Syllabus for Environmental Science 12

Course Information

Semester & Year: Fall 2023

Course ID & Section #: ENVSC 12 (V5598)

Instructor's name: Lisa Pedicino

Day/Time, optional class meeting (weekly): **Tuesday, 5:00-6:30 PM (PST) Meeting ID 811 0741 2207** https://redwoods-edu.zoom.us/j/81107412207

Course units: 3.0

Instructor Contact Information

Office Hour: Online by appointment

Email address: Lisa-pedicino@redwoods.edu, **Zoom phone in # 1-669-900-6833 (then input meeting ID)**

Textbook: (**Optional**): Environmental Science and Sustainability, Montgomery, ISBN: 978-0393422108

Catalog Description

A planet-scale examination of the Earth's atmosphere and climate. This course will include an in-depth look at the factors controlling climate, its changes over time, and the timeline of global climatic changes. This course is an interdisciplinary introduction to the Earth's climatic systems and interactions.

Course Student Learning Outcomes *(from course outline of record)*

1. **Provide examples of positive and negative feedback mechanisms that relate to natural systems.**
2. **Critically analyze climate change on the Earth.**
3. **Present both the pros and cons of a particular climatic interpretation, reflecting the complexity of the application of the scientific method to natural systems.**
4. **Examine the human-induced variations on Earth's natural systems in the context of a well-organized and scientifically valid discussion of a climate-related issue.**

Grading

67%- Summaries (11)-100 pts each, **18%- Paper**, 300 pts, **6%-Current Events (2)**-50 pts each, **8%-Participation,** 150 pts

A (>93.3%), A- (90-93.3%), B+ (86.7-89.9%), B (83.3-86.6%), B- (80-83.2%), C+ (76.7-79.9%), C (70-76.6%), D (55-69.9%), F (<55%)

Educational Accessibility & Support

College of the Redwoods is committed to providing reasonable accommodations for qualified students who could benefit from additional educational support and services. You may qualify if you have a physical, mental, sensory, or intellectual condition which causes you to struggle academically, including but not limited to:

- Mental health conditions such as depression, anxiety, PTSD, bipolar disorder, and ADHD
- Common ailments such as arthritis, asthma, diabetes, autoimmune disorders, and diseases
- Temporary impairments such as a broken bone, recovery from significant surgery, or a pregnancy-related disability
- A learning disability (e.g., dyslexia, reading comprehension), intellectual disability, autism, or acquired brain injury
- Vision, hearing, or mobility challenges

Available services include extended test time, quiet testing environments, tutoring, counseling and advising, alternate formats of materials (e.g., audio books, E-texts), assistive technology, on-campus transportation, and more. If you believe you might benefit from disability- or health-related services and accommodations, please contact Disability Services and Programs for Students (DSPS). If you are unsure whether you qualify, please contact DSPS for a consultation: dsps@redwoods.edu. Eureka: 707-476-4280, Student Services Building, 1st floor. Del Norte: 707-465-2324, Main Building, near the library. Klamath-Trinity: 707-476-4280

Schedule/Outline

Tuesday, August 22, First Zoom meeting

Monday-Friday, March 13-17, **No class**, **Fall Break**

Monday, November 13, **Research Paper Due**

Monday, December 11, Last day of class

	Unit	Topic
Week 1	1	Syllabus, Geology
Week 2	1	Geology continued, **Current Event #1 Due**
Week 3	2	Earth's atmosphere
Week 4	3	Water
Week 5	4	Life and extinction events
Week 6	5	Biogeochemical cycles
Week 7	6	Human population and non-renewable resource use
Week 8	7	Alternative energy sources
Week 9	8	Reconstructing past climates, **Current Event #2 Due**
Week 10	8	Reconstructing past climates continued
Week 11		Independent research paper time
Week 12	9	Orbital parameters and glacial/interglacial cycles
Week 13	9	**Research Papers Due,** Orbital parameters continued
Week 14		**Fall Break**
Week 15	10	Global climate change
Week 16	11	Global, national, and local solutions
Week 17		Last summary due

Summary Requirements

For each unit covered in class, a summary is assigned. Each summary length is to be a minimum of 2 pages with 1.5 spacing (roughly 700-750 words). You will answer the assigned writing prompts for each unit and you can use information provided in Zoom class lectures, Power Point slides, and any additional resources you would like to use. It is important that the summaries are in your own words, **not copied and pasted** from class notes or other resources. The due dates for the summaries are listed under Assignments in Canvas and you will also submit your summaries on Canvas. If you do not submit your summaries on time, points will be taken off within the first week of when they are due. After one week late, you will receive a "0" on the assignment.

Current Event Requirements

You will be required to complete two current event assignments this semester. You will choose two current events in the field of environmental science. You can use articles that have been published up to five years ago to be considered still "current." I will require you to write a one-page summary (at least 300-350 words) on the article of your choice. You can include the title of your article, the source, why you chose the article, and a brief explanation of what the article was about. You may consider the following guidelines to help you write a well-rounded summary: 1) what the researchers are attempting to find out, 2) what kind of experiments or observations are they making, 3) what are their results, and 4) what kind of conclusions are they arriving at (i.e. what is their take-home message) Be sure to use your own words and full sentences. The due dates for the current event summaries are listed on Canvas under Assignments and you will submit your current event summaries also on Canvas.

Research Paper Requirements

Topic: Of your choosing related to the class material. Please note: All topics should be related to climate change and do not need to be cleared with the instructor.

Length: 4-6 typed pages, excluding figures and list of references.

Sources: Minimum three (3) sources other than encyclopedias and textbook.

Required: Paper, References (in-text citations), Reference List (bibliography).

Due Date: Monday, November 13, 2023. (on Canvas)

Late Penalty: One grade lower every two days late.

Note: **Bibliography** should be a list of all sources you have consulted with full information given about each. Normally this includes title, author, publisher, page numbers, year, etc. Internet sites should be listed with their site address (i.e. http:/www.....). To simplify, you might list each site as site 1, site 2, etc., and then reference them in that way in the text of your paper.

You should directly **reference** any idea, fact, or quotation that is not your own or common knowledge (i.e. 'the Earth is round' does not need a reference). You are free to use any reference style you would like (MLA, APA). The simplest style includes the author's name or

title and the page number or the website (site 1, site 2, etc) following the referenced fact, quote, or idea in parentheses.

An example: The meteoritic impact in the Yucatan peninsula is believed to have led to the extinction of the dinosaurs. (Kring, 1993) or (site 1)

Chapter readings

Week 1 and 2- Introduction, Geology

Chapter 1: Intro, 1.1, 1.2, 1.3, 1.4

Chapter 9: Intro, 9.1, 9.2, 9.3, 9.5, 9.6, 9.7

Week 3- Earth's atmosphere

Chapter 8: Intro, 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7

Week 4- Water

Chapter 7: Intro, 7.1, 7.2, 7.3, 7.6, 7.7, 7.8

Week 5- Life

Chapter 3: 3.4, 3.5

Chapter 4: Intro, 4.1, 4.7

Chapter 5: 5.6

Week 6- Biogeochemical cycles

Chapter 10: Intro, 10.3, 10.4, 10.5

Week 7- Human population and Non-renewable resources

Chapter 6: Intro, 6.1, 6.2, 6.4, 6.5, 6.6

Week 8- Alternative energy sources

Chapter 13: Intro, 13.1, 13.2, 13.4, 13.5

Chapter 14: Intro, 14.1, 14.2

Week 9 and 10 - Reconstructing past climates

No chapter readings, refer to Zoom class lectures and notes

Week 11- Independent research paper time

Week 12 and 13- Orbital Parameters, glacial and interglacial cycles

No chapter readings, refer to Zoom class lectures and notes

Week 14- **Thanksgiving Break**

Week 15- Global climate change

Chapter 11: Intro, 11.1, 11.2, 11.3, 11.4, 11.5

Week 16- Global, national, and local solutions

Chapter 20: 20.7

Week 17- Last summary due