

**Biology 104: Ecosphere in Crisis LAB  
Spring 2017**

**Instructor:** Bradley Spanbauer, M.Sc.  
**Office:** Halsey 36  
**Office hours:** M, W 8:00 AM - 10:00 AM,  
or by appointment  
**Email:** spanbauerb@uwosh.edu

**Course description:**

All of the organisms on Earth rely on the natural environment for existence. The burgeoning human population, however, is causing dramatic changes to the natural environment and Earth's processes. There are many connections in the web of life and these anthropogenic changes have effects that are far-reaching and affect many aspects of life on Earth. This course should bring to light and emphasize the importance of a clean, healthy natural environment and the need for sustainable solutions for current environmental problems to ensure the persistence of humanity.

**Course objectives:**

- To understand the roles of science and ethics in critically analyzing and solving environmental issues.
- To gain basic knowledge of ecological principles that govern maintenance of Earth's air, land, and water resources.
- To understand how humans affect, and are affected by, the environment.
- To understand sustainability and be able to thinking about multiple aspects of a truly sustainable solution.
- To understand how ecology, economy, and equality are intertwined and how tradeoffs among them relate to the sustainability of our ecosphere in crisis.

**Grading:**

Participation/discussion	60 pts
Current events	20 pts
Lab assignments/quizzes	100 pts
Mid-term Quiz	50 pts
<u>Final Quiz</u>	<u>50 pts</u>
Total points	280 pts

## Current Events

You will sign up for a week to lead a brief discussion on an article of your choice. The article must come from a reliable source. Good places to choose from include: *National Geographic*, *The New York Times*, *The Economist*, *Scientific American*, *Science*. The article must be posted by the Friday before the lab for which the student has signed up. This will ensure that everyone in the class can read the article and participate in the student-led discussion the following lab. You will be graded on your ability to produce good discussion questions for the class and ability to lead the class in discussion, demonstrating your familiarity with the topic. This may require you to do some research and reading beyond the article that you assign to the class.

## Lab assignments and quizzes

All lab assignments and quizzes will be completed in class or given on D2L with due dates clearly noted. Please refer to the lab description for assignment details and due dates.

## Policies

Email and D2L will be used throughout the term. Emails constitute legal, official University communication. Neglecting to check your email is not an acceptable excuse for poor performance in the class. Contact Academic Computing or any Campus Computer Lab supervisor for help with email or D2L.

Writing assignments are expected to be of the highest quality. Any writing assignment turned in with shorthand will have points deducted. Please see the Writing Guidelines on D2L for more details.

Arrangements for any special need must be made in advance, except in the case of unforeseen circumstances. Late assignments will be accepted *if* arrangements were made in advance or with an excused absence such as illness with a doctor's note, otherwise late assignments will not be accepted.

## Expectations

*What I expect of you...*

- To be familiar with course policies
- To seek help if you need it
- To communicate with me regarding special needs or circumstances
- To actively participate in discussion
- To be respectful of your classmates and instructor

*What you can expect from me...*

- To provide course materials on time
- To present factual organized information
- To be enthusiastic and knowledgeable about course material
- To be respectful of your perspectives on an issue
- To objectively grade your assignments and exams
- To set high standards and help you meet those standards

## Academic Integrity

Academic dishonesty will not be tolerated. If you decide to engage in academic misconduct you will be subject to the Student Academic Disciplinary Procedures as outlined in the Student Disciplinary Code (<http://www.uwosh.edu/dean>). Under Chapter 14 UWS (Student Academic Disciplinary Procedures), “academic misconduct” means and act in which a student (UWS 14.03):

- A. seeks to claim credit for the work or efforts of another without authorization or citation;
- B. uses unauthorized materials or fabricated data in any academic exercise;
- C. forges or falsifies academic documents or records;
- D. intentionally impedes or damages the academic work of others;
- E. engages in conduct aimed at making false representation of a student’s academic performance; or assists other students in any of these acts.

## Disabilities

Students who have physical or learning disabilities that wish to request academic adjustments should notify the Disabilities Office so that appropriate accommodations can be made. For more information contact the Counseling Center or Disabilities Services (Dean of Student’s Office) at (920)-424-3100

### LAB SCHEDULE

WEEK:	TOPIC/ACTIVITY
JAN 31	Syllabus “What is science? What is sustainability?”
FEB 7	Population <i>Reading/Discussion: Tragedy of the Commons</i> <b>Population lab (10)</b>
FEB 14	Nutrient Cycles <b>Nutrient Cycle quiz (10)</b> <i>Current Events</i>
FEB 21	Ecological Footprint <b>Carbon Footprint Lab (10)</b> <i>Current Events</i>
FEB 28	Biodiversity and Conservation <i>Film: Virunga</i> <b>Virunga quiz (10)</b> <i>Current Events</i>
MAR 7	Agriculture lab <i>Film: King Corn</i> <b>Food Miles Lab (10)</b> <i>Current Events</i>
MAR 14	<b>Mid-term Quiz (50)</b>
MAR 21	<b>SPRING BREAK</b>

<b>WEEK:</b>	<b>TOPIC/ACTIVITY</b>
<b>MAR 28</b>	Energy <b>Energy Lab (10)</b> <i>Current Events</i>
<b>APR 4</b>	Waste to Energy <i>Biodigester field trip quiz (10)</i> <i>Current Events</i>
<b>APR 11</b>	Water <i>FDLWWTP field trip quiz (10)</i> <i>Current Events</i>
<b>APR 18</b>	<b>Earth Week lab (10)</b>
<b>APR 25</b>	Waste and Resource Consumption <i>Landfill/MRF field trip quiz (10)</i> <i>Current Events</i>
<b>MAY 2</b>	Climate Change and Sustainability <i>Current Events</i>
<b>MAY 9</b>	<b>Final Quiz (50)</b>
<b>*Schedule is subject to change</b>	