GEOGRAPHY 100: Human Impacts on the Physical Environment

Fall 2019

Professor: Samantha Kaplan

Office: D-327 Science Building

Office Hours: Tuesdays & Thursday 11:00 am - 12:00 pm, and by appointment

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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 accommodations are made.

Course Description: 3 Credits with lab. 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.

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

Student Rights and Responsibilities:

- UWSP has specific guidelines regarding student rights and responsibilities in class and on campus explained at https://www.uwsp.edu/dos/Pages/stu-academic.aspx

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.
- Explain major concepts, methods, or theories in the natural sciences to investigate the physical world.
- Interpret information, solve problems, and make decisions by applying natural science concepts, methods, and quantitative techniques.
- Describe the relevance of aspects of the natural sciences to their lives and society.
- Identify interactions between human society and the natural environment.
- Analyze the individual, social, cultural, and ecological factors that influence environmental sustainability.
- Evaluate competing claims that inform environmental debates.

Course Materials

- The course textbook is required and must be rented.
- All of the course materials, except the textbook, are on Canvas
    - The syllabus, class schedule, and lab assignments appear under the **Home** page of Canvas.
    - Assigned readings are listed on the **Class Schedule** under **General Course Materials** on the **Home** page.
    - Lab quizzes are posted under **Quizzes**.
    - The **Announcements** section (**Course Home**) will be used for all course announcements. Please check the **Announcements** page frequently for course updates and changes.
    - Scores on labs, quizzes and exams are available under **Grades** on Canvas

Classroom Policies

- No talking, texting, web-surfing, or listening to music during lecture. This is disruptive and discourteous to your classmates and to the professor. Phones and other electronic devices must be silenced. Laptops or tablets may only be used for notetaking, and only with prior approval. Any student found violating these rules will be asked to leave the lecture hall.
- Attendance is expected at all lecture sessions. Students who routinely miss classes will be at a disadvantage in the course.

- I do not post lecture notes on-line and I do not share my lecture notes with students. Please do not ask. If you miss class, it is your responsibility to get the notes from a classmate.
- Lecture PowerPoint slides are made available online after class (NOT BEFORE). I do not post PowerPoints ahead of time because I believe it is important for students to develop critical listening and note-taking skills. Slides will usually be posted later the same day, but always prior to the next lecture.

Lecture and Homework

- In addition to two weekly lecture sessions, students will complete assigned readings from the textbook and from various online sources.
- Assigned readings appear on the Class Schedule on the **Home** page of Canvas.

Lab

- The Laboratory portion of this course involves two hours of partial distance learning (online work) outside of class.
- All lab assignments and materials are posted on the **Home** page and the **Assignments** page of Canvas according to the timetable on the class schedule.
- There will be eleven (11) laboratory assignments consisting of readings, movies, activities, and problem sets. Laboratory topics will parallel and compliment lecture material.
- Laboratory assignments are not turned in. That is correct! There will be a 10-question open-book online quiz covering the lab material. You will need your lab responses to answer the quiz questions.
- Quizzes must be completed before midnight (11:59pm) of the due date. Start accordingly. There are no opportunities to make-up a missed quiz!
- Quizzes are found on the Canvas **Quizzes** page
- Your lowest Quiz score will get dropped – only the best ten count towards your grade.
- Laboratory quizzes account for 50% of your grade (10 quizzes worth 5% each), and laboratory materials will feature prominently in the exams.

Exams

- There will be three exams: two mid-terms and the final. Exams will be multiple-choice format and cover material from both lecture and lab.
- The first two exams are non-cumulative and worth 15% each. The final exam is cumulative and worth 20% of your grade. Exams account for 50% of your semester grade.
- Students must bring a #2 pencil to the exams to fill in the computer-graded answer sheets.
- Make-up exams may be given only to those students with medical or personal emergencies who have prior approval from the instructor.

Grades

- **Evaluation:** Your grade will be based on your performance on the three exams and your quiz scores. The point values assigned to each are as follows:

	Number	Points Each	Points Possible	Percent
Midterm Exams:	2	15	30	30%
Final Exam:	1	20	20	20%
Quizzes:	10	5	50	50%
Semester Total:			**100**	**100%**

- **Final Letter Grades:** A student's final point (percent) total for the semester will translate into letter grades as shown in the following table:

Points	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

- **Incompletes:** Incompletes for the course are granted only in the event of a family emergency, extended illness, or other unusual or unanticipated circumstances. Students must arrange for an incomplete before the final exam.

Extra Credit

There will be one extra credit assignment made available mid-way through the course. There will also be in-class exercises throughout the semester that can add to your total grade. Missing an in-class exercise does not harm your grade, but there are no make-ups, even with excused absences.

Tentative Schedule (Check Canvas for updates)

Date		Lecture Topic	Reading from textbook	Lab Posted	Quiz Due
T	3-Sep	Intro - Physical and Envt. Geog.	Ch. 1, p. 9-15		
R	5-Sep	Principles of Sustainability	Ch. 9, p. 186; Kaufmann & Cleveland, p. 2-13 (pdf file)		
T	10-Sep	Sustainable Development	Ch. 1, p. 18, 20-26; Ch. 6, p. 17	Lab 1: Ecological Footprints	
R	12-Sep	Human Population Growth	Ch.6, p. 118-122; Ch. 7, p. 132-137		
T	17-Sep	Human Population Cont'd.	Ch. 7, p. 137-150	Lab 2: Population Change	Quiz 1
R	19-Sep	Systems Theory	Ch. 2, p. 33-43; Ch. 3, p. 49-58, 65-70		
T	24-Sep	Biogeochemical Cycles: Carbon	Ch. 3, p. 58-60; 65-67		Quiz 2
R	26-Sep	Biogeochemical Cycles: Nitrogen & Phosphorus	Ch. 3, p. 67-70	Lab 3: Carbon Cycle	
T	1-Oct	Solar Radiation & Earth's Energy Budget	Ch. 15, p. 324-328; Ch. 3, p. 59 fig. 3.11; Kaufmann & Cleveland p. 56-60 (pdf)		
R	3-Oct	NO CLASS - Video exercise			Quiz 3
T	8-Oct	Atmospheric Circulation	Ch. 15, p. 328-332	Lab 4: Climate Change	
R	**10-Oct**	**EXAM 1**			
T	15-Oct	Natural Causes of Climate Change	Ch. 15, p. 332-335; Physical Geography.net (link is on Canvas)		Quiz 4
R	17-Oct	Greenhouse Gases	Ch. 15, p. 335-342	Lab 5: Climate Models	
T	22-Oct	Humans and Future Climate	Ch. 15, p. 321-322, 342-347		
R	24-Oct	Ozone & Air Pollution	Ch. 16, p. 350-369	Lab 6: Ozone & Air Pollution	Quiz 5
T	29-Oct	Defining Biomes	Ch. 5, p. 99-100; Kaufmann & Cleveland p. 130 (pdf)		
R	31-Oct	Global Biomes	Ch. 5, p. 100-106;	Lab 7: Biomes	Quiz 6
T	5-Nov	Biological Systems	Ch. 3, p. 63-65; Ch. 4, p.87-89		
R	7-Nov	Ecosystems & Succession	Ch. 5, p. 112-114; Ch. 4, p.92-95; Kaufmann & Cleveland p. 157-160 (pdf)	Lab 8: Deforestation	Quiz 7

Date		Lecture Topic	Reading from textbook	Lab Posted	Quiz Due
T	**12-Nov**	**EXAM 2**			
R	14-Nov	Biodiversity	Ch. 6, p. 125-128; Ch. 11, p. 227-240		Quiz 8
T	19-Nov	Soil Formation & Properties	Ch. 10, p. 198-202; Kaufmann & Cleveland p. 315-320	Lab 9: Soils	
R	26-Nov	Soil Erosion & Desertification	Ch. 10, p. 203-210; Kaufmann & Cleveland p. 320-327		
T	21-Nov	Hydrologic Cycle & Water Resources	Ch. 3, P. 65-66; Ch. 17, p. 377-381	Lab 10: Water	Quiz 9
R	28-Nov	THANKSGIVING			
T	3-Dec	Water Use and Resources	Ch. 17, p. 381-391		
R	5-Dec	Water Pollution	Ch. 18, p. 401-410	Lab 11: Coal & Energy	Quiz 10
T	10-Dec	Geological Cycle and Extracted Resources	Ch. 14, p. 301-314; Ch. 19, p. 427-430		
R	12-Dec	Energy Resources	Ch. 19, p. 430-432, 433-434, 437-439, 441; Ch. 20, p. 450-451, 457-461, 462-465		Quiz 11
W	**18-Dec**	**FINAL EXAM**	12:30 - 2:30 PAM	Extra credit due	