



Essentials of Energy: Resources, Policies and Politics **Howard Schwartz**

Spring, 2005
Four Credits

Thursdays, 6-10 PM
Sem2 A2107

Syllabus

Course Description

Are we running out of oil or are we running out of environment? Are there any constraints to energy consumption? Should there be? In the belief that energy policies should be based on solid data, this course will try to approach controversial questions and policies regarding energy by first, surveying current patterns of energy production and consumption, and, second, examining various alternatives to the current system. Our goal will be to determine which alternative energy resources are economically, politically and technically feasible. We will look specifically at such leading candidates as wind, solar, hydrogen and efficiency and use current policy documents such as the 5th Northwest Power Plan to guide us.

Books (At the Evergreen Bookstore)

Introduction to Energy : Resources, Technology, and Society
by Edward S. Cassedy and Peter Z. Grossman
Cambridge University Press; 2nd edition (1998)

Power to the People : How the Coming Energy Revolution Will Transform an Industry, Change Our Lives, and Maybe Even Save the Planet
by Vijay V. Vaitheeswaran Farrar, Straus and Giroux (2005)

The Hype About Hydrogen: Fact and Fiction in the Race to Save the Climate
by Joseph J. Romm Island Press (2004)

Other Readings

5th Northwest Power Plan
<http://www.nwcouncil.org/energy/powerplan/draftplan/Default.htm>

Amory Lovins, *Winning the Oil Endgame* <http://www.oilendgame.org/>

Assignments and Requirements

Attendance at all class meetings
Participation in all seminars and workshops
Two brief papers
Two Quizzes
Small final project

Essentials of Energy: Schedule of Classes and Readings (Subject to change as needed)

| | Topics | Activities | Readings | Due |
|-----------------------------------|--|--|--|----------------------|
| Week 1: March 31 | | Introductions; Opening workshop | | |
| Week 2: April 7 | Overview of energy resources and science | Lecture/discussion Seminar | <i>Intro:</i> Chapters, 1-3; <i>PP:</i> Introduction | Seminar Questions |
| Week 3: April 14 | More supply or less demand: conservation and efficiency | Lecture/workshop | <i>Intro:</i> Chapters, 4-5; 5 th Power Plan | |
| Week 4: April 21 | Fossil Fuels I: resources, technologies, global markets and politics | Lecture/workshop Seminar Quiz | <i>Intro:</i> Chapter 6; <i>PP,</i> Chapter 9 Lovins: Exec summary; other readings TBA | Seminar Questions |
| Week 5: April 28 | Electricity 101: Markets, policies and politics | Lecture/workshop | <i>Intro:</i> Chapter 9; <i>PP:</i> Chapters 1-3 5 th Power Plan | Paper #1 |
| Week 6: May 5 | Fossil fuels II: Global warming policies and politics | Guest Speaker; Tony Usibelli Seminar | <i>PP:</i> Chapters 5-7 | Seminar Questions |
| Week 7: May 12 | Nuclear Power's rise, fall and ??? | Lecture Seminar Quiz | <i>Intro:</i> Chapters 7-8; <i>PP:</i> Chapter 10 | Seminar Questions |
| Week 8: May 19 | Wind, solar and hybrids; Hydrogen I; overview | Field Trip Lecture/workshop | <i>Intro:</i> Chapters 10-11' 5 th Power Plan; <i>PP:</i> Chapter 8; Romm, Intro, chapters 1-2 | Paper #2 |
| Week 9: May 26 | Hydrogen II: Politics, Hype, or Hope? | Guest Speaker Seminar | Romm: rest of book; Other readings | Seminar Questions |
| Week 10: June 2 | Conclusions | Student Presentations | | Final Project |
| Evaluation Week | | | | |

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