ENVIRONMENTAL CONSERVATION

Geography/EnvSt 339

SPRING 2016

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Course Description. In this course we study environmental conservation from a geographical perspective reviewing the biophysical, institutional, and socioeconomic dimensions of environmental problems in order to develop more effective conservation solutions. Environmental conservation is itself a social process. Thus we pay careful to how changes in values, scientific understandings of nature, economy and politics affect conservation practice. Not only will we trace the major debates in environmental conservation but will also explore how differences in people's biophysical, economic and political surroundings have led to different perceptions of environmental problems and their solutions.

Through this class, you will develop an understanding of the major approaches to environmental conservation, their relative strengths and weaknesses, and how they developed historically. Case material will come from around the world with a historical overview of environmental conservation thought and action in the United States.

We will touch upon a range of environmental issues in this course including: toxic waste, soil erosion, air/water pollution, mining impacts, grazing impacts, wilderness protection, and wetland mitigation but focus on two large and cross-cutting environmental challenges: biodiversity loss and climate change. Aspects of biodiversity protection will be covered in the U.S. context by first covering different ideas and understandings of the need to protect wilderness followed by arguably one of the strongest rule-based conservation policies: the Endangered Species Act. Biodiversity conservation in all its forms (national parks to community-based approaches) in a developing world context will be the focus of weeks 7-10. During this section of the class are closely linked to a role-playing exercise you will participate in within discussion section based on community-based conservation efforts in Tambopata, Peru. Climate change will be the second major focus with differential vulnerability and responsibilities covered in weeks 6-7 and various approaches to reduce GHG emissions and vulnerabilities (in WI and elsewhere) in weeks 13-15.

Learning Materials. Learning materials for this course include readings, on-line modules, and streaming videos. The required materials assigned for each week and unless otherwise stated, you should complete them prior to your discussion section meeting each week. All materials are available through the course's moodle website (https://ay15-16.moodle.wisc.edu/prod/course/view.php?id=980). Recommended materials are also listed for some weeks. These materials are only recommended for those of you that wish read further on a particular topic covered in lectures. We have developed on-line modules covering conservation issues related to climate change. These modules are accessible through the course webpage. Following each module, you are expected to take a short 5-question quiz to assess your learning (maximum time allocation being 10 minutes). You will be expected to complete the module (and associated quiz) by the lecture period to which the module is tied. This is because we build from what you have learned in these modules to do group-based problem solving during lecture periods.

Videos will also be used in this class. Some videos will be shown in lecture and others will be assigned as required viewing. These can be accessed through links from our course webpage but please note that if you are viewing these on mobile devices, make sure that you view them on a wireless connection to avoid significant data charges from your service provider. Access to reserve videos is restricted to students in this course. Students may not copy, share, distribute or otherwise allow or facilitate any unauthorized access to the content or the passwords issued. Individuals who violate this provision will be subject to disciplinary action under the UW-Madison Academic and/or Non-Academic Misconduct Codes. Videos assigned as required reading will have study guides.

You will be tested on the material presented in lectures, videos, required readings and learning modules in exams. In your reading, focus on the author's main arguments and the evidence s/he uses to support his/her arguments. Environmental issues are often controversial, so read critically.

Grading. Grades will be determined on the basis of a total of 300 points:

EXAMS: 150 points for three exams held during the lecture period: exam 1 on Feb 23rd, covering weeks 1-5; exam 2 on April 5th, covering weeks 6-10; and exam 3 on May 3rd, covering weeks 11-15. Exams will consist of multiple-choice, T/F and short answer questions. Students must take the exams at the scheduled dates/times. Make-up exams can only be arranged if Prof. Turner is notified in person in advance. *All make-up exams will be composed primarily of essay questions.*

ASSIGNMENTS AND PARTICIPATION: 150 points. Discussion section activities are critical parts of this course. There will be one major assignment out of section (Tambopata role play) along with a number of smaller assignments. In addition, your attendance and active participation in discussion and lecture are important. *Your grade will depend partly on how much you enhance the learning experience of your fellow students in discussion section and in lecture.* Therefore attendance is **mandatory**. A syllabus for your discussion section will be given to you at your first section meeting.

Letter grades for the course will be assigned based on the cumulative percentages of all work (e.g. out of 300 points) using a standard curve (see table to right). The distribution of cumulative scores vary from year to year and therefore in determining grades at the end of the semester, the cumulative score breaks between certain letter grades may be lower than those listed here (e.g. one may receive a higher letter grade than would be expected from the standard curve).

Graduate students: Graduate students who take this course will be assessed separately from other students in the course (exams and common work). In addition, extra work will be required. See Professor Turner for details.

Letter Grade	Cumulative %
A	>92
AB	>88
B	>82
BC	>78
C	>69
D	>60
F	≤60

COURSE OUTLINE AND READINGS

REQ = Required materials, content included on exams.
REC = Recommended materials offering greater depth on topic but not included on exams.

WEEK ONE

Jan 19 – Course Introduction

Jan 21– Values and uncertainty: case of climate change (debating climate change)

WEEK TWO

Jan 26 – Population and Institutions

Jan 28 – European conquest and changing nature-society relations in North America

REQ: Cohen, J. 1998. "How many people can the earth support?" New York Review of Books 10/8/98
REQ: World Resources Institute. 2003. Environmental governance. Whose voice? Whose choice? in *Decisions for the Earth* pp. 1-12. WRI: Washington, D.C.
REQ: Worster, D. 1993. The nature we have lost. pp 3-15 in *The Wealth of Nature*. New York: Oxford Univ. Press.

WEEK THREE

Feb 2 – Manifest destiny, environmental transformation, and the early roots of conservation thought

Feb 4 – Progressive Era conservation

REQ: VIDEO: The Wilderness Idea. 1992.
REQ: Thoreau, H.D. 1990. The value of wildness. pgs 36-39 In *American Environmentalism: Readings in Conservation History*, ed. R.F. Nash,. New York: McGraw-Hill.
REQ: Leopold, A. 1998. Wilderness as a form of land use. In *The Great New Wilderness Debate*, eds. J. B. Callicott and M. P. Nelson, 75-84. Athens: University of Georgia Press.
REQ: Foreman, D. 2004. Rewilding North America. pp. 128-143 in Foreman, D. *Rewilding North America: A Vision for Conservation in the 21st century*. Washington, D.C.: Island Press.
REQ: Marris, E. 2011. Weeding the jungle. pp. 1-15 in *Rambunctious Garden: Saving Nature in a Post-Wild World*. New York: Bloomsbury.

REC: Pollan, M. 1991. The idea of a garden. In *Second Nature*, pp. 209-238. New York: Dell Publishing
REC: Gottlieb, R. 1993. Reconstructing environmentalism: Complex movements, diverse roots. *Environmental History Review, 17*, 1-19

WEEK FOUR

Feb 9 – Our public lands

Feb 11– Environmentalism and the 1970s dawn of the environmental movement

REQ: Walker, P. and L. Fortmann (2003). Whose landscape? A political ecology of the 'exurban' Sierra. Cultural Geographies 10: 469-491.

REQ: Albrecht, V. S., & Christman, J. N. The Endangered Species Act. Retrieved from http://library.findlaw.com/1999/Jan/1/241467.html on August 15, 2011. (4 pages)

REQ: The Wildlife Society. 2006. *Final TWS Position Statement: The Endangered Species Act*. Bethesda, MD: The Wildlife Society. (3 pages)

REQ: Stroup, R.L. 1994. The Endangered Species Act: Making innocent species the enemy. PERC Report. (2 pages) http://www.perc.org/articles/endangered-species-act-making-innocent-species-enemy

REC: Hays, S. P. 1990. From conservation to environmentalism. pp 144-152 In *American Environmentalism: Readings in Conservation History*. Edited by R. F. Nash. New York, McGraw-Hill**.**

REC: Andrews, R.N.L. 1999. Chapter 12: Nationalizing pollution control pgs 227-254 In *Managing the Environment, Managing Ourselves: A History of American Environmental Policy.* New Haven: Yale University Press.

WEEK FIVE

Feb 16 T – Inequalities of environmental exposure

Feb 18 R – Environmental justice movement

REQ: Bullard, R. 1994. Environmental racism and the environmental justice movement. Pgs 254-265 In Merchant, C. Ed. (1994). Ecology. Atlantic Highlands, NJ: Humanities Press International.

REQ: Kay, J. and C. Katz. 2012. Pollution, poverty, people of color: The factory on the hill. Environmental Health News, June 4, 2012. http://www.environmentalhealthnews.org/ehs/news/2012/pollution-poverty-and-people-of-color-richmond-day-1

REQ: Katz, C. and J. Kay 2012. 'We are Richmond.' A beleaguered community earns multicultural clout. Environmental Health News, June 5, 2012. http://www.environmentalhealthnews.org/ehs/news/2012/pollution-poverty-and-people-of-color-richmond-day-2

WEEK SIX

Feb 23 – Exam 1 (Weeks 1-5)

Feb 25 – Analyzing climate impacts in rich and poor countries

REQ: Online module. Climate justice: Climate impacts in developing countries

WEEK SEVEN

Mar 1 – Determining responsibilities for reducing greenhouse gas emission reductions

REQ: Online module. Debating greenhouse gas emission responsibilities

REQ: Online module. International climate mitigation history: Kyoto's fate

Mar 3 – Biodiversity overview

REQ: Kolbert, E. "The Sixth Extinction?," The New Yorker, May 25, 2009. pp. 53-59.

REC: Tilman, D. 2000. Causes, consequences and ethics of biodiversity. *Nature* 405:208-211.

WEEK EIGHT

Mar 8– From slash-and-burn to industrial agriculture - the quest for sustainability.

Mar 10– Sustainable logging in tropical forests – Reforming institutions and norms

REQ: Vandermeer,J. & I. Perfecto. 2005. Chapters 2-3 Breakfast of Biodiversity. IFDP, Oakland, CA.
REQ: The Economist. 2010. Aug 26th. "The Miracle of the Cerrado. Brazil has revolutionised its own farms". 7 pp. http://www.economist.com/node/16886442
REC: Smith, J. et al. 2006. "Why policy reforms fail to improve logging practices" Forest Policy & Economics. 8: 458-469

WEEK NINE

Mar 15 – Is the Amazon like 'Avatar'? Indigenous rights and gold mining

Mar 17 – National parks and extractive reserves.

REQ: Kayapó People's Manifesto June 2013. Downloaded 1/11/14 from http://raoni.com/news.php
REQ: Peres, C. 2005. Why we need megareserves in Amazonia. Cons Biology. 19: 728-733.
REQ: Nepstad et al 2004 "Inhibition of Amazon deforestation and fire by parks and indigenous lands" Cons Bio. 20:66-73

SPRING BREAK

WEEK TEN

Mar 29 – Community-based conservation and incentive-based conservation

Mar 31 – Direct payments for conservation

REQ: Video: *Milking the Rhino*. (First 41 minutes required)
REQ: Western, D. and R. Wright. 1994. Background to Community-Based Conservation. pp. 1-14 in Western, D. and R.M. Wright. Natural Connections. Island Press: Washington, D.C.
REQ: Ellison, K. and G. C. Daily 2003. Making conservation profitable. Conservation in Practice 4(2):13-19.
REQ: Ferraro, P.J. & A. Kiss. 2002. "Direct Payments for Biodiversity Conservation." Science 298: 1718-1719

REC: Putz, F.E. and K.H. Redford (2009). Dangers of carbon-based conservation. *Global Environmental Change* doi:10.1016/j.gloenvcha.2009.07.005
REC: Phelps, J., E.L. Webb and A. Agrawal (2010). Does REDD+ threaten to recentralize forest governance? *Science* 328: 312-313.

WEEK ELEVEN

Apr 5 – Exam 2 (covers weeks 6-10)

Apr 7 – Market-based approaches to climate mitigation

REQ: Online module. Flexibility mechanisms of Kyoto

WEEK TWELVE

Apr 12 – Economic growth/urbanization and prospects of environmental conservation (Env Kuznets, poverty-environment)

Apr 14 – Sustainable Development

REQ: East is grey from The Economist.
REQ: Davis, M. 2006, Slum Ecology. Inequity intensifies Earth's natural forces 6 pp. in Orion. March/April.
REQ: 1 page handout with Kuznet curves from World Resources Institute 1996-7. Washington. D.C.

REC: World Commission on Environment and Development. 2010. Towards sustainable development. pp 207-217 In: Conca K and Dabelko GD (eds) Green Planet Blues, Westview Press, Boulder, CO.
REC: Lele, S. 2004. Sustainable Development – A Critical Review. pp. 252-264. In: Conca K and Dabelko GD (eds) Green Planet Blues, Westview Press, Boulder, CO.

WEEK THIRTEEN

Apr 19 –Climate change mitigation in the United States

REQ: Online module: Divergent National Energy Polices: the U.S. vs Germany

Apr 21 – The natural gas boom… an effective transition away from coal?

REQ: Levi, M. 2015. Fracking and the climate debate. *Democracy Journal* 37**.** http://democracyjournal.org/magazine/37/fracking-and-the-climate-debate/. Accessed 1/16/2016
REQ: Environmental Defense Fund. 2015. Aliso Canyon leak sheds light on national problem. Methane leaks occurring across our national gas supply chain take a huge climate toll. *https://www.edf.org/climate/aliso-canyon-leak-sheds-light-national-problem.* Accessed 1/16/2016

WEEK FOURTEEN

Apr 26 – Renewable energy technologies 101

REQ: Online module. Assessing alternatives to fossil fuels

Apr 28 – Choosing alternative energies for now and the future

REQ: Roberts, D. 2015. Here's what it would take for the U.S. to run on 100% renewable energy. Vox Explainers. http://www.vox.com/2015/6/9/8748081/us-100-percent-renewable-energy. Accessed 1/16/2016

WEEK FIFTEEN

May 3 – Climate change adaptation: Planning for climate change in Wisconsin

REQ: Online module. Wisconsin climate impacts

May 5– Exam 3 (Weeks 11-15)