

GEOG 300I
Geography, People and the Environment
Spring 2016

Instructor

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Office Hours: Tuesday 2:00 PM – 4:00 PM
Wednesday 1:00 PM – 4:00 PM
Thursday 2:00 PM – 4:00 PM
or by appointment

Teaching Assistant:

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Office hours: Monday 2:15 – 4:15 PM
Wednesday 2:15 – 4:15 PM
or by appointment

Class Meets:

Tuesday - Thursday, 12:35-1:50 Lawson 151

Text Books:

We will not use a book in this class. Readings and PowerPoint presentations are on SIU Online-see below on how to access them.

Goal of the class

The goal of this course is to understand complex contemporary environmental problems using case studies. The problems we will study are “wicked” (Rittel and Webber, 1973), in the sense that they are difficult to formulate exactly, and there are no right answers, or technological solutions to them. Different stakeholders will have different perceptions of the issues, will face different trade-offs, and will advocate different solutions. We will emphasize:

- 1 - a science-based systems approach, that is, we will look at the ecological dynamics, and the role that humans play in the environment;
- 2 – the role of geography as a linchpin discipline that spans the social and physical sciences.
- 3 – the importance of interdisciplinary perspectives in assessing issues and devising solutions.
- 4 – issues of collaboration, institution building, and policy development and design.

The class aims at teaching you how to use a variety of perspectives to understand complex problems, and how to analyze the dynamics of coupled human and natural systems across time

and space. We will study four specific case studies, but you will acquire the methodological knowledge to assess other wicked problems.

Game

We will be playing a game throughout the semester to learn about collective behavior, trade offs and renewable resource use. Your behavior during the game will be considered in assigning your participation and attendance grade.

Grading Policy

Midterm: 20%

3 case study synopsis: 30% (10% each)

Map your (flood) hazard: Unit 1 assignment 3%, Unit 2 assignment 3%, Unit 3 assignment 4%,

Final Exam: 25%

Class participation and Attendance: 15%

Final Grades will be assigned as: A = 90-100, B = 80-89, C = 70-79, D = 60-69, F = <60

We will use the Turnitin service that the university makes available to us for the case study synopses. A synopsis is not a copy and paste exercise. You should use your own words to identify what the issues are from all the perspectives we discuss in class, and potential solutions with pros and cons, and winners and losers if appropriate. If you make an argument from somebody else's work, you should reference them next to the argument and then have the article in the reference section. Failure to do so is considered plagiarism and will result in a failing grade for the course – see below on academic honesty. **In each synopsis, you should use at least one reference that we did not use in class.** You can use Google scholar, and then access them through the e-journal page at Morris Library.

Each synopsis will have to be no less than 5 pages, double spaced, with margins not to exceed 1 inch on all four sides, and font of 12 points.

The synopses are **due on February 7, March 61, and May 1.** The assignments for the Map your (flood) hazard module are due by April 10.

Attendance and Late Work Policy

Lax attendance decreases what you learn from the course, and has a negative impact on your classmates. Attendance will be taken at end of each class. You are allowed **3 hours** of unexcused absence. Further unexcused absences will automatically decrease your grade by 2.5 percentage points. An excused absence includes documented sickness or legal action, accompanied by written notification; it does not include an "absence of convenience."

All Deadlines Are Final.

For each day that any assignment is late the assignment loses a full letter grade. Late work will be accepted only with prior arrangement. If you have a problem with completing an assignment, you must give us at least **one week written notice** by e-mail or a written note, and discuss the matter with the instructor.

For both late work and attendance, simply talking to the instructor or TA is not sufficient. Written notification is a requirement – please send me an e-mail.

Academic Honesty

We will follow the academic honesty policy as detailed in the Student Conduct Code, Section II, article A. Plagiarism is a very serious offense and I will not tolerate it. Make sure you properly cite any papers/articles you use to prove your points.

Students with disabilities

Please inform me as soon as possible if you have any type of disability so that we can provide you with the resources necessary to do well in the class. SIU is committed to implementation of the Americans with Disabilities Act (ADA), and I am going to work with you and the Achieve Program and Disability Support Services to help you.

Final exam

The final exam is scheduled for Tuesday May 10 12:30 PM – 2:30 PM

To access SIU online (d2l):

- (1) go to <https://online.siu.edu/>
- (2) enter your network ID (DAWG Tag ID #) and password
- (3) Select the class

Instructions for turnitin.com (it is your responsibility to set up this account):

- (1) Go to www.turnitin.com.
- (2) Select the “Create Account” tab at the top right hand corner
- (3) Create a user profile, and select the “student” option
- (4) Create a new student account. Enter the “Class ID”: **11481740**
- (5) For the “Enrollment Password”, env2016
- (6) Complete the rest of the form and submit

Class readings and schedule:

1. Readings for January 19 and 21: Introduction

Hardin, G. (1968). "The Tragedy of the Commons." Science **162**(3859): 1243-1248.

Rittel, H. W. J. and M. M. Webber (1973). "Dilemmas in a general theory of planning." Policy Sciences **4**(2): 155-169.

Ostrom, E., J. Burger, et al. (1999). "Revisiting the Commons: Local Lessons, Global Challenges." Science **284**(5412): 278-282.

Millennium Ecosystem Assessment, 2005. Ecosystems and Human Well-being: Synthesis. Island Press, Washington, DC. Summary for

2. Readings for January 26 and 28: The Global Fishing Crisis

FAO Fisheries and Aquaculture Department, Food and Agriculture Organization of the United Nations. The State of World Fisheries and Aquaculture Part 1: World review of fisheries and aquaculture, Rome, 2014.
(selected parts: pp 3-27, 37-41 and 62-69)

Jackson, J. B. C. (2001). "What was natural in the coastal oceans?" Proceedings of the National Academy of Sciences **98**(10): 5411-5418.

3. Readings for February 2 and 4: The Global Fishing Crisis

Beddington, J. R., D. J. Agnew, et al. (2007). "Current Problems in the Management of Marine Fisheries." Science **316**(5832): 1713-1716.

Pauly, D., J. Alder, et al. (2003). "The Future for Fisheries." Science **302**(5649): 1359-1361.

Pauly, D., R. Watson, et al. (2005). "Global trends in world fisheries: impacts on marine ecosystems and food security." Philosophical Transactions of the Royal Society B: Biological Sciences **360**(1453): 5-12.

4. Readings for February 9 and 11: The Global Fishing Crisis

Flothmann, S., K. von Kistowski, et al. (2010). "Closing Loopholes: Getting Illegal Fishing Under Control." Science **328**(5983): 1235-1236.

Garcia, S. M. and R. J. R. Grainger (2005). "Gloom and doom? The future of marine capture fisheries." Philosophical Transactions of the Royal Society B: Biological Sciences **360**(1453): 21-46.

Costello, C., S. D. Gaines, et al. (2008). "Can Catch Shares Prevent Fisheries Collapse?" Science **321**(5896): 1678-1681. **(and replies)**

Douve, F. (2008). "The importance of marine spatial planning in advancing ecosystem-based sea use management". Marine Policy **32**(5): 762-771.

February 7: first synopsis on the global fishing crisis is due.

5. Readings for February 16 and 18: Biofuels

Bourne, J., J. K., (2007). Green Dreams National Geographic. **212** 38-59.

Also go through the interactive comparison at:

<http://ngm.nationalgeographic.com/2007/10/biofuels/biofuels-interactive>

Tyner, W. E. (2008). "The US Ethanol and Biofuels Boom: Its Origins, Current Status, and Future Prospects." BioScience **58**(7): 646-653.

Babcock, B. A. (2008). Breaking the link between food and biofuels. Ames Iowa, Center for Agriculture and Rural Development.

6. Readings for February 23 and 25: Biofuels

Butler, R. A., L. P. Koh, et al. (2009). "REDD in the red: palm oil could undermine carbon payment schemes." Conservation Letters **2**(2): 67-73.

Fargione, J., J. Hill, et al. (2008). "Land Clearing and the Biofuel Carbon Debt." Science **319**(5867): 1235-1238.

Youngs, H. and C. Somerville (2014). "Best practices for biofuels." Science **344**(6188): 1095-1096.

Tilman, D., J. Hill and C. Lehman (2006). "Carbon-Negative Biofuels from Low-Input High-Diversity Grassland Biomass." Science **314**(5805): 1598-1600.

7. Readings for March 1 and 3: Biofuels

Miles, L. and V. Kapos (2008). "Reducing Greenhouse Gas Emissions from Deforestation and Forest Degradation: Global Land-Use Implications." Science **320**(5882): 1454-1455.

Kremen, C., J. O. Niles, et al. (2000). "Economic Incentives for Rain Forest Conservation Across Scales." Science **288**(5472): 1828-1832.

Righelato, R. and D. V. Spracklen (2007). "Carbon Mitigation by Biofuels or by Saving and Restoring Forests?" Science **317**(5840): 902.

March 6: second synopsis on biofuels is due.

March 8: Prepping for midterm

Prep for Map your flood (hazard) activity 2: distribute survey

March 10: Midterm Exam

Spring Break Saturday, March 12 through Sunday, March 20

8. Map your (flood) hazard: March 22 and 24

SIUOnline files

Unit 1: create hazard and vulnerability maps

9. Map your (flood) hazard: March 29 and 31

SIUOnline files

Unit 2: analyze survey results

10. Map your (flood) hazard: April 5 and 7

SIUOnline files

Unit 3: report to stakeholders

11. Readings for April 12 and 14: Emerging Infectious Diseases

Binder, S., A. M. Levitt, et al. (1999). "Emerging Infectious Diseases: Public Health Issues for the 21st Century." Science **284**(5418): 1311-1313.

Morens, D. M., G. K. Folkers, et al. (2004). "The challenge of emerging and re-emerging infectious diseases." Nature **430**(6996): 242-249.

Cohen, M. L. (2000). "Changing patterns of infectious disease." Nature **406**(6797): 762-767.

12. Readings for April 19 and 21: Emerging Infectious Diseases

Wolfe, N. D., C. P. Dunavan, et al. (2007). "Origins of major human infectious diseases." Nature **447**(7142): 279-283.

Greger, M. (2007). "The Human/Animal Interface: Emergence and Resurgence of Zoonotic Infectious Diseases." Critical Reviews in Microbiology **33**(4): 243-299. (**selected parts**)

13. Readings for April 26 and 28: Emerging Infectious Diseases

Shuman, E. K. (2011). "Global Climate Change and Infectious Diseases." The International Journal of Occupational and Environmental Medicine **2**(1): 11-19.

Greer, A., V. Ng, et al. (2008). "Climate change and infectious diseases in North America: the road ahead." Canadian Medical Association Journal **178**(6): 715-722.

Leach, M. and I. Scoones (2013) "The social and political lives of zoonotic disease models: Narratives, science and policy", Social Science and Medicine, **88**: 10-17.

May 1: Synopsis on infectious diseases due

14. Readings for May 3 and 5: Recap

Pretty, J. (2003). "Social Capital and the Collective Management of Resources." Science **302**(5652): 1912-1914.

Adams, W. M., D. Brockington, et al. (2003). "Managing Tragedies: Understanding Conflict over Common Pool Resources." Science **302**(5652): 1915-1916.

Dietz, T., E. Ostrom, et al. (2003). "The Struggle to Govern the Commons." Science **302**(5652): 1907-1912.