

# **Proposal for an Interdisciplinary Environmental Studies Minor at Truman State University**

Submitted by the Environmental Studies Working Group

10/9/03

*As amended and approved by UGC, 12/10/03*

The actions of humans affect the environment; the environment in turn affects living organisms. Humans, the environment, and their interactions determine the amount and the quality of life supported. Human actions that negatively alter the environment are complex, and solutions to such negative change are inherently interdisciplinary. When used alone, disciplinary solutions are inadequate, be they ecological, social, or economic.

The Environmental Studies Minor is designed to improve students' abilities in identifying, analyzing, communicating about, and influencing the complex forces that have shaped and continue to shape the environment and consequently the lives of living things. Students will focus their study on the interactions between humans and other components of the natural environment.

Coursework will be distributional, combining study in the earth's physical, chemical, and biological systems with study in the humanities and social systems. A key component of the Environmental Studies Minor is an active component which requires students to communicate, synthesize, and put into practice concepts and methods learned.

The attached proposal and accompanying syllabi are the products of meetings and discussions among faculty members from eight disciplines in four divisions, as well as of conversations between these individuals and colleagues in many other fields. The proposed minor has received positive feedback and expressions of student interest at the majors/minors fair and in other venues.

If you have questions about the proposal, please contact any of these persons:

Division of Business and Accountancy: James Turner

Division of Languages and Literature: Monica Barron, Dennis Leavens

Division of Social Sciences: Wolfgang Hoeschele, David Murphy

Division of Science: Steven Carroll, Michael Kelrick, Barbara Kramer, Tom Marshall, Michael Seipel

## **Contents**

|  |    |
|--|----|
| Bill for approval.....   | 2  |
| Structure of the minor.....  | 3  |
| Elective courses for the minor.....                                      | 6  |
| Template and Sample syllabus: Introduction to Environmental Studies..... | 8  |
| Sample syllabus: Seminar in Environmental Studies.....                   | 19 |

## **An Interdisciplinary Environmental Studies Minor at Truman State University**

- Whereas Truman states as one of its core liberal arts outcomes the preparation of students “for effective living in a democratic society”<sup>1</sup>;
- Whereas human actions alter the environment;
- Whereas the environment affects living organisms including humans;
- Whereas it is responsible education to prepare students to address the conditions and issues pertinent to the quantity, quality, and time span of life on earth;
- Whereas this preparation to be effective must be interdisciplinary, active, and deliberate:

Be it therefore resolved that the Environmental Studies Minor as outlined in the attached proposal be approved, including the creation of an Environmental Studies course designation—ENVS—and the creation of an Environmental Studies Committee, and

Be it further resolved that the new courses ENVS 2xx Introduction to Environmental Studies and ENVS 4xx Seminar in Environmental Studies be approved as part of the minor.

---

<sup>1</sup> Truman State University. [Affirming the Promise: University Master Plan 1997-2007](#). Page 4.

## Environmental Studies Minor Proposed Structure

### Minor Requirements

- ❖ Successful completion of 6 courses (16 credit hours min.), consisting of 2 required courses and 4 elective courses
- ❖ Successful completion of a capstone project
- ❖ At least 3 courses (7 hours min.) at the 300-level or above
- ❖ A maximum of 2 courses may also count for major and/or JINS requirements

### Required Courses

- ❖ (W/E) Introduction to Environmental Studies (ENVS 2xx) (3 cr.)
  - New writing-enhanced course to be team-taught by interested and qualified faculty
- ❖ Seminar in Environmental Studies (ENVS 4xx) (1 cr.)
  - New course, focusing on presentation of students' capstone experience projects

### Elective Courses

- ❖ Students will select four elective courses, representing at least three of these four categories:

#### ***Distribution categories:***

##### **Science**

AGSC, BIOL, CHEM, PHYS coursework, research, special problems, or internship credit

##### **Social Science**

ECON, GEOG, HIST, SOAN, POL, PSYC coursework, research, special problems, or internship credit

##### **Humanities**

PHRE and ENG/other L&L coursework, readings, research, special problems, or internship credit

##### **Interdisciplinary**

JINS coursework, internships that do not fit into any single discipline, and perhaps future environmental studies coursework

### Capstone Experience

The capstone experience for each student will consist of two components:

- ❖ A project completed outside of class (e.g. as an extension of one of the 4 elective courses, an internship, research, or volunteerism)
- ❖ Completion of the required Seminar in Environmental Studies

## Capstone Project

- ❖ The project is based on service-learning concepts, with a goal of ensuring a hands-on experience for every student completing the minor. Through the project the student will integrate action with reflection on how the action informs and is informed by learning in more traditional settings. The student will envision a target audience for his/her project and attempt to communicate project outcomes to this audience.
- ❖ If done in conjunction with a class, the project will entail activity and effort beyond the normal requirements for the course.
- ❖ Students may, alternatively, complete their project outside of traditional academic settings. Students pursuing this option will work with a faculty mentor/supervisor to design their project or join one of a number of ongoing projects that will develop as the program evolves.
- ❖ Depending on interests and background, students will satisfy the capstone requirement through a variety of projects. Examples of potential student projects, given for illustrative purposes only, might include

*A student with an interest in communications, through her work at the Campus Recycling Center, becomes interested in increasing residence hall participation in recycling efforts. She designs a public awareness campaign targeting students in residence halls and presents her proposal to the Campus Recycling Committee and the Residence Hall directors.*

*A student interested in environmental analysis develops a project with her CHEM 322 (Instrumental Analysis) professor. She analyzes a reservoir that is subject to farm runoff for changes in contaminant level over the course of a year. After analyzing her data, she communicates her results to a municipal water treatment facility.*

*A philosophy and religion major reads Leopold's "Land Ethic" while taking a course on sustainable agriculture and writes a critique asserting that Leopold's position rests on a logical fallacy. The student concludes that Leopold makes an unjustified move from description to prescription, from "is" to "ought", in establishing an ethical basis for resource conservation. The student formats his critique as a presentation to be delivered to a meeting of the Practical Farmers of Iowa, a farmer organization which advocates practical reforms based on the principles of Leopold's ethic.*

## Learning Plan

Each student will submit to the Environmental Studies Committee a Learning Plan, normally completed in the Introduction to Environmental Studies course, detailing:

- ❖ Elective courses to be taken for the minor
- ❖ A proposal for the student's capstone project

## Environmental Studies Committee

A committee, to be known as the "Environmental Studies Minor Committee", shall provide oversight and leadership on curricular issues and decisions related to the minor. The committee shall consist of five members, each serving two year terms. Faculty members approved to teach courses which have been approved as elective courses for the minor will constitute the pool of eligible candidates for committee

service. Each year, the Vice President for Academic Affairs' office will solicit nominations from this group of eligible faculty members to fill open committee positions. The VPAA's office will prepare a ballot based on these nominations and distribute the ballot to faculty eligible for committee service. The results of this vote will determine which individuals are selected to fill open committee positions. To the extent that candidates are available, at least three academic divisions shall be represented on the committee. The VPAA's office will notify the successful candidates, in writing, of their appointment and term of service. In the year of the committee's constitution, three members will be elected to two-year terms and two members will be elected to one-year terms, to provide for staggered terms of service in subsequent years. Responsibilities of the committee will include:

- ❖ Approving students' learning plans for the minor
- ❖ Approving courses to count as minor electives
- ❖ Helping students to identify faculty mentors to assist in design and execution of capstone projects
- ❖ Serving as points of contact for questions about the minor from students, faculty, RCP advisors, and administrators
- ❖ Publicizing the minor through the Majors/Minors fair and other venues
- ❖ Advising the VPAA or the VPAA's designee on administrative issues related to minor (staffing ENVS courses, communicating with the registrar about minor requirements, etc.)

## **Environmental Studies Minor Short List of Elective Courses**

Elective courses to count for a student's minor learning plan would be approved by the Environmental Studies (ENVS) Committee. The courses listed herein would carry the presumption of approval, provided the learning plan conforms to other guidelines for the minor. Additional courses not included here could be proposed by the student with a brief explanation of how the course complements the ENVS minor for that student.

### ***Distribution categories:***

#### **Science**

AGSC, BIOL, CHEM, PHYS coursework, research, special problems, or internship credit to be identified, including but not limited to

- AGSC 212 Principles of Soil Science
- AGSC 311 Plant Nutrition
- AGSC 410 Soil Conservation and Management
- AGSC 414 Agricultural Policy
- AGSC 415 Ethical Issues in Sustainable Agriculture
- AGSC 416 Advanced Topics in Agronomy (Integrated Pest Management)
- AGSC 422 Grazing Animal Ecology
- BIOL 301 Introduction to Ecology
- BIOL 312 Local Flora
- BIOL 316 Entomology
- BIOL 317 Economic Botany
- BIOL 343 Oceanography
- BIOL 363 Human Ecology
- BIOL 364 Invertebrate Zoology
- BIOL 444 Independent Studies (Expanding Environmental Consciousness)
- BIOL 501 Limnology
- BIOL 502 Biometry
- BIOL 506 Ornithology
- BIOL 510 Ecology
- CHEM 222 Introduction to Quantitative Analysis
- CHEM 322 Instrumental Analysis
- NASC 140 Physical Geology
- Study Abroad
  - Environmental Science in Norway
  - Natural and Cultural History of St. Eustatius Island
  - Environmental Studies in Bali (through U. of Western Australia)

#### **Social Science**

GEOG, ECON, SOAN, PSYC coursework, research, special problems, or internship credit to be identified and in the future to include HIST, POL, and others to be added, including but not limited to

- ECON 307 Natural Resources Economics
- GEOG 310 Environmental Geography
- SOAN 320 Archaeology I: World Pre-History

### **Humanities**

PHRE and ENG/other L&L coursework, readings, research, special problems, or internship credit to be identified, including but not limited to

- ENG 226 World Literature: Topics (approved by topic)
- ENG 246 British Literature: Topics (approved by topic)
- ENG 266 American Literatures: Topics  
American Landscape  
American Lit in the Biosphere  
And other approved topics
- ENG 329 Topics in Non-Fiction Prose (approved by topic)
- ENG 498 Senior Seminar, Ecocriticism (and other approved topics)
- ENG 503 Gender Studies: Ecofeminism (and other approved topics)
- ENG 621 American Studies (approved by topic)
- PHRE 386 Studies in Philosophy and Religion (Environmental Ethics)

### **Interdisciplinary**

JINS coursework, internships that do not fit into any single discipline, and future environmental studies coursework, including but not limited to

- JINS 330 Environmental Economics: Issues and Policies
- JINS 335 Ecology Versus Land Use
- JINS 336 The Environment: (template)  
Border Crossings in South and Southeast Asian Forests  
Change in the Great Plains After Lewis and Clark  
Waterworld: Human Influences on Ecosystems  
The Neotropics in Science and Literature

## ENVS 2xx: Introduction to Environmental Studies

Introduction to Environmental Studies would be team-taught, with teaching responsibility rotating among the divisions and faculty members supporting the minor. For this reason, the specific readings, assignments, and other content will vary somewhat between offerings. This section of proposal presents a template outlining the core topics to be included in any instantiation of the course. The template is followed by a sample syllabus (Instructors David Murphy and Michael Kelrick) and this sample is, in turn, followed by an alternative set of readings, organized by Dennis Leavens, which a different team of instructors might use to teach the course.

### **Template for ENVS 2xx**

The following categories, in bold-face, are integrated into all versions of the Introduction to Environmental Studies course. Items under these categories are examples that may be addressed in a specific class, but are not meant to be exclusive or exhaustive.

#### **Setting the Problem**

This unit includes questions about what constitutes environmental questions and issues, the sources and interdependencies of these elements, the nature and size of the perceived problems, etc.

1. Rationale
2. Environmental History
3. The Green Perspective

#### **Worldviews; Ideological Roots**

This unit includes discussion of various foundational or formative ideas and ideologies with study of the impact of these worldviews on environmental issues.

1. Religious: Judeo-Christian-Islamic; Taoist; Hindu; Buddhist; Native American
2. Philosophical: Aristotle, Descartes, Spinoza, Marx, Nietzsche, etc.
3. Political: Locke, Rousseau, Marx, Gilman, etc.
4. Economic: Capitalism; Socialism; Marxism, etc.

#### **Relations of Humans and Non-Humans**

This unit addresses human nature, humans as biological, social, ideological, political and ecological beings, and their interdependence on other species, on the matter of the universe, on our sense of self. It asks questions about what does “human” mean? Should humans conceive themselves within a cosmic network of relations? What is the self, and what are the ecological construals of self? Etc.

1. Who are we?: Darwin, E. O. Wilson, Hardy, etc. -- the relations of humans and plants, humans and animals; the ecological senses of self – deep ecology, ecofeminism, etc.
2. Lifestyles: daily practices and decisions; the intersections of energy, food, etc.

#### **Case Studies**

This unit studies particular issues from various contending perspectives, addressing such topics as energy, matter, life, communities and ecosystems, resources and resource economics, public policies, etc.

1. Land Use
2. Climatology
3. Sustainability
4. Water Use and Rights
5. Environmental Law

**Student Presentations**

This unit includes the student work of the semester, practical and theoretical, active and reflective. Students educate each other and the faculty about a particular topic, problem, or issue.

ENVS 2xx  
Introduction to Environmental Studies  
(Murphy and Kelrick)

Nature is only to be commanded by obeying her.  
- Francis Bacon (1561-1626)

Thou shalt inherit the holy earth as a faithful steward, conserving its resources and productivity from generation to generation. Thou shalt safeguard thy fields from soil erosion, thy living waters from drying up, thy forests from desolation, and protect thy hills from overgrazing by thy herds, so that thy descendants may have abundance forever. If any shall fail in this stewardship of the land thy fruitful fields shall become sterile stony ground and wasting gullies, and thy descendants shall decrease and live in poverty or be destroyed from off the face of the earth.

- The Eleventh Commandment

W. C. Lowdermilk (1940, American Forests 46:12-15)

## SYLLABUS

Instructors: Michael Ira Kelrick, David Murphy, and other qualified instructors.

### Objectives

We will study a variety of perspectives on humans and nature, examining questions such as "Do non-human species, or features of the landscape, have intrinsic value?" and "Can (scientific) knowledge affect behavior?". We will attempt to develop an understanding of the resources offered by humanities scholars, social and natural scientists for addressing such questions, as well as the information available from scientists assessing the state of our planetary inheritance. Particular topics addressed include, for example, food production, loss of biological diversity, and energy generation/use. Public policy (including economic, cultural and sociological considerations) regarding these and other environmental issues like proliferation of industrial toxics and conservation of endangered species will also be addressed. We intend to facilitate informed critical reflection on central issues pertaining to the environment, in part by increasing empirical knowledge of these issues.

### Reading

The following text is required for the course.

Goldfarb, T. 2000. Sources: Notable selections in environmental studies. Dushkin/McGraw-Hill, Guilford, CT, USA. (Listed as **ES** in the reading assignments.)

In addition, many other selected readings will be placed on two-hour reserve at the circulation desk of Pickler Library.

## Course Requirements

1) **Informed participation** -- Class discussions will form the heart of this course; lecturing by the instructors will be minimal. Without your consistent investment in carefully reading the assigned material, **as well as thinking about it and then maybe even reading it again**, the discussions will be lackluster and uninspired at best. For each meeting, each student should bring to class a thoughtful (as opposed to a superficial), written question or comment pertaining to the reading, that will serve as a catalyst for discussion. While these will not be collected, your readiness, and your contribution's quality, will be part of the evaluation of your participation. Within reason, you can be excused from this requirement on a given day, provided that you communicate your difficulty to one of the instructors **in advance of the class**. (30%)

2) **Classtime presentation** -- This involves a class presentation based on a written paper of approximately 4 pages. In this paper, students are to isolate an important issue pertaining to the assigned common readings for the week and develop an informed, critical response. **The paper is not to be a summary of the common readings**, but should relate to them. Students are encouraged to draw on sources beyond the assigned readings. The paper should include notes and citations where appropriate. This paper is due a week after the presentation, so that there is opportunity for refinement of the initial paper upon which the presentation was based. The presentation will be reviewed by a couple of students and presenters are asked to submit a brief response to commentary a week after the presentation, partly as evidence of the revision process. (25%)

3) **Short reflective paper from personal experience** -- For those students who wish, one instructor (MIK) will organize an overnight woodlands experience, during which students will, as individuals, expose themselves to a night-long vigil of solitude and reflection. Presumably, this experience would provide the basis for the paper. For those students eschewing this opportunity, some other personal experience prompting reflection upon the human posture toward nature can be the source for the paper. (10%)

4) **Term research paper and oral presentation** -- This is a major research paper (10 to 15 pages). Students will be encouraged to work in pairs on this project. Students will submit a rough draft of the paper by the sixth week of course. Following review of that draft, student will have the opportunity to revise. All students will present the ideas in their papers to the rest of the class during the final 2 weeks of the course. Further guidelines will be provided later in the course. (35% total; 25% for the written version, 10% for the oral presentation)

5) The final item, pertaining to those intending to complete a minor in Environmental Studies, is a completion requirement that will not otherwise be factored into the course grade. Each student needs to submit a carefully devised plan of action for completion of the minor in Environmental Studies.

## Schedule of topics and readings

### **Week 1 UNIT I** Introduction to the course and to the Environmental Studies minor

### **Weeks 1 & 2 UNIT II** Setting the Problem

#### **II.1** A rationale for the semester's endeavors

Orr, D. W. 1994. Earth in mind: on education, environment and the human prospect. Island Press, Covelo, CA, USA. Pp. 1-34 (Introduction and Chapters 1-3).

**ES** Chapter 1, "Preservation vs. Conservation", pp. 3-18:

Muir, J. "Hetch Hetchy Valley"

Pinchot, G. "Principles of Conservation"

Leopold, A. From A Sand County Almanac: And Sketches Here and There.

**ES** Chapter 2, "Fundamental Causes of Environmental Problems":

Hardin, G. From "The Tragedy of the Commons"

Vitousek, P. et al. From "Human Domination of Earth's Ecosystems"

#### **Week 2 II.2** What is at stake?

Carson, R. 1962. Silent spring. Fawcett Publications, Inc., Greenwich, CN, USA. Pp. 244-262 (The other road).

Soulé, M. E. 1988. Mind in the biosphere; mind of the biosphere. Pp. 465-469 in E. O. Wilson (ed.). Biodiversity. National Academy Press, Washington, D. C., USA.

**ES** Chapter 3, "Ecology and Ecosystems", pp. 69-85:

Hutchinson, G. From "Homage to Santa Rosalia, or Why Are There So Many Kinds of Animals?"

Odum, E. From "Great Ideas in Ecology for the 1990s"

Chapter 4, "The Hydrosphere and the Geosphere", pp. 86-102:

Teal, J. and M. Teal. From Life and Death of the Salt March.

Pilkey, O. From "Geologists, Engineers, and a Rising Sea Level"

### **Weeks 3 UNIT III** Worldviews; Ideological Roots

#### **III.1** Differing attitudes to nature: Ideological roots

Selections from

Coulson, J., D. H. Whitfield, and A. Preston (eds.). 2003. Keeping things whole: Readings in environmental science. The Great Books Foundation, Chicago, IL, USA.

Descartes, R., Clements, F., Tansley, A., Leopold, A., Lovelock, J., Miller, G., Vernadsky, V..

#### **Week 4 III.2** Differing attitudes to nature: Worldviews

##### **III.2.a**

##### Abrahamic traditions

Cobb, J. 1992. The debate among those beyond anthropocentrism. Pp. 100-118 in Sustainability: economics, ecology, and justice. Orbis Books, Maryknoll, NY, USA.

Solomon, N. 1994. Judaism. Pp. 101-131 in J. Holm (ed., with J. Bowker). Attitudes to nature. Pinter

Publishers, New York, NY, USA.

White, L. from “The Historical Roots of Our Ecological Crisis”, **ES** Chapter 2, “Fundamental Causes of Environmental Problems”, pp. 19-27.

**Weeks 4 & 5** Differing attitudes to nature: Worldviews

**III.2.b**

Asian perspectives on Nature

Ames, R. T. 1989. Putting the *Te* back into Taoism. Pp. 113-144 in J. B. Callicott and R. T. Ames (eds.). *Nature in Asian traditions: essays in environmental philosophy*. State University of New York, Albany, NY, USA. Pp. 141-143 (Taoism as a conceptual resource for an environmental *ethos*).

Harris, I. 1994. Buddhism. Pp. 8-27 in J. Holm (ed., with J. Bowker). *Attitudes to nature*. Pinter Publishers, New York, NY, USA.

Lao Tzu, *Te-Tao Ching*. Translated and edited by R. G. Henricks. 1989. Ballantine Books, New York, NY, USA. Pp. xviii-xxxii, 7-89.

Wei-ming, T. 1989. The continuity of being: Chinese visions of Nature. Pp. 67-78 in J. B. Callicott and R. T. Ames (eds.). *Nature in Asian traditions: essays in environmental philosophy*. State University of New York, Albany, NY, USA.

**Weeks 5 & 6** Differing attitudes to nature: Worldviews

**III.2.c**

Selected Western philosophical perspectives

Annas, J. “Aristotle: Nature and Mere Nature” in *The Morality of Happiness*. 1993. Oxford University Press, Oxford and New York. Pp. 142-158.

Spinoza, B. *Ethics in The Collected Works of Spinoza*, Vol. I. Translated by E. Curley. 1985. Princeton University Press, Princeton, N.J. Pp. 408-419.

Kant, I. *Critique of judgement*. Translated by W. S. Pluhar. 1987. Hackett Publishing Company, Indianapolis, IN, USA. Pp. 324-330.

Kant, I. *Lectures on philosophical theology*. Translated by A. W. Wood and G. M. Clark. 1978. Cornell University Press, Ithaca, NY, USA. Pp. 74-76, 86.

Nietzsche, F. *Beyond good and evil*. Translated by R. J. Hollingdale. 1990. Penguin Books, London, UK. P. 39.

**Week 6** Differing attitudes to nature: Worldviews

**III.2.d**

Evolutionary perspectives: The biophilia hypothesis

All selections are taken from:

Kellert, S. R. and E. O. Wilson (eds.). 1993. *The biophilia hypothesis*. Island Press, Covelo, CA, USA.

Prelude (McVay), Introduction (Kellert), Chapters 1 (Wilson), 4 (Heerwagen and Orians) and 15 (Soulé).

## **Week 7 UNIT IV Human sustenance**

**ES** Chapter 12, “Food”, pp. 257-280

Berry, W. “The Agricultural Crisis as a Crisis of Culture”

Lappé, F.M. and Collins, J. “Hasn’t the Green Revolution ‘Bought Us Time’?”

Brown, L. From “Food Scarcity: An Environmental Wakeup Call”

**ES**, Chapter 13, “Pest Control”, pp. 286-292:

Van den Bosch, R. From The Pesticide Conspiracy and/or alternative selection[s], e.g., on evolution of pesticide resistance and/or genetically modified crops).

## **Week 8 UNIT V Political and economic issues**

Boserup, E. 1965. From The Conditions of Agricultural Growth. London: Allen & Unwin.

Costanza, R., R. d’Arge, and R. de Groot. 1997. The value of the world’s ecosystem services and natural capital. *Nature* 387:253-260.

Goulder, L. H. and D. Kennedy. 1997. Valuing ecosystem services: Philosophical bases and empirical methods. Pp. 23-47 in G. C. Daily (ed.). *Nature’s services: Societal dependence on natural ecosystems*. Island Press, Washington, D.C., USA.

Harvey, David. 1974. Population, resources, and the ideology of science. Economic Geography 50: 256-277.

## **Week 9 UNIT VI Atmospheric change / climate change**

**ES** Chapter 9, “Global Warming and Ozone Depletion”, pp. 191-216:

Molina, D. and F. Rowland. From “Stratospheric Sink for Chlorofluoromethanes: Chlorine Atomcatalysed Destruction of Ozone”

Benedick, R. From Ozone Diplomacy: New Directions in Safeguarding the Planet

The Intergovernmental Panel on Climate Change. From “Summary for Policymakers: The Science of Climate Change—IPCC Working Group I”

## **Week 10 UNIT VII Energy**

**ES** Chapters 5 and 6, “Energy and Ecosystems” and “Renewable and Non-renewable Energy”, pp. 105-135:

Juday, C. From “The Annual Energy Budget of an Inland Lake”

Fowler, J. From Energy and the Environment.

Lovins, A. From Soft Energy Paths: Toward a Durable Peace.

Flavin, C. and S. Dunn. From “Reinventing the Energy System”

Bartlett, A. A. 1978. Forgotten fundamentals of the energy crisis. *American Journal of Physics* 46:876-888.

Vitousek, P. M., P. R. Ehrlich, A. H. Ehrlich and P. A. Matson. 1986. Human appropriation of the products of photosynthesis. *Bioscience* 36:368-373.

**Week 11 UNIT VIII Case studies**

Topics to be generated by the class. Watersheds, cited below, contains several candidate topics; alternatively, a book could serve as focal point, as illustrated by those listed below.

Newton, L. H. and C. K. Dillingham. 1993. Watersheds: classic cases in environmental ethics. Wadsworth Publishing Company, Belmont, CA, USA. (on library reserve)

Hecht, Susan, and Alexander Cockburn. 1989. The Fate of the Forest. London: Penguin Books.

Peluso, Nancy Lee. 1992. Rich Forests, Poor People: Resource Control and Resistance in Java. Berkeley: University of California Press.

**Week 12 UNIT IX Human population growth**

Tiffen, Mary, Michael Mortimore, and Frances Gichuki. 1992. Environment, population growth and productivity in Kenya: A case study of Machakos District. Development Policy Review 10 (4): 359-89.

**ES** Chapter 11, "Population Control Controversies", pp. 235-254:

Hartmann, Betsy. From Reproductive Rights and Wrongs: The Global Politics of Population Control

Simon, Julian. From The Ultimate Resource

Cohen, Joel. From How Many People Can the Earth Support?

**Week 13 UNIT XII Relations of human and non-humans: Who are we?; Lifestyles**

Darwin, C. The Descent of Man and Selection in Relation to Sex. 1981. Princeton University Press, Princeton, NJ. Pp. 70-86.

Midgley, M. Beast and Man: The Roots of Human Nature. 1978. Meridian, New York, NY. Pp. 321-362

Panksepp, J. "A Brief Discussion of the Ethics of Animal Research," in Affective Neuroscience: The Foundations of Human and Animal Emotions, 7.

Shepard, P. 1996. Phytoresonance of the true self. Pp. 27-32 in Traces of an omnivore, Island Press, Washington, D.C., USA.

**Weeks 14 & 15 Research project presentations**

ENVS 2xx  
Introduction to Environmental Studies  
**Alternative Readings**

**Week 1: Setting the Problem: A Sketch of Environmental History**

- A. Aldo Leopold, selections from *A Sand County Almanac*;
- B. Rachel Carson, selections from *Silent Spring*;
- C. David Orr and David Ehrenfeld, "None So Blind: The Problem of Ecological Denial," in *Conservation Biology*, vol 9, no. 5 (October 1995), pp 985-987.

**Week 2: Worldviews; Ideological Roots – Some General Orientations**

- A. Genesis;
- B. Selected Suras from *The Qur'an*: <http://www.hti.umich.edu/k/koran/>;
- C. Aristotle, "The Purpose of Nature";
- D. St. Augustine, from *The City of God*;
- E. *The Hopi Myth of Creation*

**Week 3: Worldviews; Ideological Roots – One Particular Discussion**

- A. *Tao Te Ching*, translated by Ellen Chen;
- B. J. B. Callicott and R. T. Ames, selections from *Nature in Asian Traditions: Essays in Environmental Philosophy*.

**Week 4: Worldviews; Ideological Roots -- Property and Ownership**

- A. John Locke, selections from *The Second Treatise of Government*;
- B. Jean Jacques Rousseau, "The Nature of Private Property";
- C. Charlotte Perkins Gilman, selections from *Women and Economics*  
<http://digital.library.upenn.edu/women/gilman/economics/economics.html>)

**Week 5: Worldviews; Ideological Roots -- Nature and Civilization**

- A. Henry David Thoreau, excerpts from *Walden*;
- B. Ralph Waldo Emerson, *Nature*;
- C. Paul Ehrlich, selections from *The Population Bomb*;
- D. Garrett Hardin, "The Tragedy of the Commons";
- E. Ynestra King, "Feminism and the Revolt of Nature"

**Week 6: Public and Social Contexts: Environmental Justice and the Law**

- A. Peter Wenz, selections from *Environmental Justice*;
- B. Bunyan Bryant, selections from *Environmental Justice: Issues, Policies and Solutions*;
- C. Robert Bullard and Benjamin Chavis, editors, selections from *Confronting Environmental Racism: Voices from the Grassroots*

**Week 7: Public and Social Contexts: Environmental Justice and the Law**

- A. Report from the Environmental Law Institute: "Planning for Biodiversity: Authorities in State Land Use" <http://www.eli.org/>
- B. Report from the Environmental Law Institute: "Reporting on Climate Change: Understanding the Science" <http://www.eli.org/>

**Week 8: Case Study: Land Use**

- A. The Carbon Cycle: from the Woods Hole Research Center,  
<http://www.whrc.org/science/carbon/carbon.htm>;

- B. G. M. Woodwell, "The Energy Cycle of the Biosphere," *Scientific American*, Vol. 223, No. 3 (Sept. 1970);
- C. Ester Boserup, *The Conditions of Agricultural Growth: the Economics of Agrarian Change under Population Pressure*;

Week 9: **Case Study: Land Use**

- A. Mike Stocking, "Measuring Land Degradation" in Piers Blaikie and Harold Brookfield, editors, *Land Degradation and Society*
- B. Melissa Leach and Robin Mearns, editors, selections from *The Lie of the Land: Challenging Received Wisdom on the African Environment*

Week 10: **Case Study: Climatology**

- A. Selections from the Intergovernmental Panel on Climate Change, selections from the 2001 Report, <http://www.ipcc.ch/>
- B. W. Schlesinger, "The Global Carbon Cycle," in *Biogeochemistry: An Analysis of Global Change*

Week 11: **Case Study: Sustainability**

- A. Martin Holdgate, selections from *From Care to Action: Making a Sustainable World*;
- B. Mark Roseland, selections from *Toward Sustainable Communities: Resources for Citizens and Their Governments*;

Week 12: **Case Study: Sustainability**

- A. Carolyn Sachs, editor, selections from *Women Working in the Environment*;
- B. Stuart Harris, "A Native American Perspective on Sustainable Infrastructures" <http://www.iiirm.org/publications/EnvProt/SD-Cornell-2.PDF>

Week 13: **Relations of Humans and Non-Humans**

- A. Lester Milbrath, selections from *Envisioning a Sustainable Society: Learning Our Way Out*;
- B. Charles Darwin, selections from *The Descent of Man*;
- C. E. O. Wilson, selections from *On Human Nature*;
- D. Sarah Blaffer Hrdy, selections from *The Woman That Never Evolved*

Week 14: **Student Presentations**

Week 15: **Student Presentations**

## ENVIRONMENTAL STUDIES 4XX: SEMINAR IN ENVIRONMENTAL STUDIES

### General Information:

Instructor:

*Office:*

*e-mail:*

*website:*

*phone:*

Office Hours:

Class Schedule:

1 credit hour

### Course Information:

Course Materials

To be assigned or distributed in class.

Course Content:

The main focus of this course is the presentation of capstone projects by students pursuing the environmental studies minor. These projects have been completed as an extension of a previous course or during activities approved by the environmental studies minor committee.

The subjects covered in this course will depend on the capstone projects done by the students. In general, the following will be required of the students over the course of the semester:

- In-class discussion of selected readings in environmental studies
- Oral presentations of capstone projects by environmental studies minors
- Discussion of fellow students' capstone projects
- Written summary of capstone project prepared for archives

To help satisfy the requirement of the environmental studies minor that capstone projects include an attempt to reach a target audience for the project, students may wish to invite an appropriate outside audience (for example, students in ENVS 2xx, elementary school teachers, community members) to attend their presentations. The students in the seminar may also be able to participate in ENVS 2xx, Introduction to Environmental Studies, by presenting their projects to introductory students or helping with discussions.

In addition to student presentations, the course will involve discussion of selected readings in environmental studies. These readings may include some that have been reviewed in Introduction to Environmental Studies to help students integrate what they have learned in other elective classes into environmental studies. Readings will be assigned prior to class and classroom discussions will focus on both background readings and presentations by faculty member or outside speakers.

As time and opportunity permit, the class may also go on field trips to sites or events of environmental importance (for examples, recycling center, conference by Missouri Department of Natural Resources, water treatment plants) or outside speakers may be

invited to speak to the class. Speakers may include representatives from organizations on and off campus or students who have previously completed the seminar course.

## Grading

Capstone Project Presentation  
 Abstract of Project  
 Class Participation

## Sample Schedule

| Week | Presenter       | Topic                                 | Notes                        |
|------|-----------------|---------------------------------------|------------------------------|
| 1    | Faculty         | Introduction to Course                |                              |
| 2    | Faculty         | Review of Previous Topics in Archives | Reading assigned             |
| 3    | Faculty         | Example topic                         |                              |
| 4    | Former student  | Example topic                         | Reading assigned             |
| 5    | Sierra @ Truman | Presentation on Stream Team Work      | Reading assigned             |
| 6    | Field Trip      | Visit to Truman recycling center      |                              |
| 7    | Student         | Capstone Project                      | Student gives background     |
| 8    | Student         | Capstone Project                      | Student gives background     |
| 9    | Student         | Capstone Project                      | Student gives background     |
| 10   | Student         | Capstone Project                      | Student gives background     |
| 11   | Student         | Capstone Project                      | Student gives background     |
| 12   | Student         | Capstone Project                      | Student gives background     |
| 13   | Student         | Capstone Project                      | Student gives background     |
| 14   | Student         | Capstone Project                      | Student gives background     |
| 15   | Faculty         | Review of capstone projects           | <b>Written component due</b> |