

Environmental Studies 498: Senior Seminar

Professors:

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Meeting time: Wednesday 2-5 PM (Merrill Science 315)

Course description

The Environmental Studies Senior Seminar brings together majors with different interests and course backgrounds to analyze environmental problems using an interdisciplinary approach. Each week, we will read and discuss journal articles and book chapters concerning central issues in environmental studies. We will explore different views of the underlying causes of various environmental problems, as well as possible solutions to them. We will consider how different approaches may complement or contradict one another. Along the way, we also will consider how different methodologies shape the information that is at play in environmental debates (including scientific knowledge, policy recommendations, historical analysis, philosophical argument, and popular writing). Our seminar has three goals: (i) to develop and sharpen your skills and confidence in evaluating articles in environmental studies, both verbally and in writing; (ii) to allow you to explore the primary literature in environmental studies; and (iii) to bring all senior majors together in order to share different ideas and points of view.

Course structure

During the first 1 1/2 hours of our weekly meetings, we will read and discuss texts chosen by us concerning a number of major issues in environmental studies (population growth, extinction, overfishing, habitat destruction, valuing nature, globalization, and environmental pollution). For one week of the semester, you and a partner will be responsible for leading a class discussion of the assigned readings. To guide discussion, we will post some suggested discussion questions in advance of each class on the course website. You should be prepared to answer these questions and should come up with some thoughts or questions of your own, as well as be able to summarize the gist of the assigned readings.

In addition, you and a partner will be responsible for leading a class discussion (of about 1/2 hour) on one or two journal articles in environmental studies *on any topic of your choosing* twice during the semester. These presentations will take place in the second half of our seminar meetings, and will begin during our second meeting. We know that many of you have spent time abroad or in summer internships. We encourage you to use this opportunity to share the issues you've encountered with the class, and to expand upon them. Students thinking about writing a senior thesis should certainly take advantage of this opportunity to search and discuss literature

relevant to their thesis topic. And finally, you might also choose to pursue in more depth issues that we've discussed during the first half of our seminar meetings. To help you with these assignments, we have provided a list of periodicals (both paper and electronic) subscribed to by our library, as well as some suggested topics.

On the week prior to one of your presentations, you and your partner should provide the class with a pdf(s) of your assigned article(s), as well as two or three questions you would like us all to mull over for class discussion. One week after your two presentations, you and your partner should submit a four to eight page summary and evaluation of your selected article(s), which may also include, of course, any novel insights that were raised in the previous week's discussions.

In preparing your presentation you might think about the following:

1. What was the purpose of the paper? Why is the topic important and why should anyone care about it? How does the topic fit into the broader field of environmental studies?
2. How did the authors conduct their study? Was it from the literature or in the field? Did the authors conduct surveys, create mathematical models, or perform experimental manipulations, or was the article a philosophical essay or policy statement?
3. What did the authors find? Were there any novel or unanticipated findings or insights?
4. What did the authors conclude?

In preparing your written evaluation you might also consider the following:

Do you agree with the authors' conclusions? Are there other things they could have done? Are there perspectives, findings, or possible objections that they failed to consider? Is this a paper that you will save on your computer for future reference, or did the paper really have problems? If you were to extend on their work, what, exactly, would you do, and how would that enhance our understanding of the question?

In preparing your literature evaluation try to avoid simply repeating what was written in the paper(s). Rather, use these assignments as opportunities to develop your own thoughts about how people have approached a topic.

You also should feel free to come to speak with us outside of class to go over ideas and thoughts for your presentations and critiques. Don't be intimidated from discussing and asking questions about journal articles in class. There's no such thing as a stupid question if you've never seen a particular analysis before, and the whole point of an upper division seminar is to read journal articles and develop an understanding of how people actually conduct and present research in environmental studies.

Books and readings

Most readings for the course will be available on the course website through the e-reserves system. The course website is:

<https://www.amherst.edu/academiclife/departments/courses/1112F/ENST/ENST-498-1112F/>

Three books are required for this course: Safina, Carl (1997) *Song for the Blue Ocean*; Ehrlich, Paul (1968) *The Population Bomb*; and Mann, Charles *1493*. There are many used copies of the first two books available online so we estimate the cost will be low if you purchase used copies. The book *1493* is new but relatively inexpensive. All of these books are worth having on your shelf if you plan to continue in environmental studies. Copies of all three books will be on reserve in the Science Library.

Please bring all assigned readings with you to class. Although we do not want to waste paper, it is important to have the texts with you in order to facilitate discussion. To minimize paper use, you can print double-sided and print two pages on each side.

Readings must be completed in time for class discussion. Given the nature of the course, it is very important to stay on top of the readings and have them done by the assigned class. Your participation in class is your primary chance to engage with the readings! You are expected to participate every week.

Course requirements

To pass the course you must (1) attend each weekly class meeting, (2) participate in weekly in-class discussions, (3) co-present one assigned discussion of environmental readings, (4) co-present two class discussions on environmental readings of your choosing, and (5) co-write two four to eight page evaluations of your chosen readings, which are due at the beginning of class on the week following your presentation.

If you cannot meet any of these requirements for any reason you should let us know to see if an exception can be made. Exceptions are generally restricted to health problems. Exceptions will not be made for a heavy schedule (e.g., for exams in other courses that are scheduled on the same day).

You and your partner should contribute equally to your class presentations and written critiques. We've found it helpful in our own work to have a collaborator or two to bounce ideas off of, and we hope that your collaborations will enhance your insights and knowledge of environmental studies through the sharing of ideas.

Evaluation

Class preparation, participation and attendance:	25%
Class presentations and discussion-leading (3):	30%
Written journal article summaries and critiques (2):	45%

ENST. 498 COURSE SCHEDULE FALL 2011

<i>Week</i>	<i>Dates</i>	<i>Class</i>	<i>Readings</i>
1	14 Sept	Too Many People	Ehrlich (1968); Greenhalgh (2003); Ehrlich and Ehrlich (2009); Engelman (2009); Sen (1994)
2	21 Sept	Ecoholism	Leopold (1949); Callicott (2001)
3	28 Sept	Failure to Value	Sober (1986); Daily <i>et al.</i> (1997)
4	5 Oct	Tragedy of the Commons	Hardin (1968); Feeny <i>et al.</i> (1990)
5	12 Oct	Extinctions and Endangered Species	Schwartz (2008); Safina Part 1
6	19 Oct	Extinctions: Salmon, Habitat, and Culture	Safina Part 2
7	26 Oct	Extinctions and Globalization	Safina Part 3
8	2 Nov	Power in the Hands of the Few	Roy (1999); Foggin (2008); Wang <i>et al.</i> (2010); Foggin (2010)
9	9 Nov	Globalization	Mann (2011)
10	16 Nov	Globalization	Mann (2011)
11	23 Nov	<i>Thanksgiving Break</i>	
12	30 Nov	Current events: oil spill	Paine <i>et al.</i> (1996); Jernelöv (2010)
13	7 Dec	Energy	Scheirmeier <i>et al.</i> (2008); Barbour (2010); Whitman <i>et al.</i> (2009)
14	14 Dec	Summing up: revisit and tie themes to papers	

**ENST-498: Senior Seminar in Environmental Studies
Required Readings, 2011**

(B) = book required for purchase (E) = E-reserves (R) = print reserves

Week 1 • 14 September 2011 • Too Many People

(B/R) Ehrlich, P.R. (1968) *The Population Bomb*. Chapter 1 "The Problem" (p. 1-44; "Too Many People," "Too Little Food," "A Dying Planet"), part of Chapter 4 "What needs to be done/getting our house in order" (p. 127-146).

(E) Ehrlich, P.R. and A. H. Ehrlich. (2009) *The Population Bomb Revisited*, *Electronic Journal of Sustainable Development*

(E) Greenhalgh, S. (2003) Science, modernity, and the making of China's one-child policy. *Population and Development Review* 29:163-196.

(E) Engelman, R. (2009) Population and sustainability. *Scientific American Earth* 3.0

(E) Sen, A. (1994) Population, delusion, and reality. *New York Review of Books* 22 April 1994.

Week 2 • 21 September 2011 • Ecoholism

(E) Leopold, A (1949) *A Sand County almanac*. Oxford University Press, Oxford. *The Land Ethic* chapter.

(E) Callicott, JB (2001) The land ethic. Pp. 205-217 in Jamieson, D. (ed) *A companion to environmental philosophy*. Blackwell, Malden, MA.

Week 3 • 28 September 2011 • Failure to Value

(E) Daily, G.C., et al. (1997) Ecosystem services: benefits supplied to human societies by natural ecosystems. *Issues in Ecology* 2:1-16

(E) Sober, E. (1986) Philosophical problems for environmentalism. Pp. 173-194 in Norton, B. (ed.) *The Preservation of Species*. Princeton University Press, Princeton.

Week 4 • 5 October 2011 • Tragedy of the Commons

(E) Hardin, G. (1968) Tragedy of the commons *Science* 162:1243-1248.

(E) Feeney, D., Berkes, F., McCay, Acheson, J. (1990) The tragedy of the commons: twenty-two years later. *Human Ecology* 18:1-19.

Week 5 • 12 October 2011 • Extinctions and Endangered Species

(E) Schwartz, M.W. (2008) The performance of the endangered species act. *Annu Rev Ecol Evol Syst* 39:279-299.

(B/R) Safina, C. (1999) *Song for the blue ocean: encounters along the world's coasts and beneath the seas*. Henry Holt, NY. Book 1 (Northeast; Bluefin Tuna).

Week 6 • 19 October 2011 • Extinctions: Salmon, Habitat, and Culture

(B/R) Safina, C. (1999) *Song for the blue ocean: encounters along the world's coasts and beneath the seas*. Henry Holt, NY. Book 2 (Northwest; Pacific Salmon).

Week 7 • 26 October 2011 • Extinctions and Globalization

(B/R) Safina, C. (1999) *Song for the blue ocean: encounters along the world's coasts and beneath the seas*. Henry Holt, NY. Book 3 (Far Pacific; Coral Reefs).

Week 8 • 2 November 2011 • Power in the hands of a few

(E) Roy, A. (1999) The greater common good. *World Rivers Review* 14(4).

(E) Foggin, JM (2008) Depopulating the Tibetan grasslands. *Mountain Research and Development* 28:26-31.

(E) Wang, Z, Song, K, Hu, L (2010) China's largest scale ecological migration in the Three Rivers headwater region. *Ambio* 39:443-446.

(E) Foggin, JM (2010) Rethinking "ecological migration" and the value of cultural continuity: a response to Wang, Song, and Hu. *Ambio* 40:100-101.

Week 9 • 9 November 2011 • Globalization

(B/R) Mann, CC (2011) *1493: Uncovering the New World Columbus created*. Knopf, NY. Read the prologue and chapters 1 through 3 (pp. xii-116).

Week 10 • 16 November 2011 • Globalization

(B/R) Mann, CC (2011) *1493: Uncovering the New World Columbus created*. Knopf, NY. Read chapters 6, 7, and 10 (pp. 197-278; 385-398).

Week 12 • 30 November 2011 • Current Events: Oil

(E) Paine, R.T., et al. (1996) Trouble on oiled waters: lessons from the *Exxon Valdez* oil spill. *Annual Rev Ecol Syst* 27:197-235.

(E) Jernelöv, A. (2010) The threats from oil spills: now, then, and in the future. *Ambio* 39:353-366.

Week 13 • 7 December 2011 • Current Events: Energy

(E) Schiermeier, Q., Tollefson J., Scully, T., Witze, A., Morton, O. (2008) Electricity without carbon. *Nature* 454:816-823.

(E) Barbour, E. (2010) How is the global Green New Deal going? *Nature* 464:832-833.

(E) Whitman, C. T., Wirth, T. E., Meselson, M., Nissen, S. E., Juma, C., Daley, G. (2009) Your inbox, Mr. President. *Nature* 457:258-261.

Week 14 • 14 December 2011 • Open Session

Environmental Studies Journals

Recent advances in the publication of research articles in electronic format have resulted in a proliferation of journals during the last decade. The following is a partial list of journals that either focus entirely or partially on environmental issues and to which the library has an online subscription. We have included the more established journals in this list; you can find a complete list of the library's journal holdings via the following link:

http://sfxhosted.exlibrisgroup.com/amherst/az?param_perform_value=search

Once you access the list, you can then search by subject (i.e., environmental studies) or specific search terms (e.g., environmental law).

Journals list

General: (contains occasional articles of major significance)

Science Nature
Proceedings of the National Academies of Science
Proceedings of the Royal Society B

Science

Ambio
Biological Invasions
Biological Conservation
Conservation Biology
Conservation Genetics
Biotropica
Ecological Applications
Frontiers in Ecology and the environment
Advances in environmental research
Annual review of energy and the environment
Annual review of environment and resources
Environmental pollution
International journal of conservation science
Fisheries
Fisheries management and ecology
Marine fisheries review
Global change biology
Journal of applied ecology
Journal of soil and water conservation
Water, air and soil pollution
Environmental geology
Restoration ecology

Law, Policy, & Economics

Environmental Ethics

Environmental policy and governance

Environmental and resource economics

Environmental science & policy

Global environmental politics

Sustainable development law and policy

Review of environmental economics and policy

Environmental law

Environmental law journal

Environmental economics and policy studies

Water law

Land and water law review

Agriculture & Development

Agriculture, ecosystems & environment

Agriculture and human values

Journal of developments in sustainable agriculture

Energy sustainable development

Journal of sustainable development

Journal of sustainable energy

Journal of sustainable tourism

Sustainable development

Sociological

Environmental values

Environmentalist

Journal of human ecology

Environs

Possible Discussion Topics (you also should feel free to choose your own, but clear it with us)

Environmental Legislation (e.g., endangered species act, clean water act)

Fisheries extinctions (case studies)

Aquaculture

Fisheries management (models, subsidies)

Marine reserves

Ecotourism

Habitat fragmentation (consequences and management)

Biological reserve design and effectiveness, human impacts

Invasive species (animals, plants, diseases)

Biological controls

Invasive species policies and management

Climate change: physical and biological consequences

Green energy

Sustainable development

Population growth, migration, and controls

Valuing nature