

## NEW ENVIRONMENT-RELATED COURSES AT MSU FOR SPRING 2010

The new courses below are those for which ESPP have received detailed descriptions. A comprehensive listing of **all** Spring 2010 environment-related courses, including some new ones for which we don't have detailed descriptions, is available [here](#):

Courses described below address, in order:

- 1) **Animals, People and Nature**
- 2) **Sustainable Development: Measuring Socioeconomic Well Being**
- 3) **Ecolabels & Sustainability**
- 4) **Business, the Environment and Sustainability**
- 5) **The History of the American Conservation Experience**
- 6) **Human-Environment Modeling with Agent-Based Modeling Focus**
- 7) **Seminar in Philosophy of Science: Values and Scientific Evidence**
- 8) **Science, Technology, Medicine and Society**

1)  
**Animals, People and Nature**  
ACR 823  
Linda Kalof  
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This graduate seminar will be centered on one of the most fiercely debated topics in contemporary science and culture: the animal question – or, what is the fitting role of animals in human culture and of humans in animal culture? From an interdisciplinary perspective we will discuss: animals as philosophical subjects and reflexive thinkers; animals as domesticates, “pets” and food; animals as scientific objects; and animals as spectacle and sport. We will also explore the thorny question of the meaning of nature and its reconfiguration from a binary purified category to a fluid nature-culture network composed of actants-in-relation. The primary text is *The Animals Reader: The Essential Classic and Contemporary Writings* (edited by Linda Kalof & Amy Fitzgerald), 2007. The course can be used as an elective requirement for the graduate specialization in Animal Studies: Social Science & Humanities Perspectives: see <http://animalstudies.msu.edu>.

2)  
**Sustainable Development: Measuring Socioeconomic Well Being**  
ACR 824  
Robert Richardson  
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This graduate course in sustainability will focus on the economic dimension of sustainable development, with an emphasis on indicators of sustainability. Graduate student members of the class will study and understand the inherent problems with gross domestic product as a measure of welfare and socioeconomic well-being, and explore alternative indicators that consider changes in social capital, natural capital, and the distribution of income in regional development. In addition to the educational objectives, the course will also involve a research component. Graduate student members of the course will work together in the data collection and analysis for the calculation of the Genuine Progress Indicator (GPI) for Michigan and several counties

The GPI incorporates income distribution, non-market values, costs of environmental degradation, and other components that are not included in the GDP. The outcome of the course will be a report that we will aim to publish in a refereed journal, co-authored by the students in the course.

3)

**Ecolabels & Sustainability**

ACR 891-004

Phil Howard

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Ecolabels are voluntary identifiers on goods and services that represent ecological and/or social criteria. This course will explore the opportunities and challenges of ecolabelling as a market-based strategy to achieve sustainability goals. The perspectives of both producers and consumers will be examined, spanning disciplines including sociology, economics, political science, geography and ethics. The strengths and weaknesses of various ecolabels, as well as the approach in general, will be critically assessed using case studies from industries including agriculture, fisheries, forestry, energy, and tourism.

Course Objectives: Provide students with an overview of the literature addressing the ecolabelling approach; Develop an understanding of the sustainability issues addressed by various ecolabels; Develop a scholarly capacity for analyzing ecolabels from a multi-disciplinary perspective

Course Approach: The course is organized as a small seminar with a commitment to developing collaborative learning among all who participate.

4)

**Business, the Environment and Sustainability**

AEC 891-002/SCM 815

Satish Joshi

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Over the past four decades, businesses have been dealing with environmental issues, beginning with compliance with a large number of increasingly stringent environmental regulations. While environmental problems have traditionally been viewed as business risks, providing effective solutions for environmental problems can also create major business opportunities. Corporations are also being challenged to create new, environmentally-sustainable and socially-responsive organizations, while maintaining and improving shareholder value.

In this course, we will view environmental issues from a business management perspective. We will focus on analytical techniques, management processes and business strategies that aid successful reconciliation of environmental and economic performance goals for businesses. Through a combination of real-life cases, readings, lectures, videos, and simulations, class discussions are aimed at developing holistic models of corporate environmental management, covering regulatory structure, compliance, environmental risk management, risk communication, green marketing, product stewardship, environmental management systems, business redefinition and emerging green business opportunities.

5)

**The History of the American Conservation Experience**

ANR 491 – 002

Mark Rey, former Under Secretary for natural resources and environment

Contact: Mark Rey ([markrey8@aol.com](mailto:markrey8@aol.com)) or Kelly Millenbah ([millenba@msu.edu](mailto:millenba@msu.edu)).

This course will review the history of the United States conservation experience from 1491 through the present day. The course will cover major periods important in the development of US natural resources policy. The evolution of US policy in this area is subject to five, ongoing tensions: (1) centralization vs. decentralization; (2) free market forces vs. regulation by the government; (3) the importance of science in natural resources decisions vs. the provision of public participation in these decisions; (4) private property rights vs. the public interest; and (5) globalization vs. isolation. The course will explore how these ongoing tensions affected the outcomes of policy development in each period of importance in the natural resources area.

6)

**Human-Environment Modeling with Agent-Based Modeling Focus**

GEO 890-001

Arika Ligmann-Zielinska

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Have you ever wondered how human impact on the environment changes in time and space? Would you like to explore the spread of Smallpox in fast motion? Do you find traditional modeling inadequate for representing an ever-changing world?

The Human Environment Modeling course provides an opportunity to address all of these challenges. It has been designed as a hands-on course for every graduate student who seeks knowledge and skills useful in understanding and solving complex social-environmental problems. Specifically, it focuses on agent-based modeling of complex coupled human and natural systems.

You will be introduced to Python programming language, which provides a comprehensive and easy computational toolbox useful for rapid model development. Additionally, you will be exposed to a user-friendly open source GIS-based agent toolbox called Agent Analyst. A final project will involve developing tools and performing analyses that address a research problem of your choice. It is a great opportunity to make theoretical and practical advancements towards your thesis.

NEW This edition will focus on exploring a variety of decision making architectures: from simple logic, through utility maximization, to evolutionary computation, and even more!

7)

**Seminar in Philosophy of Science: Values and Scientific Evidence**

PHL 880-1

Daniel Steel

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According to tradition, judgments of scientific evidence should be isolated from the influence of non-epistemic values that stem from the broader social context in which scientists work. But this traditional perspective has been challenged by a number of philosophers going back at least as far as the 1950s. In this seminar, we will examine the question of what role, if any, non-epistemic values should play in scientific judgments concerning the interpretation of evidence. We will begin by studying the leading accounts of evidence found in the philosophy of science literature. Then we will consider arguments that non-epistemic values should influence scientific assessments of evidence, and will examine the extent to which such arguments are compatible with the various accounts of scientific evidence studied in the first part of the class. Finally, we will take a close look at several cases--including climate change and toxic chemicals--in which the interaction of social values and scientific evidence is very prominent.

8)

**Science, Technology, Medicine and Society**

SOC 868

Chris Ganchoff

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This graduate-level seminar is an introduction to sociological approaches to science, technology, & medicine studies (ST&Ms). We will examine ST&M as social institutions, and look at different ways of researching and analyzing forms of scientific knowledge production. The course will proceed historically, beginning with early work at the start of the 20<sup>th</sup> century, and move through the major theoretical, conceptual, and methodological innovations that have occurred until the (near) present. The course will draw examples largely from the life and biomedical sciences, but we will also look at work on the physical sciences, computer science / information technology, and economics. Other substantive areas include

food, diet, disability studies and embodiment, race and gender in/and science, and health / science social movements.

...Many of these theories / theorists have moved outside of sociology, and now researchers in many disciplines use ST&Ms approaches. This course will also be valuable to graduate students who are researching technical worlds, or doing fieldwork involving some aspect of science, technology, or medicine.