

Geography 100 - Human Impacts on the Physical Environment

Section 2

May 28 – June 14, 2019

Instructor: Samantha Kaplan

Office: D-327 Science Building

Office Hours: No formal office hours. Please use email, Canvas, or contact me for an appointment.

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Textbook: Friedland, A., Relyea, R. & Courard-Hauri, D., 2012, *Environmental Science, Foundations & Applications*. W. H. Freeman and Company, New York, 574 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 specific guidelines regarding student rights and responsibilities in class and on campus explained at <http://www.uwsp.edu/dos/Pages/Academic-Concerns%20for%20Students.aspx>

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 syllabus, class schedule, reading outlines 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 and exams are posted under **Quizzes**.

- 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 labs, quizzes and exams are available under **Grades** on Canvas
- Online discussions about labs and lecture are under **Discussion**.

Directed Readings

- In lieu of formal lectures, students will complete assigned readings from the textbook and from various online sources.
- Topical outlines are provided to guide students in learning the most salient points from their readings.
- Assigned readings appear on the **Class Schedule** under **General Course Materials** on the **Home** page of Canvas.
- Topical outlines appear under **Outlines** on the Home page of Canvas. This material will be posted according to the class schedule.
- **Expect to spend at least 2-4 hours a week reading and reviewing.**

Lab

- 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 twelve (12) laboratory assignments consisting of online readings, movies, activities, and problem sets. Laboratory topics will parallel and compliment the reading assignments.
- Laboratory assignments are turned in under **Lab Assignments** on the **Assignments** page of Canvas. Each lab assignment is worth 3 points (2.5% of your grade).
- Your lowest 2 lab assignment grades will be dropped. If you forget to do a lab, this counts as your dropped assignment
- You will need your lab responses to answer the quiz questions.

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 on the Canvas **Quizzes** page.
- Your two lowest quiz grades will be dropped. If you forget to take a quiz, this counts as your dropped quiz.
- Each lab quiz is worth 5 points
- Laboratory quizzes account for about 42% of your course grade (10 quizzes worth 4.2% each).

- 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 a day working on lab assignments and quizzes.**

Exams

- There will be two (2) open-book online exams. Exams will be multiple-choice format and cover material from both the online lectures and lab, although the focus will be the readings. Exams are non-cumulative
- Exams will appear under **Quizzes** on Canvas
- 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.
- Exams account for 33% of your course grade. Each exam is worth 20 points (roughly 16.5%).
- Make-up exams may be given only to those students with medical or personal emergencies who have prior approval from the instructor.

Discussion Forum

- There is an 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 and your eleven best lab and quiz scores. The point values assigned to each are as follows:

| | Number | Points Each | Points Possible | Percent |
|-----------------------|----------------|-------------|-----------------|-------------|
| Exams | 2 | 20 | 40 | 33% |
| Labs | 10 (out of 12) | 3 | 30 | 25% |
| Lab Quizzes | 10 (out of 12) | 5 | 50 | 42% |
| Semester Total | | | 120 | 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:** 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

| <u>Date</u> | <u>Topic</u> | <u>Reading</u> | <u>Lab Assigned</u> | <u>Lab and Quiz Due</u> |
|-----------------|--------------------------------------|---|------------------------------|------------------------------|
| T 28-May | Intro & Principles of Sustainability | Ch. 1 p. 3-5, 10-14, 19-21; Ch. 7 p. 191-193, 196-197; Ch. 10 p. 262-265; Ch. 20 p. 552-561; Kaufmann & Cleveland, p. 2-13 (pdf file) | Lab 1: Ecological Footprints | |
| W 29-May | Human Population Growth | Ch. 1 p. 10; Ch. 7 p. 179-193 | Lab 2: Population | |
| R 30-May | Biogeochemical Cycles | Ch. 2 p. 28-29, 39-46; Ch. 3 p. 65-73 | Lab 3: Carbon Cycle | Lab 1: Ecological Footprints |
| F 31-May | Atmospheric Circulation | Ch. 1 p. 9-10; Ch. 4 p. 87-99; Kaufmann & Cleveland p. 56-60 | Lab 4: Climate Change | Lab 2: Population |
| S 1-Jun | Climate Change | Ch. 19 p. 517-540; Physical Geography.net (link is on reading outline and on Canvas) | Lab 5: Climate Models | Lab 3: Carbon Cycle |
| M 3-Jun | Air Pollution and Ozone | Ch. 2 p. 52-55; Ch. 15 p. 410-421, 424-427 | Lab 6: Air Pollution & Ozone | Lab 4: Climate Change |
| T 4-Jun | Biomes | Ch. 4 p. 99-107; Kaufmann & Cleveland p. 130 | Lab 7: Biomes | Lab 5: Climate Models |
| W 5-Jun | EXAM 1 | | | |
| R 6-Jun | Biological Systems & Succession | Ch. 3 p. 58-64, 73-77; Ch. 6 p. 168-172; Kaufmann & Cleveland p. 157-160; Ecological Succession slides | Lab 8: Island Biogeography | Lab 6: Air Pollution & Ozone |
| F 7-Jun | Biodiversity | Ch. 1 p. 5-7; Ch. 5 p. 120-123, 136-139, 144-145; Ch. 11 p. 291-292; Ch 18 p. 496-506 | Lab 9: Deforestation | Lab 7: Biomes |
| S 8-Jun | Soil Resources | Ch. 8 p. 219-226; Kaufmann & Cleveland p. 315-327; Coon Creek power point; Soil Orders pdf file | Lab 10: Soils | Lab 8: Island Biogeography |
| M 10-Jun | Water Resources | Ch. 3 p. 66; Ch. 9 p. 236-253 | Lab 11: Water | Lab 9: Deforestation |
| T 11-Jun | Water Pollution | Ch. 14 p. 382-398; Ch. 17 p. 478-479 | Lab 12: Coal and Energy | Lab 10: Soils |
| W 12-Jun | Geological Systems | Ch. 8 p. 206-219, 226-230 | | Lab 11: Water |
| R 13-Jun | Energy | Ch. 12; Ch 13 p. 343-365 | | Lab 12: Coal and Energy |
| F 14-Jun | EXAM 2 | | | |