

**(79-263) From Soil to Oil:  
Energy, Ecology, and Globalization**

**Meeting Time:** M, W, F 12:30 – 1:20

**Meeting Place:** BH 237B

**Instructor:** Associate Professor John Soluri

**Office Hours:** Wed. 4-5 PM and by appointment

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**Course Description**

Both critics and advocates of globalization agree that the contemporary world is characterized by the accelerated movement of capital, goods, and people across borders. All of this movement, whether it occurs across physical or virtual space, requires energy - lots of energy. For most of recorded history, human societies derived energy from a “biological regime” that included soils, plants, animals, and water. This started to change more than two hundred years ago when people in England began to heat their homes with coal. However, a global shift to fossil fuels did not take place until after World War II when agriculture, manufacturing, and transportation systems became heavily dependent on coal, oil, and gas. The transition to a “fossil fuel regime” enabled unprecedented rates of consumption and wealth accumulation while contributing to equally unprecedented rates of ecological change. This course will use lecture, readings, film, and fieldtrips to explore the political, economic, and ecological dimensions of this great transformation in a variety of geographical contexts including Brazil, China, England, India, the Middle East, Mexico, Nigeria, Venezuela, and the United States.

**Required Books. All are available for purchase in the UC bookstore.**

Brian Black, *Petrolia: The Landscape of America's First Oil Boom*. Baltimore: The Johns Hopkins University Press, 2000. ISBN: 0801877326

Richard White, *The Organic Machine*. Hill and Wang (1996) ISBN: 0809015838

**All other readings are available as PDFs accessible via the course Blackboard site.**

## Course Requirements/Evaluation

**Class Participation (20 points):** Regular attendance and active participation are required. Fridays will be devoted to group discussions but questions and comments are welcome during lectures. Note that participation involves both sharing your comments and listening to the thoughts of classmates. **Fieldtrips:** I will arrange two or three fieldtrips. Everyone must attend at least one fieldtrip in order to get credit for class participation. Details to follow soon.

**3 Short Papers (40 points total):** I will distribute paper questions based on the readings. The topics will be analytical in nature, requiring you to demonstrate an understanding of authors' arguments and their implications for sustainable energy systems. The final paper will ask you to draw overall conclusions about the past and future of global energy use. Due dates: Paper 1 (1200 words): Sep. 15<sup>th</sup>; Paper 2 (1200 words): Oct. 27<sup>th</sup>; Paper 3 (2000 words) Dec. 8<sup>th</sup>.

**2 Exams (40 points):** These will consist of short answer questions that require you to demonstrate your understanding of key course concepts and analytical skills. Study guides will be distributed in advance. Exam dates: Oct. 2<sup>nd</sup> and Nov. 20<sup>th</sup>.

**Note:** Acts of plagiarism, including reproducing text from websites and paraphrasing from another source (including other students) without proper citation, will lead to harsh consequences such as failure to receive credit for the course. If you are unclear what constitutes plagiarism, please consult *The Word*, the undergraduate student handbook.

## Course Calendar

Aug 28 (M) Introductions

Aug 30 (W) Lecture: Global Trends in Energy Production and Consumption

Sep 1 (F) Discussion: Environmental Problems Go Global

Readings: Frank J. Lechner and John Boli eds. *The Globalization Reader*, 366-372; and 398-403 (PDF); and student articles

**Sep 4 (M) Labor Day: No Classes**

Sep 6 (W) Lecture: What is Energy? Reading: Robert Bent, Andrew Bacher, and Ian Thomas eds. *Energy: Science, Policy, and the Pursuit of Sustainability*, 11-36 (PDF).

Sep 8 (F) Lecture: Carbon Cycles and Energy Flows in Ecosystems. Reading: John Vandermeer, *Reconstructing Biology*, 196-210 (PDF).

Sep 11 (M) Lecture: Life Before Fossil Fuels: Agriculture

Sep 13 (W) Lecture: Life Before Fossil Fuels: Transportation

**Sep 15 (F) P1 DUE** Discussion: Vaclav Smil, *Energy in World History*, 223-256 (PDF); and J.R. McNeill, *Something New Under the Sun*, 3-17 (PDF).

Sep 18 (M) Lecture: Coal in Britain: Explaining the Great Transition

Sep 20 (W) Lecture: Social and Environmental Impacts of Coal in Britain

Sep 22 (F) Discussion: Barbara Freese, *Coal: A Human History*, pp. 15-101.

Sep 25 (M) Lecture: Coal in China: A Great Divergence?

Sep 27 (W) Discussion: Comparing Coal's Social and Environmental Impacts  
Readings: "Report from the Select Committee on Coal Mines" (Hand-out); and contemporary reports on Chinese coal mines.

Sep 29 (F) Discussion: Field Trip (TBA)

Oct 2 (M) Lecture: Oil Before Petroleum

Oct 4 (W) Video: *The Prize: The Epic Quest for Oil, Money, and Power*.

Oct 6 (F) Discussion: Video and Brian Black, *Petrolia*, pp. 1-59.

Oct 9 (M) Discussion: Brian Black, *Petrolia*, pp. 60-139.

Oct 11 (W) Lecture: Petroleum's Impact on Agriculture and Transportation

Oct 13 (F) Discussion: Reading: Brian Black, *Petrolia*, pp. 140-197.

**Oct 16 (M) EXAM 1**

Oct 18 (W) Field Trip to Oil City (TBA)

**Oct 20 (F) Mid-semester Break**

Oct 23 (M) Lecture: Petro-Politics in the Middle East (video)

Oct 25 (W) Lecture: Black Magic: OPEC, Oil and Development

**Oct 27 (F) P2 DUE** Discussion: Reading: Joshua Hammer (1996) "Nigeria Crude," *Harper's Magazine* (PDF); Dara O'Rourke and Sarah Connolly (2003) "Just Oil? The Distribution of Environmental and Social Impacts of Oil Production and Consumption," *Annual Review of Environment and Resources* (PDF).

Oct 30 (M) Lecture: The Ecology of Dams

Nov 1 (W) Dams and Rural Electrification

Nov 3 (F) Discussion: Richard White, *The Organic Machine*.

Nov 6 (M) Lecture: The Politics of Hydropower in Brazil

Nov 8 (W) Lecture: The Politics of Hydropower in India

Nov 10 (F) Discussion: John R. Wood, "India's Narmada River Dams: Sardar Sarovar under Siege," *Asian Survey* (PDF); and Sanjeev Khagram, *Dams and Development*, 142-159 (PDF).

Nov 13 (M) Lecture: The Nuclear Option: "Atoms for Peace"

Nov 15 (W) Lecture: Nuclear Power and France's Energy "Independence"

Nov 17 (F) Discussion: Jon Palfreman, "Why the French Like Nuclear Power," (PDF); and Anders Pape Moller and Timothy A. Mousseau "Biological Consequences of Chernobyl," *Trends in Ecology and Evolution* (PDF).

**Nov 20 (M) EXAM 2**

**Nov 22, 24 (W) NO CLASS: Thanksgiving Holiday**

Nov 27 (M) Lecture: Alternative Energies: Technologies

Nov 29 (W) Lecture: Alternative Energies: Political-Economies

Dec 1 (F) Discussion: Alternative Energies: Cultures  
Reading: Robert Costanza, "Toward an Ecological Economy;" and United Nations Development Program, *World Energy Assessment* (2004)

Dec 4 (M) Lecture: Field Trip/Guest Lecturer (TBA)

Dec 6 (W) Lecture: Something New Under the Sun?

**Dec 8 (F) P3 DUE** Discussion: Student essays