

The Anthropocene (116.316)
Syllabus—Spring 2016

Room 4-405-3
Thursdays 10:00-13:00

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Appointments welcome

This course will offer you a critical introduction to the *Anthropocene*. The Anthropocene is a term that implies that we have truly entered a new geological epoch defined by humans' impacts on the natural systems of earth. However, there is much disagreement between scientists as to whether this term has meaning. We will look at evidence spanning the last 10,000 years to understand the interactions between natural and human ecologies. The past is a way to understand the future, and this class will focus on the past, present and future of humanity. How sustainable are the ecologies of this planet? What kinds of changes can we expect in our own lifetimes? Can our species survive the era of global warming? The coursework will be focused on two projects in which you will critically evaluate whether human life on this planet is sustainable and indefinite.

There is one compulsory book for the class, which is available as an e-book in the SNU library:

Goudie, Andrew S.
2013 *The Human Impact on the Natural Environment*, 7th Edition. Oxford: Wiley-Blackwell.

Grading: Weekly discussion points/class participation (50%); Midterm project (25%); Final project (25%)

Weekly Discussion Points: I am a firm believer in using the Socratic method of learning in the classroom (https://en.wikipedia.org/wiki/Socratic_method). Every week, the class will divide up discussion topics. Each student will prepare to lead the class in a discussion of the topic that s/he has been assigned. *You will **not** be graded on your English language proficiency, but only on your ability to address the assignment as it pertains to the half-term project.* Although the themes will be derived from the textbook, you will need to find other readings that pertain to each week's class discussion and share their knowledge with the other students in the class. Your discussion will not be reading a prepared statement, but you should come to class asking your classmates questions and getting them to think about the assigned reading and ultimately the half-term project in a different way.

Important resources:

- http://www.sciencedaily.com/news/earth_climate/ecology/
- <http://www.envirolink.org>
- <http://www.britishecologicalsociety.org/publications/>
- <http://www3.epa.gov> (and <http://www.epa.gov/home/az-index>)
- <http://www.gapminder.org>

Ultimately, the discussion points will be geared toward completion of the two projects due for this class (see below). These projects are collaborative, therefore your attendance is important so that everyone can benefit from hearing what you have to say. I also require students to participate in the class discussions and will call on you in class frequently to ensure on participation. The process of evaluating your class participation is somewhat subjective, but I will conduct a peer-survey at the midterm and end of the course in which you will be forced to critique your own participation and your peers will also critique you. I will weigh these comments very heavily in how I assign the final grades.

Midterm and final projects: There will be two projects in this class. For these projects, you will work together to produce products that explain the Anthropocene. The first project will be a 45-60 minute collaborative presentation that will be performed in class on April 21. The theme of the first presentation will be “What if there were no humans?”. Each student will take a biogeographic region (desert, coastal, urban, grasslands, forests, etc.) and conduct this thought experiment. You can approach the theme from the vantage point as if humans had never existed at all or from the vantage point of if we just disappeared today without any explanation. You must keep a journal of your contribution to the project, logging all of the readings you have done, interviews conducted, places visited, etc. You will be graded according to a rubric, which I will provide to you. I will grade you according to this rubric as well as the other students in the class and you will provide a self-critique of how well you think you did.

The second thought experiment will be in a format yet-to-be-determined (might be a video, might be an oral presentation, might be a paper...let’s talk about it after you finish the first project). The topic of the second thought experiment is “sustainability.” You will each pick one area of the world (examples: Seoul, Italy, Siberia, etc.) and I want you to explore the concept of how the human past helps us understand the human future in this area. In what ways have humans persisted through past challenges and how can we use what we know about our evolution in this area to ensure a sustainable future? What does the concept of “sustainability” even mean? Is the past relevant for understanding future sustainable development? Is there a natural limit or carrying capacity to the land that humans are pushing to unsustainable levels?

Class outline:

Week 1 (March 3): Introduction

- Movie: *Quest for the Lost Maya*
- Lecture: Context of the Anthropocene
- Read: Goudie (2013), Ch. 1

Week 2 (March 10): Introduction 2

- Movie: *TedX, Carl Lipo: Lessons from Easter Island*
- Lecture: The Gaia System: Earth as a Self-Regulating Organism
- Discussion point: How did the ways past and present humans who were _____ affect the natural systems of earth? Options: (1) hunting and gathering, (2) farming, (3) herding animals, (4) making metal, (5) building settlements and cities.
- Read Goudie (2013) Ch. 2

Week 3 (March 17): Human impacts on vegetation

- Movie: *Earth on Fire*
- Discussion point: In what ways have humans impacted vegetation on this planet in both the past and present? Options: (1) fire, (2) deforestation, (3) afforestation, (4) grasslands, (5) invasive species, (6) species diversity.
- Read: Goudie (2013) Ch. 3

Week 4 (March 24): Human impact on animal communities

- Movie: *Strange Days on Planet Earth* (<http://topdocumentaryfilms.com/strange-days-on-planet-earth/>)
- Discussion point: How have humans affected animal species from _____ in the past and present? Options: (1) tropics, (2) polar regions, (3) mid latitudes/continental zones, (4) deserts, (5) sea/coastal regions, (6) urban areas
- What is the impact of human agency in spreading “invasive species”?
- Read: Goudie (2013) Ch. 4

Week 5 (March 31): Human impact on the soil

- Movie: TBA

- Discussion point: How have humans affected soil fertility and conservation from _____ in the past and present? Options: (1) tropics, (2) polar regions, (3) mid latitudes/continental zones, (4) deserts, (5) sea/coastal regions, (6) urban areas
- Read Goudie (2013) Ch. 5

Week 6 (April 7): Human impact on water

- Movie: *Blue Gold: World Water Wars*
- Discussion point: How have humans affected hydrological systems from _____ in the past and present? Options: (1) tropics, (2) polar regions, (3) mid latitudes/continental zones, (4) deserts, (5) sea/coastal regions, (6) urban areas
- Read Goudie (2013) Ch. 6 and 7

Week 7 (April 14): Geomorphology and Climate

- Discussion point: How have humans impacted the geomorphology of landscapes in the past? How have humans responded to climate change in _____ in the past? Options: (1) tropics, (2) polar regions, (3) mid latitudes/continental zones, (4) deserts, (5) sea/coastal regions, (6) urban areas
- NO READING—PREPARE FOR MIDTERM PROJECT

Week 8 (April 21) MIDTERM PROJECT—in class presentation (45-60 minutes: What if there were no humans?)

- Read Goudie (2013) Ch. 8

Week 9 (April 28): Introduction to Unit 2

- Movie: *TedX Jackson, George Bey: Redefining success: Archaeology as a way to embrace the world*
- Discussion point: How do we predict the future using the past? Topics: vegetation, climate, animal communities (we will divide the topics regionally)
- Read Goudie (2013) Ch. 9

Week 10 (May 5): NO CLASS—CHILDREN'S DAY; Make up class May 6 (tentative): Coastal Environments

- Movie: *Drop in the Ocean*
- Discussion point: How do we use an integrative approach (past, present) to understand the future of coastal environments?
 - Sea level rise
 - Subsidence and isostasy
 - Reefs and mangroves
 - Deltas and estuaries
 - Beaches (sandy and rocky)
- What is the significance of these ecologies for human systems?
- How can archaeology be used to prepare for future changes to the ecology?
- Read Goudie (2013) Ch. 10

Week 11 (May 12): Hydrosphere and Geomorphology

- Discussion point: Talk about predicted changes to the hydrosphere and corresponding geomorphology in different parts of the world (you will select a place during Week 10's class).
 - How have humans in this same region responded to climate change in the past?
 - How will changes in precipitation alter the dimensions of human settlement and subsistence?
 - Flooding, droughts, erosion (slope stability)
- Read Goudie (2013) Ch. 11

Week 12 (May 19): Cryosphere

- Movie: *Chasing Ice*
- Discussion point: How have changes in the cryosphere of the past had an impact on human settlement of _____ region? Options: (1) tropics, (2) islands, (3) mid latitudes/continental zones, (4) deserts, (5) urban areas
 - Talk about different degrees and rates of ice loss and the impacts to your ecosystem in the past, present and future.
 - What does the past tell us about the future?
 - What differences are there in your region from the past that would make predicting the future more uncertain?
- Read Goudie (2013) Ch. 12

Week 13 (May 26): Drylands

- Movie: TBA
- Discussion point: Discuss changes in drylands zones (pick a region) from past, present and future forecast models.
 - How has global scale climate forcing changed the local ecology of your regions?
 - How have human ecologies adapted to these changes in the past?
 - How must they adapt in the future in order to live sustainably?
- Read Goudie (2013) Ch. 13

Week 14 (June 2): Conclusion

- Discussion point: Pick a biodiversity conservation project from some part of the world.
 - How have those systems been managed (by humans) in the past?
 - What threats do those systems face in the future?
 - How are modern intervention efforts trying to mitigate the impacts of global-scale change?
 - What is the “value” of biodiversity?
- CONCLUSION: How can we conceptualize the Anthropocene?
 - Is it useful?
 - When did it begin?
 - How will it end?
- Study for the final exam

Week 15 (June 9): FINAL PROJECT (Sustainability—What does it mean? Who gets to define it? Is the Anthropocene sustainable? What does the past suggest will come after the Anthropocene ends?)