

**Honors – Introduction to
Environmental Science
EVR 1001H**

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Office hours by appointment



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Class website: <https://sciences.ucf.edu/biology/d4lab/environmental-science/> - here you will find materials necessary for classes and exercises.

Spring 2020

Course description:

This course will help students rationalize the environment from the perspective of the natural sciences. We use ourselves as an example of an organism and its environment. The main goal is to provide a basis for the student to evaluate our role and relationships with the environment and the consequences of our activities.

Prerequisites:

Instructor Consent (CI)

This class provides basic information and practical advice on how to ask pertinent questions and improve interpretation of ecological data.

Estimated enrollment: **10-20**

Environmental Science

Course Outline

This course constitutes a review of examples of our interaction with the environment. Individual sections cover different aspects of organisms and their environment.

Main goals for students in this course:

- **Identify major features of the environment and how they affect our lives**
- **Evaluate the consequences of our actions in the environment**
- **Review and discuss case studies to recognize common research problems in ecology**
- **Learn to collect relevant information and discriminate evidence-based information**
- **Understand the use of metaphors in science.**
- **Practice organizing, summarizing and communicating information**
- **Recognize the advantages and limitations of different approaches to evaluate ecological data**

Course Prerequisites: Instructor Consent (CI)

Student duties:

Conduct: Students must follow the University standards for personal and academic conduct as outlined in the Golden Rule (<http://www.goldenrule.sdes.ucf.edu/>).

Exercises: For each topic, students will have one week to complete an exercise.

Readings:

Specialized literature will be used to review examples of ecological research and specific topics.

The course is organized on weekly sessions. Each session has four components: theory, examination, discussion and communication. The first three are developed with guidance in class; the last one is done with support but independently by each student.

By the end of the semester each student should have completed ten exercises - one after team work (Short research report), and three after individual work. The reports should follow one of the formats below. Each student should have at least one of each, repeating the ones of their preference for the remaining exercises:

1. Letter to a newspaper: One-page long essay summarizing their findings on a topic as a communication to other people suggesting a possible solution to mitigate an environmental problem.

2. Letter to a government office or representative. One-page long document describing an environmental concern and requesting a specific action.
3. Letter to a friend or family member. One-page long essay explaining an environmental issue to promote a better appreciation of it.
4. Short research report. This is a five-page short literature review on one of the class topics. It should be completed by two or more people and include the following sections: (1) Objectives, (2) Information, (3) Conclusions. At least 10 different information sources should be cited. It must include at least two references to scientific journals and two to specialized books, the remaining can be downloaded from the web. This information will be the basis for a 10-minute presentation in class.

Each student should select and read one of the books listed below and return a one-page personal evaluation of its content. Students can suggest other readings to be considered for this task. Suggestions must be made during the first week of classes to be included.

The class includes four field trips. They are optional but highly recommended.

Class schedule:

Session	TOPIC	Demo completed	Class dates / return exercise
0	Class presentation		January 6
1	The chosen organism		January 8
	<i>Exercise 1</i>		January 13
2	Habitats in the world, topography		January 13-15
	<i>M. Luther King</i>		January 20
	<i>Exercise 2</i>		January 22
3	World climate "Gaia"		January 27-29
	<i>Exercise 3</i>		February 3
4	Weather		February 3-5
	<i>Exercise 4</i>		February 10
5	Air pollution and CO₂		February 10-12
	<i>Exercise 5</i>		February 17
6	Water cycle and pollution		February 17-19
	<i>Exercise 6</i>		February 24
7	Global change		February 24-26
	<i>Exercise 7</i>		March 2
8	Nutrient cycles, soil, food and erosion		March 2-4
	Spring Break		March 9
	Spring Break		March 11
	<i>Exercise 8</i>		March 16
9	Biodiversity and interactions		March 16-18
	<i>Exercise 9</i>		March 23
10	Demography, population growth		March 23-25
	<i>Exercise 10</i>		March 30
11	Trash and resources		March 30-April 1

	Exercise 11		April 6
12	Plastics		April 6-8
	Exercise 12		April 13
13	The future		April 13-15
	Exercise 13		April 20
	Closing remarks		April 20
	FINAL EXAM (as scheduled)		

Performance Evaluation:

- 12 exercises. You are only responsible for 6 exercises = $6 \times 10 = 60$ points;
- One book report (40 points)
- Grade scale: A = 90-100; B = 80-89; C = 70-79; D = 60-69; F = below 60

EXAMPLES OF ACCEPTED REFERENCES

Water 4.0: The Past, Present, and Future of the World's Most Vital Resource
by David Sedla

Choked: Life and Breath in the Age of Air Pollution
by Beth Gardiner

The Invisible Killer: The Rising Global Threat of Air Pollution- and How We Can Fight Back
by Gary Fuller

Transforming Plastic: From Pollution to Evolution (Planet in Crisis)
by Albert Bates

Plastic: A Toxic Love Story
by Susan Freinkel

Plastic Soup: An Atlas of Ocean Pollution
by Michiel Roscam Abbing

The Politically Incorrect Guide to Climate Change (The Politically Incorrect Guides)
by Marc Morano

The Botany of Desire: A Plant's-Eye View of the World
by Michael Pollan

The Omnivore's Dilemma: A Natural History of Four Meals
by Michael Pollan

Gaia: A New Look at Life on Earth (Oxford Landmark Science)
by James Lovelock

The Naked Ape: A Zoologist's Study of the Human Animal
by Desmond Morris

Metaphors for Environmental Sustainability: Redefining Our Relationship with Nature
by Brendon Larson

Wild Ones: A Sometimes Dismaying, Weirdly Reassuring Story About Looking at
People Looking at Animals in America by Jon Mooallem

At the Hand of Man: Peril and hope for Africa's Wildlife by Raymond Bonner

Beginning again: People & Nature in the New Millennium by David Ehrenfeld

Course Accessibility: The University of Central Florida is committed to providing access and inclusion for all persons with disabilities. Students with disabilities who need access to course content due to course design limitations should contact the professor as soon as possible. Students should also connect with Student Accessibility Services (SAS) (Ferrell Commons 185, sas@ucf.edu, phone 407-823-2371). For students connected with SAS, a Course Accessibility Letter may be created and sent to professors, which informs faculty of potential course access and accommodations that might be necessary and reasonable. Determining reasonable access and accommodations requires consideration of the course design, course learning objectives and the individual academic and course barriers experienced by the student. Further conversation with SAS, faculty and the student may be warranted to ensure an accessible course experience.

Campus Safety: Emergencies on campus are rare, but if one should arise during class, everyone needs to work together. Students should be aware of their surroundings and familiar with some basic safety and security concepts.

- In case of an emergency, dial 911 for assistance.
- Every UCF classroom contains an emergency procedure guide posted on a wall near the door. Students should make a note of the guide's physical location and review the online version at <http://emergency.ucf.edu/emergency_guide.html>.
- Students should know the evacuation routes from each of their classrooms and have a plan for finding safety in case of an emergency.
- If there is a medical emergency during class, students may need to access a firstaid kit or AED (Automated External Defibrillator). To learn where those are located, see <<http://www.ehs.ucf.edu/AEDlocations-UCF>>
- To stay informed about emergency situations, students can sign up to receive UCF text alerts by going to <https://my.ucf.edu> and logging in. Click on "Student Self Service" located on the left side of the screen in the toolbar, scroll down to the blue "Personal Information" heading on the Student Center screen, click on "UCF Alert", fill out the information, including e-mail address, cell phone number, and cell phone provider, click "Apply" to save the changes, and then click "OK."
- Students with special needs related to emergency situations should speak with their instructors outside of class.