

Environmental Studies 461: Senior Seminar in Environmental Studies

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Higley 202

5393

Office Hours: M 1:30-3:30, TR 8:00-9:30

Overview: This seminar will broadly examine the concept of environmental sustainability. At its most basic level, sustainable means "meeting the needs of the present without compromising the ability of future generations to meet their own needs". Within this we will choose, as a group, topics to examine in depth. In studying these developments we will seek, first, to clarify their causes, consequences, and implications, and to examine how and why these potentially very different phenomena are related. By examining these topics we will be able to draw some conclusions about the relationship between developed and undeveloped, rich and poor, cities and rural areas, and, more generally, between humans and nature itself. Finally, our investigation should allow us to determine how - or if- such environmental crises might be resolved in the future. Our analysis will be deliberately eclectic in nature, drawing on readings from a variety of disciplines, including ecology, sociology, economics, political science, and ethics. This seminar will conclude with a presentation of student team reports providing a holistic, systems analysis of a problem and suggesting strategies for coming to terms with these issues.

Sustainability has become a catch phrase to indicate the "wise use" of the natural world to further human prosperity. The U.S. for example, has crafted a "Sustainability Vision" which is defined as follows: "*Our vision is of a life sustaining earth. A sustainable United States will have a growing economy that provides equitable opportunities for satisfying livelihoods and a safe, healthy, high quality of life for current and future generations. Our nation will protect its environment, its natural resource base, and the function and viability of natural systems on which all life depends*" (The President's Council on Sustainable Development, 1996).

Is this a myth? The impacts of humans on the environment, as well as our dependence upon it, are sure to be prominent issues of global concern for the foreseeable future. These issues were not visible fifty years ago, yet now they inspire social, political, economic, ethical, scientific and technical policy and innovation. Our seminar will seek to discover what has happened, why it has happened, and what can be done about it by calling upon the insights of several disciplines within the social and natural sciences.

Our course will employ systems thinking and its application to sustainability. Systems thinking provides a structure for viewing the world that is different from the reductionist paradigm that has dominated Western thought since the 1600s. The reductionist paradigm has proved very powerful, yet it appears to be ill suited for addressing many of today's most pressing problems. In other words, it is necessary but not sufficient for full understanding. A common emphasis will be the creation of links between social and ecological systems.

As we move through the semester we will address the following broad questions: Has the human species outgrown its habitat? How can we proceed to both consume and preserve the environment? Is the concept of sustainable development, which has become common policy both nationally and internationally, a realistic concept? How can we use a systems approach to analyze these issues?

Requirements: Since this is your seminar, regular and active participation in class is essential. You will be expected to take an active part in all discussions. You will also be expected to help extend those discussions in class. To help with this you will also be expected to write 6, one-page response papers on the assigned readings (details in class).

Reading: Readings will represent a wide array of viewpoints from a wide range of fields, and many will be provocative and controversial. You may not agree with some of what you read, and we all may disagree on some issues. This is great, what we are after is a constructive and well thought out discussion.

Required text: Millennium Ecosystem Assessment. 2003. Ecosystems and Human Well-Being. A Framework for Assessment. Island Press.

Seminar presentations: Each student will be responsible for leading a seminar 1-2 times during the semester, as part of a small group (to be assigned based on interests). Members of the group will divide themselves into "point" and "counter-point" teams. Each side will choose 2 readings that defend their position for the class as a whole to read. Readings must be approved by me 2 weeks ahead of time, and given to the class as a whole 1-week in advance. On the day of your session, each side will spend approximately 30 minutes to define their position on that day's topic. The remainder of class will be spent in an open discussion, to be led by the group.

Final Project Paper: Each group will decide on an environmental issue that they want to explore and write about. The result of this will be a 40-page paper (approximately!) that is completed by each group. A detailed outline will be due mid-way through the semester. Each group will organize and give a final presentation (no more than 40 minutes) of their project during the final 2 weeks of the semester (2 groups each week). The final project topic is your choice but it must not be a reiteration of the topic/information presented when your group led the class discussion (although they can be related). Project outlines should be approximately 3-4 pages in length, with plenty of detail as to how you will analyze the issue you have chosen. This will require some coordination by the group! The paper can be organized as your group sees fit, but must contain an introduction and conclusion section.

Each student will contribute approximately 8-10 pages of text to the final paper, and the group will identify the author of each section on the final copy. Each member will also contribute to the "Introduction and Conclusions" section, i.e., these will be written as a group. Each group member will want to specialize in some aspect of the problem (environmental impacts, economics, politics, and social-cultural factors, to name a few). You may want to incorporate some specific analytical approach in dealing with your topic, as discussed in class. Each group member should proofread and critique all other sections so that there is consistency throughout the paper.

Final grades will be determined as follows:

20% *Attendance and class participation*

20% *Short response papers (6)*

25% *Discussion leadership (including the final project presentation)*

35% *Final Project (this includes an evaluation of the section written by you alone, as well as an evaluation of the introduction and conclusion sections done by the group as a whole).*

Schedule of Events

January 17 **Introduction and orientation to the issues**

- Earth on Edge (video): discussion of video and local issues

January 24 **Environmental studies: scope and methodologies**

- Readings: Ecosystems and Human Well-being – Preface, Summary, and Chapter 1
- Maniates, M. F., and J. C. Whissel. 2000. Environmental studies: the sky is not falling. *BioScience* 50:509-517 (available in EJC)
- Soulé, M., and D. Press. 1998. What is environmental studies? *BioScience* 48:397-405. (provided in class)
- Objective: write a one-page response on any of the above, concluding with a question for discussion.

January 31 **Millennium assessment I - Services and effects on humans**

- Readings: Ecosystems and Human Well-being, Chapters 2 and 3
- Objective: write a one-page response, concluding with a question for discussion.

February 7 **Millennium assessment II – Dynamics, scaling, and values**

- Readings: Ecosystems and Human Well-being, Chapters 4-6
- Objective: write a one-page response, concluding with a question for discussion.

February 14 **Millennium assessment III – Methods of analysis and decision-making**

- Readings: Ecosystems and Human Well-being, Chapters 7-8
- Objective: write a one-page response, concluding with a question for discussion.

February 21 **Challenges to sustainability in oceans** TBA

February 28 **Ocean sustainability – what are the most productive solutions?** TBA

Spring break

March 21 **Ocean sustainability – ecosystems vs. target species** TBA

March 28 Local sustainability – class choice of question

April 4 Local sustainability – class choice of question

April 11 **Group 1 debate**

April 18 **Group 2 debate**

April 25 **Group 3 debate**

May 2 **Presentation of projects**