Geography 100 - Human Impacts on the Physical Environment

Sections 1, 2, & 3 (100% online)

Spring 2023

Instructor: Samantha Kaplan

Office: D-327 Science (I will only be in my office on Tuesdays and Thursdays)

Office Hours: In person: 11:00-12:00 Tuesdays, 2:00-3:00 pm Thursdays. Zoom: 2:00-3:00 Mondays, and by appointment.

Main Office Telephone: 715-346-2883 (this is not my direct line)

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Textbook: Cunningham, W. and Cunningham, M., 2018, *Environmental Science, A Global Concern. Foundations & Applications, 14th Ed.* McGraw Hill, New York, 614 p.

Students with Disabilities: Students with learning and/or physical disabilities are encouraged to contact me right away to make sure necessary online accommodations are made.

Course Description: 3 Credits. Physical geographic principles and processes applied to understand selected human impacts on atmosphere, water, land, and biota. Includes detailed, interdisciplinary analysis of several environmental problems, including causes, consequences, and solutions.

This is a 100% distance learning (online) section of Geography 100. Expect to spend 6-8 hours each week working on course material.

Requirements Satisfied: GEP: Natural Science (NSC), Environmental Responsibility (ER);

Course Objective: A physical systems approach is used to help students understand the science behind environmental issues. By exploring the linkages among human, physical, and biological systems, students will learn about the root causes of environmental impacts and the social, political and technological hurdles that must be overcome to arrive at practical solutions.

Learning Outcomes:

Because this course fulfills both a Natural Science GEP and the Environmental Responsibility GEP, there are a lot of learning outcomes! In this course a physical systems approach is used to help students learn about the science behind environmental issues. In order to fully appreciate the impact humans can have on the environment we must first understand the physical mechanisms of the natural world.

Upon completion of this course students will be able to:

- Demonstrate a fundamental knowledge about the workings of the atmosphere, biosphere, hydrosphere, and lithosphere.
- Recognize that earth systems are linked and if humans impact part or all of one of these systems, the repercussions affect all aspects of the environment.

- Identify the basic taxonomy and principles of the scientific method as it pertains to the natural, physical world.
- Infer relationships, make predictions and solve environmental problems based on an analysis of evidence or scientific information.
- Apply scientific concepts, quantitative techniques and methods to solving environmental problems and making decisions that affect the natural world.
- Recognize the relevance of environmental science to their lives and society.
- Identify the individual, social, cultural, and ecological factors that influence environmental sustainability.
- Evaluate competing scientific claims that inform environmental debates.

Student Rights and Responsibilities:

- UWSP has guidelines regarding student rights and responsibilities in class and on campus. These are outlined on the Dean of Student's website and in the Student Handbook. Do review these resources if you have not already:
    - https://www.uwsp.edu/dos/Pages/stu-conduct.aspx
    - https://www.uwsp.edu/dos/Pages/stu-academic.aspx
    - https://www.uwsp.edu/dos/Pages/handbook.aspx
    - https://www.uwsp.edu/dos/Documents/AcademicIntegrityBrochure.pdf
    - https://www.uwsp.edu/dos/Documents/UWSP14-Final2019.pdf

Course Materials

- **The course textbook is required and must be rented**. Please contact the bookstore immediately if you need a textbook shipped to you for the course
- All of the course materials, except the textbook, are on Canvas
    - The course modules are organized by type (not subject matter) under the **Home** page of Canvas.
    - Assigned readings are listed on the **Class Schedule** under **Start Here!!** on the **Home** page.
    - Lab quizzes **a**re posted with the lab assignments on the **Home page,** but also under the **Quizzes** tab.
    - The **Announcements** section (**Course Home**) will be used for all course announcements. Please check the **Announcements** page daily for course updates and changes.
    - Scores on quizzes, exercises and exams are available under **Grades** on Canvas
    - Online discussions about labs and lecture are under **Discussion.**

Directed Readings

- Students will complete assigned readings from the textbook and from various online sources.
- Assigned readings appear on the **Class Schedule** under **Start Here!!** on the **Home** page of Canvas.
- **Expect to spend 2 hours each week reading and reviewing.**

Video Lectures

- There will be two video lectures each week
- Lectures will be posted (typically) on Mondays and Wednesdays/Fridays
- Videos will include overview of the labs, short lectures, exam review and important announcements.
- Any slides presented will be posted on Canvas

Lab

- All lab assignments and materials are posted on the **Home** page and the **Assignments** page of Canvas according to the class schedule (typically Monday morning).
- There will be eleven (11) laboratory assignments consisting of online readings, movies, activities, and problem sets. Laboratory topics will parallel and compliment the reading assignments.
- **Laboratory assignments are not turned in!** That is correct. Your answers are used to complete an accompanying quiz.
- Laboratory topics will be introduced each week during the Monday video

Quizzes

- Each lab assignment is followed by a 10-question open-book quiz covering the lab material. The quizzes form the bulk of your lab grade. Quizzes are found in the **Lab Quizzes Module** of the **Home** page and on the Canvas **Quizzes** page.
- Your lowest quiz grade will be dropped. Your best ten (10) count towards your final grade. If you forget to take a quiz, this counts as your dropped quiz.
- Each lab quiz is worth 10 points.
- Laboratory quizzes account for 38% of your course grade.
- Quizzes must be completed before midnight (11:59pm) of the due date. Start accordingly. There are no opportunities to make-up a missed quiz!
- **Expect to spend 2-3 hours each week working on lab assignments and quizzes**.

Exams

- There will be three (3) open-book online exams. Exams will be multiple-choice format and cover material from the readings, online lectures, and lab.

- The first two exams are non-cumulative, but the final exam will cover major topics from earlier in the semester
- Exams will appear under **Quizzes** on Canvas and in the **Exams Module** on the **Home** page.
- Exams must be taken between 6:00 am and midnight on the assigned day as indicated on the class schedule. They will be 60 minutes in length. The final exam will be 90 minutes.
- Exams account for 44% of your course grade. Each midterm exam is worth 35 points, the final exam is worth 50 points.
- Make-up exams may be given only to those students with medical or personal emergencies who have prior approval from the instructor.

Other Exercises

- There will be 3 short written exercises. They will take the form of discussion-type questions requiring several short paragraph answers. Responses to the questions will be turned in on **Canvas** under **Assignments**.
- Exercises will get posted, and are due according to the class schedule.
- Answers to the discussion questions must be typed and use complete sentences, good grammar, and spelling.
- Each question set will be worth 15 semester points (actual scoring may differ) and together account for 17% of your grade.

Discussion Forum

- There is an optional online question and answer forum available on Canvas under **Discussions**. If you have a question about subject material that is not urgent, please use the Q&A Forum to ask your question of fellow students.
- Questions posted on the forum will be answered at least once daily (probably more often) by the professor.
- If your question is urgent, or about course logistics or other personal matters, please use email.

Grades

- **Evaluation:** Your grade will be based on your performance on the three exams, your ten best lab quiz scores, and your completion of the written exercises. The point values assigned to each are as follows:

	Number	**Points Each**	**Points Possible**	**Percent**
Exams	2	35	70	27%
Final Exam	1	45	45	17%
Lab Quizzes	10 (out of 11)	10	100	38%

Written Exercises	3	15	45	17%
Course Total			**260**	100%

- **Incompletes:** Incompletes for the course are granted only in the event of a family emergency, extended illness, or other unusual or unanticipated circumstance. Students must arrange for an incomplete before the final exam (unless in a hospital bed, ambulance, etc.).
- **Extra Credit:** Maybe. If so, to be announced.
- **Final Letter Grades:** A student's final point total for the session will translate into letter grades as shown in the following table:

Percent	**Letter Grade**
≥93%	A
90-92.9%	A-
87-89.9%	B+
83-86.9%	B
80-82.9%	B-
77-79.9%	C+
73-76.9%	C
70-72.9%	C-
67-69.9%	D+
63-66.9%	D
≤62.9%	F

Class Schedule (subject to change)

Date		Video Lecture Topic	Reading	Assignment Posted	Quiz/Assignment Due
M	23-Jan	Course Introduction			
W	25-Jan	Sustainable Development	Ch. 1, p. 9-15	**Short Exercise 1**	
M	30-Jan	Ecological Footprints	Ch. 1, p. 18, 20-26; Ch. 6, p. 117; Ch. 9, p. 186; Kaufmann & Cleveland, p. 2-13 (pdf file)	Lab 1: Ecological Footprints	
W	1-Feb	Principles of Sustainability			
M	6-Feb	Human Population Growth	Ch. 6, p. 118-122; Ch. 7, p. 132-150	Lab 2: Population	Quiz 1: Ecological Footprints
W	8-Feb				**Short Exercise 1**
M	13-Feb	Biogeochemical Cycles	Ch. 2, p. 33-43; Ch. 3, p. 49-60; 65-70	Lab 3: Carbon Cycle	Quiz 2: Population
W	15-Feb				
M	20-Feb	Earth's Energy Budget & Atmospheric Circulation	Ch. 15, p. 324-332; Ch. 3, p. 59 fig. 3.11; Kaufmann & Cleveland p. 56-60 (pdf)	Lab 4: Climate Models	Quiz 3: Carbon Cycle
W	22-Feb	**EXAM 1**			
M	27-Feb	Climate Change Causes	Ch. 15, p. 321-322; Physical Geography.net (link is on Canvas)	Short Exercise 2	
W	1-Mar				Quiz 4: Climate Models
M	6-Mar	Climate Change Consequences	Ch. 15, p. 332-347	Lab 5: Climate Change	
W	8-Mar				
M	13-Mar	Air Pollution and Ozone	Ch. 16, p. 350-369	Lab 6: Air Pollution & Ozone	Quiz 5: Climate Change
W	15-Mar				**Short Exercise 2**
M	20-Mar	SPRING BREAK			
W	22-Mar	SPRING BREAK			

Date		Video Lecture Topic	Reading	Assignment Posted	Quiz/Assignment Due
M	27-Mar	Biomes	Ch. 5, p. 99-106; Kaufmann & Cleveland p. 130 (pdf)	Lab 7: Biomes	Quiz 6: Air Pollution & Ozone
W	29-Mar				
M	3-Apr	Biological Systems & Succession	Ch. 3, p. 63-65; Ch. 4, p.87-89, 92-95; Ch. 5, p. 112-114; Kaufmann & Cleveland p. 157-160 (pdf)	Lab 8: Deforestation	Quiz 7: Biomes
W	5-Apr	Biodiversity	Ch. 6, p. 125-128; Ch. 11, p. 227-240		
M	10-Apr	Soil Resources	Ch. 10, p. 198-210; Soil Orders pdf	Lab 9: Soils	Quiz 8: Deforestation
W	12-Apr	**EXAM 2**			
M	17-Apr	Soil Impacts	Kaufmann & Cleveland p. 315-327 (pdf file); Coon Creek		Quiz 9: Soils
W	19-Apr			**Short Exercise 3**	
M	24-Apr	Water Resources	Ch. 3, P. 65-66; Ch. 17, p. 377-391	Lab 10: Water	
W	26-Apr				
M	1-May	Water Pollution	Ch. 18, p. 401-410	Lab 11: Coal and Energy	Lab 10: Water
W	3-May	Geological Systems	Ch. 14, p. 301-314; Ch. 19, p. 427-430		
M	8-May	Energy	Ch. 19, p. 430-432, 433-434, 437-439, 441; Ch. 20, p. 450-451, 457-461, 462-465		Quiz 11: Coal and Energy
W	10-May				**Short Exercise 3**
M	15-May	**EXAM 3**			