someone else's idea or writing, be sure the source is clearly documented. Further information may be found in the *Brandman University Catalog* available at: http://www.brandman.edu/catalog/current/

American with Disabilities Act Statement: According to the Americans with Disabilities Act (ADA) of 1990, an individual with disability is defined as having functional limitations resulting from a diagnosed disability and applies to an individual who has a physical or mental impairment that substantially limits one or more of the individual's major life activities; has a record of such an impairment; or is regarded as having such an impairment. In compliance with ADA guidelines, students who have any condition, either permanent or temporary, that may impair or impact their ability to successfully complete assignments, tasks or satisfy course criteria are requested to notify their Campus Advisor or Campus Director in order to understand how to apply for Student Disability Services. If and when, the student is granted formal approval by the Director of ADA Services, both the student and professor will be notified. It is highly suggested that the student contact their professor to discuss the accommodations during the first week of the session. The granting of accommodations will not be retroactive and cannot jeopardize the academic standards or integrity of the course.

University Policies: Students are responsible for complying with university policies including, but not limited to: Incompletes; course drops; and student conduct. Information may be found in the *Brandman University Catalog* available at: http://www.brandman.edu/catalog/current/

Required Text: Hassenzahl, David M., Hager, Mary Catherine and Linda R. Berg., Visualizing Environmental Science,4th Ed., John Wiley and Sons, Inc., ISBN- 978-1-118-16983-4. Available also as an e-book.

Texts are available at the Brandman On-Line Bookstore: *www.brandmanuniversity.bkstr.com*

On-line Brandman Library Resources: http://www.brandman.edu/library/

Course Learning Objectives:

By the end of the course, students should be able to:

1. Describe the structure and function of major environmental systems.
2. Relate human population growth with local and global environmental problems.
3. Examine local and global environmental problems and outline potential solutions.
4. Critically evaluate arguments regarding environmental issues.
5. Apply their understanding of environmental issues to their own choices.

Major Study Units:

1. Human Impacts on the Environment; The Scientific Method; Environmental Sustainability and Human Values
2. Environmental Health Hazards; Movement and Fate of Toxicants in the Environment; Human Population Change

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3. Ecosystems and Biogeochemistry; Population Responses to Environmental Change; Biodiversity and Conservation

4. Effects of Air Pollution; Global Climate Change; Ozone Depletion and Acid Deposition

5. Water Resource Problems and Management; Water Pollution; Human Impacts on the Ocean

6. Mineral and Soil Resources; Population and World Hunger; Agricultural Challenges and Solutions

7. Solid and Hazardous Waste Management; Environmental Economics and Politics; Environmental Decision-Making

8. Nonrenewable and Renewable Energy Resources; Conservation and Efficiency

Instructional Strategies: This class includes readings, textual and video instruction, exercises, discussions, and projects. Instructional Strategies may be further explained in the course Blackboard site.

Attendance Policy:

Requirements for students' attendance and participation will be defined by each instructor based on the following policy:

- Monday of the first week is considered the first day of class for online and blended instruction. This includes instruction for fully online classes and online instruction supporting blended classes.
- Regular onsite attendance is expected for student success. If a student misses more than one onsite class or one week of engagement in an online class, the student may, at the discretion of the instructor, fail the course. Students are expected to attend all classes, particularly the first night of class.
- Students should consider withdrawing from a course if they will be absent more than once. Instructors may, but are not obligated to, accommodate students under extraordinary circumstances, but the student must request accommodation and provide requested supporting documentation. Students enrolled in blended courses must attend at least one class during the first two weeks of classes.
- If a student misses a portion (e.g., arriving late or leaving early) of an onsite course, the student's grade may be adversely affected. Students who are not in attendance for at least 75 percent of any scheduled class may be considered absent for that class. Students should discuss missing portions of a class with their instructor to determine how their grade may be affected.
- Regular online attendance/participation and engagement is expected for student success in both fully online and blended courses. Online participation is evident through posting to a discussion board, blog, completing assignments including journal entries, or taking quizzes and exams.
- Schools and programs may have different attendance policies. Refer to school and program specific information for additional attendance policies.

Letter Grade/Percentage Equivalents:

Grade Point System (Rounded up at .5 and up)			
A = 93%-100%	B = 83%-86%	C = 73%-76%	D = 63%-66%
A- = 90%-92%	B- = 80%-82%	C- = 70%-72%	D-= 60%-62%
B+ = 87%-89%	C+ = 77%-79%	D+ = 67%-69%	F=59% and below

Methods of Evaluation for Determining Grades:

Quizzes/Knowledge Checks

There are three Quizzes/Knowledge Checks offered in this course **(Weeks 2, 4, and 6)**. These quizzes contain multiple choice and true-false questions and are open-book and open-note, but you may not collaborate with any other person during the quiz or discuss the quiz with your colleagues until all individuals have completed the quiz. You must complete each quiz in one session (one hour available for each Knowledge Check assignment); do not open the quiz and attempt to save it for later. Grades will be available in the Grade Center immediately after the work is submitted.

Discussion Board Participation

There are ten online discussions that are required for this course; they are intended to develop your skills in analyzing the topics presented in your textbook and to offer you a chance to share your thoughts and knowledge with your colleagues. Your responses should clearly demonstrate that you have thoroughly reviewed the content (video, textbook, article) and be relevant to the topic, moving the discussion forward. You should not simply agree or disagree with what has already been stated. Interact with your classmates constructively and respectfully; review the netiquette guidelines outlined in the "Start Here" section of the classroom. Participation points earned via discussion cannot be made up if the student fails to participate. A rubric is provided in the Course Information tab to help you earn the maximum number of points. Please pay attention to the directions for each week's particular discussion board that are listed in Blackboard.

Ecological Footprint Assignment

This assignment is offered in two-parts (Weeks 2 and 3) where you will take a close look at your own environmental impact. A handout is provided for each part of the assignment offering clear instructions on how to complete each part. In Part 1 of the assignment you are asked to answer it honestly according to your own habits and practices. In Part 2 you are asked to "vary" the original answers provided and to actually provide answers that are very different from what you provided in part 1. As a part of completing Part 2 you also provide a discussion of the changes that you observe when you compare answers to part 1 and answers to Part 2.

Article Review Assignments

You will complete three Article Review assignments (Weeks 3, 4, and 5) allowing you to critically evaluate the arguments presented as different media outlets report on environmental issues. For each assignment, you will select an article and follow the guidelines provided to summarize the scientific content and offer your analysis of the potential bias of the work. A rubric is provided in the "Course Information" tab to help you earn the maximum number of points.

Environmental Decision-Making Report

This assignment (Week 8) gives you the opportunity to reflect on what you have learned in the course about an environmental issue of your choosing. A rubric is provided in the Course Information tab to help you earn the maximum number of points.

Final Exam

The comprehensive Final Exam will consist of multiple choice, true-false, and image interpretation questions based on material covered in the text and in the online content. This exam must be completed once started, is not able to be repeated, and be must completed within the given time allotment (three hours).

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Assignment Detail:

Assignments - Refer to Rubric(s) in Course Information on Blackboard	Possible Points
Syllabus Quiz	5
Plagiarism Quiz	5
Discussion Board Participation (20 points each, ten discussions)	200
Quizzes-Knowledge Checks (30 points each, three assignments)	90
Ecological Footprint Study	40
Environmental Decision-Making Report	40
Article Reviews (30 points each, three assignments)	90
Final Exam (60 questions)	60
	Total: 530

Class by Class Outline:

Week	Topics	Assignments
Week 1	**The Environmental Challenges We Face; Environmental Sustainability and Human Values**	**Readings**: Chapters 1 (pages 2-23) Chapter 2(pages 26-44) Excerpt from "The Tragedy of the Commons" by Garret Hardin **Assessment:** Syllabus Quiz (due Sunday) **Discussion**: Welcome to ESCU 101 (initial post due Thursday; final posts to classmates due Sunday) **Discussion**: The Commons (initial post due Thursday; final posts to classmates due Sunday)
Week 2	**Risk Analysis and Environmental Health Hazards; Human Population Change and the Environment**	**Readings**: Chapter 4 (pages 72-92) Chapter 7 (pages 158-186) Ecological Footprint article **Assessment:** Plagiarism Quiz (due Sunday) **Assignment**: Week 2 Quiz-Knowledge Check #1 (due Sunday) **Assignment**: Determining Your Ecological Footprint—Part One (due Sunday)

		Discussion: Technology and the Environment (initial post due Thursday; final posts to classmates due Sunday)
Week 3	**How Ecosystems Work; Ecosystems and Evolution; Biological Resources**	**Readings**: Chapter 5 (pages 96-122) Chapter 6 (pages 147-154) Chapter 15 (pages 372-393) **Assignment**: Determining Your Ecological Footprint—Part Two (due Sunday) **Assignment**: Article Review #1 (due Sunday) **Discussion**: My Ecological Footprint (initial post due Thursday; final posts to classmates due Sunday)
Week 4	**Air and Air Pollution; Global Atmospheric Changes**	**Readings**: Chapter 8 (pages 190-212) Chapter 9 (pages 216-238) Climate Change Debate article **Assignment**: Week 4 Quiz-Knowledge Check #2 (due Sunday) **Assignment**: Article Review #2 (due Sunday) **Discussion Board**: Climate Change (initial post due Thursday; final posts to classmates due Sunday)
Week 5	**Freshwater Resources and Water Pollution; The Ocean and Fisheries**	**Reading**: Chapter 10 (pages 242-269) Chapter 11 (pages 272-293) Water Security article **Assignment**: Article Review #3 (due Sunday) **Discussion Board**: Water in the News (initial post due Thursday; final posts to classmates due Sunday)
Week 6	**Mineral and Soil Resources; Agriculture and Food**	**Reading**: Chapter 12 (pages 296-317) Chapter 14 (pages 348-368) Reports on Genetically-Modified Foods **Assignment**: Week 6 Quiz-Knowledge Check #3 (due Sunday) **Discussion Board**: GM Foods: Worth the Risk? (initial post due Thursday; final posts to classmates due Sunday)
Week 7	**Environmental History, Politics, and Economics; Solid and Hazardous Waste**	**Reading**: Chapter 3 (pages 48-68) Chapter 16 (pages 396-415) Reports on Fracking

		Discussion: Ecosystems: How Much Are They Worth? (initial post due Thursday; final posts to classmates due Sunday) **Discussion**: Living in a Disposable World (initial post due Thursday; final post due Sunday)
Week 8	**Nonrenewable and Renewable Resources**	**Reading**: Chapter 17 (pages 418-439) Chapter 18 (pages 442-463) **Assignment**: Environmental Decision-Making Report (due Sunday) **Assessment:** Final Exam (due Sunday) **Discussion**: Coal and Beyond (initial post due Thursday; final posts to classmates due Sunday)