



COURSE OUTLINE

COURSE NO.: BIOS 101 COURSE NAME: Environmental Science -
Online
CREDIT HOURS: 3 CLASS HOURS: 3 LAB HOURS:
0
DATE: Summer 2008 PREPARED BY: Stacy Zell, Ph.D.
TO BE UPDATED: 9/09 APPROVED BY:

Dean/Associate Dean

PREREQUISITES: Although there are no course prerequisites, online learners need to have the ability to work alone, the self-discipline to keep up with assignments, and the motivation to complete the assignments on time. Students are expected to have spent time reflecting on the process of online learning and access the appropriateness of this environment for himself or herself. Additionally, online learners need to be able to maintain professional levels of communication when responding to peers and instructors. All student code of conduct rules apply to online learning environments; even though we share a “virtual” classroom, we are in a learning community together. For this community to provide an effective atmosphere for learning, students are expected to come to the course with a desire to participate fully in the online learning environment fostered by the instructor and to communicate with the instructor on a regular basis regarding any concerns the student has about the course.

COURSE DESCRIPTION:

Bios 101 introduces the student to the major topics in environmental science. The course examines the interactions and impacts of humans with the environment and demonstrates how scientific principles and methods are applied nationally and globally to manage the Earth's ecosystems. The course further emphasizes concepts and principles that apply to both natural and constructed environments. Includes the following Success Skills: Communicates Effectively, Maintains Professional Skills & Attitudes and Maintains a Code of Ethics.

COURSE OUTCOMES:

Upon completion of this course, the learner will be able to:

1. Identify major Earth cycles and illustrate the flow of energy, nutrients, minerals and matter within the cycle.
2. List the major resources of the earth and distinguish among those that are renewable or non-renewable.
3. Demonstrate an understanding of resource webbing by showing how a specific resource is related to others, and the consequences of its removal, use, consumption or depletion.
4. Observe and identify the living and non-living elements in habitats and discuss their value in creating or maintaining a healthy ecosystem environment.

5. Demonstrate how the ecological concepts and processes are applied to human communities.
6. Examine how environmental influences impact humans and the interrelationship between human systems and ecosystem viability.
7. Develop mastery of the Success Skills identified for this course.

COURSE MATERIALS:

Required Text: Chiras, Daniel. Environmental Science. 7th edition, Jones and Bartlett Publishers, Boston, 2006.

Textbook is soft back ISBN# 13:978-0-7637-0860-3

Study guide ISBN# 10-0-7637-0860-7

Note about the book:

Yes, you need to buy the book. The study guide is included in the price of the book. There are online resources for you. The book and study guide are sold together for a suggested retail price of \$116.00. You will need the book for the first day of class. If you buy an older copy no older than 2005, please otherwise the charts and tables will be rather outdated.

Note about this document: Since we are an online class some of these items below may not apply, but I have included them here anyway as they are college Course Outline Requirements. Please continue reading your course topic outline and grading guidelines are included in this document.

SAFETY GUIDELINES:

Students are **required** to observe appropriate safety practices and directions from the instructor regarding safety at all times while in the classroom, laboratory, and in the field.

Certain class assignments may require the trainee to be absent from the instructor's immediate supervision. Whether the trainee is under immediate supervision or not, safe conduct and safe use of equipment shall be the ultimate rule. Failure to comply with prudent safety practices and/or willful disregard for class participants and/or equipment may be cause for immediate dismissal from that particular class session by the instructor. Subsequent similar activity may be cause for dismissal from the course by the Dean or Associate Dean.

TOPICAL OUTLINE:

Topic 1. **Overview of Earth Cycles that support Life on Earth - In this Unit, we will answer the question → What are the nutrients essential to life on Earth and how**

does an organism acquire these components from the abiotic and biotic cycles for the maintenance of ecosystem viability?

Some of the topics in this first unit include: the Carbon, Hydrogen, Oxygen, Nitrogen, Phosphorus, Sulfur, energy from the sun through abiotic and biotic systems back to the Earth, atoms, molecules, macromolecules, cells, organization of life, producer, consumer, decomposer, herbivore, omnivore, carnivore, scavenger, detritivore, and an overview of nutrient cycling and re-cycling in food webs and food chains.

Topic 2. Earth Cycles – In this Unit, we will answer the question → How does the Earth cycle the nutrients we learned about in unit one from the sun through living and non-living parts of an ecosystem, back into the Earth for recycling and reuse again and again.

Some of the topics in this unit include: Carbon Cycle, photosynthesis, Hydrologic Cycle (water cycle), Oxygen exchange, Nitrogen Cycle, Phosphorus Cycle, Sulfur Cycle, conversion of light energy to chemical energy, energy flow in food webs, and human interaction in Earth Cycles.

Topic 3. Patterns of Climate and Attributes of ecosystems - In this unit we will answer the question → What are normal patterns of climate and the related attributes of ecosystems; how does change in these patterns effect environmental systems?

Some of the topics we will study in Unit Two include: Wind, rainfall, temperature and physical attributes of ecosystems, primary and secondary succession, climates, biomes, Coriolis Effect, effects of ocean currents on ecosystems.

Topic 4. Diversity of Resources and Philosophies of use – In this unit we will answer the question → What are some of the main resources used from the environment and how are these resources characterized and managed? Some of the topics we will study in Unit Three include: Renewable and nonrenewable resources, value of biodiversity in maintaining healthy environments, cradle to grave design vs. cradle to cradle design, energy audit, sustainability.

Topic 5. Interdependency/Interrelationships of the abiotic and biotic components of ecosystems – In this unit we will answer the question → What are the relationships that organisms engage in within the context of ecosystem communities and what are the effects of various factors like stress, diminishing natural resources, over-population, irregular weather patterns, on the balance and sustainability of such communities?

Some of the topics we will study in Unit Four include: biotic and abiotic relationships, symbiotic relationships, predator/prey, commensalism, parasitism, migration, the role and effect of human interactions on ecosystem balance.

Topic 6. Adaptation/Change/Biodiversity – In this unit we will answer the question → What are some of the key components of biodiversity and how do living systems change and adapt to their environment?

Some of the topics we will study in Unit Five include: ecological pressure, adaptation, genetic diversity, mutation, conservation, sustainable management, border habitat, keystone species, and wildlife corridor.

Topic 7. Habitat/Niche – In this unit we will answer the question → What are the specific relationships between different species of organisms and environmental challenges (both in the U.S. and abroad) that threaten species viability?

Some of the topics we will discuss in this section include: introduction of exotics/invasive species, challenges to food, water, shelter and space needs, and human environmental stewardship.

Topic 8. Carrying Capacity/OverPopulation – In this unit we will answer the question → What are some of the most pressing challenges to the environmental systems that support life on Earth and how do human population dynamics effect this?

Some of the topics we will discuss in this section include: Limiting factors of food, access to resources, disease proliferation, land use, socio-economic challenges, human activities and choices of convenience.

Topic 9. Research Topic- In this unit you will pick a challenge that faces a particular region of the world, or community. You will explain the cause of the challenge and find two examples of positive movement to address the challenge. For instance, if you are interested in fossil fuels, you may pick a community that has seen the most dramatic rise in gas prices and research local official’s attempts to increase bus and rail service to the same region. You can pick any topic related to sustainable practices addressing any challenge from conservation, to land use, to population dynamic, to water use, etc. You will have additional guidance for this project.

Topic 10. In this unit we will summarize and review several main concepts from the course and look at innovative communities, businesses, and countries that offer a positive framework from which to re-frame our own interaction as human stewards of an environment that sustains an immense diversity of life on Earth. You will have a review list of topics for the final in this unit. We will use mini video clips and websites to “visit” several innovative businesses and communities addressing environmental challenges in interesting and positive ways. Your final assessment will be part multiple choice, matching, diagrams and part short answer. You will need to apply the knowledge you have collected in the course on this exam for full credit.

The activities in this course addresses college-wide success skills including: Communicates Effectively - A1 & 10; Maintains Professional Skills & Attitudes - D1 & 11; and Maintains a Code of Ethics – H2.

DISABILITIES NOTICE:

If you have been diagnosed with a disability that hinders your academic success, please contact the Access Center Office of Disabilities in JL 249 immediately for special accommodations.

STUDENT INSURANCE COVERAGE:

Hocking College insurance does not cover a student in cases of an accident or illness. Students are responsible for providing their own health and accident insurance. The Hocking College Health Center provides information on a student health insurance plan. Please see the Health Center in JL 241 for information on costs, coverage, and how to enroll in the plan.

USE OF CELL PHONES OR OTHER ELECTRONIC DEVICES:

The use of cell phones during classes and lab is a disrespectful distraction to your instructor and classmates. *Please turn your cell phone and other electronic devices off while you are in class/lab.* In emergency situations, please discuss limited use of a cell phone prior to the class during which you would like to use your cell phone.

HOCKING COLLEGE
EVALUATION OF THE LEARNER

COURSE NO.: BIOS 101 COURSE NAME: Environmental Science - Online
 INSTRUCTOR(S): Stacy Zell, Ph.D.
 DATE PREPARED: Summer 2008
 APPROVED BY:

Dean/Associate Dean

Evaluation is a shared responsibility between the instructor and the student. The purpose of evaluations is to demonstrate how well the instructor has taught and how well the student has internalized and can apply specific knowledge, course materials, principles, concepts, and terms relevant to the Natural Resources field. We will use a variety of assessment tools to examine student success.

SPECIFIC FACTORS

1. **EXAMINATIONS AND QUIZZES:**

SPRINTS → There will be several mini-quizzes or “sprints” around a particular set of new notes. These give you immediate feedback about your reading comprehension and show you where you need to review material before continuing. There are several of these per unit. Each sprint is 3-10 questions. Total points will be 100.

JOGS → Each unit has a larger quiz/test or “jog” that allows you answer more in depth questions about each topic. This is an opportunity for you to demonstrate to me that you have mastered the knowledge in a given unit. There are nine of these for a total of 450 points.

MARATHON → There is one final exam that lets me see how well you have connected key concepts from the course and can apply them using critical thinking skills we have practiced throughout the term. Total points 100.

2. **DISCUSSION BOARD POSTS:**

Each week there will be a topic that you need to respond to in a thoughtful manner. There will be 10 of these for a total of 175 points. For posts that require you to do an article summary first, the posts will be worth 35 points. Posts without an article summary are worth 20 points.

3. **WEEKLY ASSIGNMENTS:** Weekly assignments will range in value for a total of 100 points per unit and 900 points total.

4. **RESEARCH PAPER:**

Unit 9 research paper is worth 100 points.

5. **FINAL TEST:**

The cumulative final is worth 100 points.

Other Items:

1. **ATTENDANCE:**

Lecture attendance is required. Exams may only be made up with an excused absence or with instructor's permission. The instructor can be notified by phone (740) 753-6428 or send an email through the online course email.

2. **CLASS PARTICIPATION:**

Class participation is essential in successful completion of course.

3. **EXTRA PROJECTS: You will have the option to visit a park or interview someone in the environmental science field, but this is not required. If you do this project completely, you will have a chance to drop your lowest test grade (I call the tests jogs).**

4. **GRADING SCALE:**

95% - 100%	=A	73% - 76%	=C
90% - 94%	=A-	70% - 72%	=C-
87% - 89%	=B+	68% - 69%	=D+
83% - 86%	=B	66% - 67%	=D
80% - 82%	=B-	65%	=D-

77% - 79% =C+ 0% - 64% =F

7. **POLICY REGARDING HONESTY:**

Honesty and integrity are major elements in professional behavior and are expected of each student. This is part of the Success Skill “Maintains a Code of Ethics.” All work is assumed to be your own unless special permission is granted from the instructor or sources are appropriately cited. It is expected that you will be honest in all endeavors related to the completion of this course, just as you must be in all activities at work. Instances of dishonesty will be reported to Campus Judiciaries.

The definition of academic misconduct that is provided in the *Hocking College Student Code of Conduct* applies to this course and all other courses that you are taking at the College. It is a Code I Offense.

a. *Academic Misconduct* refers to dishonesty in examination (cheating); presenting the ideas or writing of someone else as one’s own (plagiarism); knowingly furnishing false information to the college by forgery, alteration, or misuse of college documents, records or identification.

Academic dishonesty includes but is not limited to:

- 1) *Permitting another student to plagiarize or cheat from your work,*
- 2) *Submitting an academic exercise, written work, project, or computer program that has been prepared totally or in part by another,*
- 3) *Improperly acquiring knowledge of the contents of an exam,*
- 4) *Using unauthorized material during an exam,*
- 5) *Submitting the same paper in two different courses without knowledge and consent of all faculty members involved,*
- 6) *Obtaining academic material through stealing or other unauthorized means,*
- 7) *Falsification of research findings and methodology.*

Academic misconduct is unacceptable behavior in all Hocking College courses. A student observed or found to be engaged in academic misconduct on a test or assignment in this course will receive a zero on that test or assignment. A written report of the incident, signed by the instructor and the student, will be submitted to the Campus Judiciaries Office. The Office of Campus Judiciaries will conduct a judicial proceeding with the accused student, resulting in a finding of “In Violation” or “Not In Violation” of the Hocking College Code of Conduct. The outcome of the judicial process will not be used to modify or validate the specific consequence as decided by the individual faculty/program or academic unit, but may be used to determine future Judicial consequences, in demonstrating a pattern of behavior on the part of the student.

Further information pertaining to Academic Misconduct can be found by contacting the Campus Judiciaries Office, Oakley 210, or by referring to the *Student Code of Conduct* found under the Current Student link on the Hocking College website:

www.hocking.edu

8. **FINAL GRADE CALCULATION:**

Your final grade will be determined by a straight point average of all your assignments for a total point value of 1,995. Total points may vary from term to term, but your average is always calculated the same way.

9. **ACADEMIC GRADE APPEAL PROCESS:**

The appeals process is available only for final grades, not for an individually graded assignment. The steps for the grade appeal process are available in each academic unit office and online in the *Student Code of Conduct* found under the Current Student link on the Hocking College website: www.hocking.edu

10. **DISRUPTIVE BEHAVIOR:**

Disruptive behavior that is detrimental to the instructional process, the learning experience, the rights of other students, or behavior that seriously jeopardizes the college relationship with affiliating agencies may result in temporary class suspension. A member of the staff may make this determination for one class period (the day of the occurrence). The Department Dean or Associate Dean must concur within 24 hours for an extended suspension from class. Such incidents will be referred to Campus Judiciaries for disciplinary action. **IMPORTANT:** If a student needs more explanation on disciplinary action please refer to *The Student Code of Conduct* found on the Hocking College website (www.hocking.edu).

11. **STUDENT GRIEVANCE DUE PROCESS PROCEDURES:**

Due process procedures for the College are located in the current *Student Code of Conduct* listed as Hocking College Student Grievance Procedures available online under the Current Student link on the Hocking College website (www.hocking.edu).

12. **DISABILITIES SERVICES:**

Please contact the Access Center/Office of Disabilities Services in JL 249 immediately if you have been diagnosed with a disability that may hinder your academic success.

BIOS 101 - Success Skills Evaluation Form
 Midterm – End Term
 (Circle One)

Student's Name: _____ Evaluator's Name: _____

Course Name: _____ Date: _____

Levels of Competency:

Developing (actively learning)

Established (meeting or exceeding expectations)

1 = Beginning 2 = Emerging

3 = Performing 4 = Proficient

5 = Exemplary NA = Not Applicable

<u>Indicators</u>	<u>Developing</u> (1 – 2)	<u>Established</u> (3 – 5)
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Communicates Effectively

A-1 Reads, comprehends, analyzes, and evaluates various types of writing.		
1. Understands main idea 2. Understands author's intent 3. Analyzes logical development of topic and/or argument. 4. Evaluates effectiveness of written document.		
A-10 Uses and perceives non-verbal cues.		
1. Establishes and maintains eye contact. 2. Observes and interprets body position and movements of others. 3. Respects appropriate boundaries of personal space. 4. Aware of and controls own non-verbals to create a positive, confident impression in workplace.		

Maintains Professional Skills and Attitudes

D-1 Practices job search techniques, including constructing resumes and participating in interviews.		
1. Researches job and employer prior to applying. 2. Follows specific agency application processes. 3. Uses the Internet for job search activities. 4. Requests appropriate job application forms. 5. Composes an acceptable cover letter and resume.		

6. Demonstrates skills in interviewing.		
D-11 Maintains image consistent with technology standards.		
1. Dresses and grooms appropriately for the job position.		
2. Concentrates on assigned tasks.		
3. Is courteous at all times.		
4. Presents the image of an educated, self-confident individual.		

Maintains a Code of Ethics

H-2 Acts responsibly.		
1. Exercises restraint and delays gratification for the good of self and others.		
2. Does personal best in all situations.		
3. Overcomes obstacles rather than surrendering to them.		
4. Honor commitments, obligations and promises to self and others.		