



Energy, Technology and Society

ENSP 330 • Fall 2007 • Rocky Rohwedder, Ph.D

Department of Environmental Studies and Planning, Sonoma State University

ABOUT THIS PROFESSOR

www.sonoma.edu/ensp/rocky

- here you'll find my contact information (phone, email, etc), bio, blog, web links, course information, and student advising resources.

COURSE DESCRIPTION

From escalating oil prices to regional nuclear power disputes to global climate change, the global connections between energy choices and human well-being have never been more apparent and critical. While projections for increasing energy consumption are often startling and sometimes bleak, emerging technologies and new ways of thinking about the role of energy in developed and developing countries offer hope for the future. This interdisciplinary course explores the pivotal role of energy supply, use, and technology in economic development, geopolitics, and environmental futures. We will draw upon insights from a variety of disciplines, including history, environmental science, ethics, physics, political science, and economics to investigate energy and technology issues.

Methods of evaluation will be two midterms (20%, 25%) and a final exam (30%), homework (15%) and group presentation (10%).

PRIMARY COURSE OBJECTIVES

- To provide a foundation of key concepts necessary to understand what energy is and how it powers ecological and societal systems.
- To provide students with the conceptual and analytical skills to understand the role of energy in historical and contemporary society.
- To explore traditional industrial paradigms and emerging sustainable paradigms of energy.

REQUIRED TEXT

Hinrichs and Kleinbach, *Energy: Its Use and the Environment* (4th Edition, Thomson Brooks/Cole 2006). ISBN: 0-495-01085-5 Try <http://www.bestwebbuys.com> and enter the ISBN #. Prices range from \$25 - \$125. Be sure to get the U.S. (not international) edition.

Additional assigned reading from handouts and web links to online articles will also be required.

COURSE SCHEDULE

This is a tentative, estimated schedule. Our mileage will vary depending on how we drive.

August	21/23	Welcome and Class Logistics, The Environmental Technology Center, and Energy Connections
	28/30	Terms, Patterns, and Global Trends (CHAPTER 1)
September	4/6	Energy Mechanics, Forms and Conversions (CHAPTER 2)
	11/13	Energy Laws and Efficiency (CHAPTER 3)
	18/20	Energy Laws <i>continued</i> , Heat and Temperature (CHAPTER 4)
	25/27	Catch Up, Review and Midterm #1
October	2/3	Energy History
	9/11	Conventional Sources: Oil, Coal, Natural Gas and Nuclear Power (CHAPTERS 7, 13 and 14)
	16/18	Conventional Sources <i>continued</i>
	23/25	Climate Change (CHAPTER 9)
	30/1	Catch Up, Review and Midterm #2
November	6/8	Student Presentations
	13	Presentations <i>continued</i> , No class Nov 15
	20	Presentations <i>continued</i> , No class Nov 22 (Thanksgiving Holiday)
	27/29	Efficiency Revolution and moving Beyond Oil
December	4/6	Course Summary, Wrap Up, Evaluation
	13	Final Exam, 2 – 3:50 pm