



Department of Economics Course Outline

Term: Winter 2006

Course: Economics 499.25
[Energy Technologies and Markets]

Section: 01

Time: TR 15:30 ? 16:45

Place: ST 127 (subject to change)

Instructor: M.C. Moore

Office: SS 447
ES 602

Telephone: 220-5866 (SS 447)
220-4386 (ES 602)

Office Hours: T R
1:00 to 2:00 or by appointment

E-Mail: mcmoore@ucalgary.ca

Textbook(s):

- Tester, J.W, et al, *Sustainable Energy, Choosing Among Option*, MIT Press

Book(s) on Reserve:

- Articles in Library on Reserve Status

The class will consist of lectures and outside reading which will be made available either through handouts, accessible in reserve at the library and/or on the Blackboard System.

Topics and Chapter readings are noted in the outline for the week ahead and are assumed as background for the lectures and which may form the underpinning for test questions or quizzes.

There will be at least two quizzes during term, along with a mid-term and final examination.

Course Outline:

| Lecture Week | Topic | Reading Assign | Special Notes and Reserve Readings |
|---------------------|--|-----------------------|--|
| Beginning | | | |
| January 9 | Introduction, Grading, Assignments, Course Overview, Drivers and Energy Technology Innovation Micro-theory Review | Tester Chap 1 and 2 | |
| January 16 | Micro-theory and Energy Fundamentals | Tester Chap 5 | Reserve: <i>Boyle, Costing Energy</i> |
| January 23 | Energy Mechanics and Markets | Tester Chap 3 | |
| January 30 | Markets, utility pricing, discount rates, social costs and investment | Tester Chap 4 | Reserve: <i>Kahn, Qualifications: Practicability, externalities, second best and noneconomic considerations</i> <i>Coase, The Problem of Social Cost</i> <i>Huntington, Oil Price Forecasting in the 1980's</i> <i>DOE Circular, A-94</i> |
| February 6 | Demographics, demand and supply considerations, prices and forecasts Guest Lecture | Tester Chaps 17-20 | Reserve: <i>Loughran and Kulick, Demand-Side Management and Energy Efficiency in the US,</i> <i>Golob and Brownstone, The Impact of Residential Density on Vehicle Usage and Energy Consumption</i> |
| February 13 | Fossil Fuels and Power Systems Midterm | Tester Chap 7-11 | Reserve: <i>Kramer and Dietert, Dynamics of Electricity-Driven Natural Gas Demand,</i> <i>AEUB, Crude Oil and Conventional Natural Gas Supplies</i> |
| February 20 | Reading Week | | |
| February 27 | Renewable Energy Technologies and Markets Guest Lecture | Tester Chaps 12-15 | Reserve: <i>Miller, Renewable Energy's Place in the Global Energy Market</i> <i>Masri, et al, Renewable Electric Generation in Competitive Markets</i> <i>California Energy Commission</i> , A Renewable Energy Plan for the State <i>National Renewable Energy Laboratory, Selected Publications in Wind, Solar and Biomass</i> |
| March 6 | Externalities, Public policy and Oversight, Market Power | | Reserve: <i>Boyle, Environmental and Health Impacts of Energy Use</i> <i>Kula, The Economics of Environmental Degradation</i> |

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|----------|--|----------------|--|
| March 13 | Regulation and the Power Sector <i>Guest Lecture</i> | Tester Chap 17 | Reserve: <i>Kahn</i> , excerpts from Economics of Regulation Introduction <i>Posner</i> , Theories of Economic Regulation, <i>Stigler</i> , The Theory of Economic Regulation <i>Trebing</i> , Structural Change and the Future of Regulation <i>Stevenson and Penn</i> , Discretionary Evolution: Restructuring the Electric Utility Industry <i>Berg and Tschirhart</i> , Contributions of Neoclassical Economics to Public Utility Analysis <i>Stoft</i> , Market Architecture and Market Power |
| March 20 | Regulation of Energy Markets Other Markets and Systems Canadian, US and Europe <i>Guest Lecture</i> | | Reserve: <i>Borenstein and Bushnell</i> , Electricity Restructuring: Deregulation or Reregulation <i>Joskow</i> , California's Electricity Crisis <i>Doern</i> , Canadian Energy Policy in Historical Context, National Energy Board, Alberta Energy and Utilities Board <i>Newberry</i> , Power Markets and Market Power, <i>Wolak</i> , Designing a Competitive Wholesale Electricity Market that Benefits Consumers |
| March 27 | Forecasts, Capital Investment, Capacity Markets, Transmission Facilities | | |
| April 3 | The Future of Markets and Regulation | | Reserve: <i>Hoff</i> , et al, Distributed Generation, An alternative to electric utility investments in system capacity <i>Boyle</i> , Remedies: Making Fossil Fuel More Sustainable |
| April 10 | Wrap up and Final | | |

Grade Determination and Final Examination Details:

| | | |
|------------|-----|---------------------|
| Midterm | 40% | |
| Quizzes | 20% | |
| Final Exam | 40% | Registrar Schedules |

Tests and final exams are marked on a numerical (percentage) basis, and then converted to letter grades. The course grade is then calculated using the weights indicated above. As a guide to determining standing, these letter grade equivalences will generally apply:

| | | | | | | | |
|----|----------|----|---------|----|---------|----|---------|
| A+ | 99 - 100 | B+ | 88 - 90 | C+ | 74 - 77 | D+ | 60 - 63 |
| A | 92 - 98 | B | 83 - 87 | C | 68 - 73 | D | 55 - 59 |
| A- | 90 - 91 | B- | 78 - 82 | C- | 64 - 67 | F | < 55 |

Below 64 ? We need to talk.

If, for some reason, the distribution of grades determined using the aforementioned conversion chart appears to be abnormal the instructor reserves the right to change the grade conversion chart if the instructor, *at the instructor's discretion*, feels it is necessary to more fairly represent student achievement.

A passing grade on any particular component of the course is not required for a student to pass the course as a whole.

A non-programmable calculator will be allowed during the writing of tests or final examinations.

There will be a Registrar scheduled final examination of two hours to be held in the classroom or a site as scheduled by the Registrar.

The final examination will be comprehensive and open-book. The Quiz will be short answer questions. The Midterm test will include short and long essay questions. Quizzes and Mid-term will be held during lecture time. There will be *no* multiple choice questions on tests and exams.

Students are responsible for all material covered in the textbook, class handouts, internet sites visited during class, and presented in class lectures.

Students? Union Vice President Academic

Paige Forsyth

Phone: 220-3911

E-Mail suvpaca@ucalgary.ca

Students? Union Faculty Representative (Social Sciences)

Teale Phelps-Bondaroff

Phone: 220-3913 Office: MSC 251

E-Mail socialscirep@su.ucalgary.ca

Society of Undergraduates in Economics (S.U.E.)

www.fp.ucalgary.ca/econ

Notes:

- Students seeking reappraisal of a piece of graded term work (term paper, essay, etc.) should discuss their work with the Instructor *within* fifteen days of the work being returned to the class.
- Make-up examinations and deferred examinations will not be given *except in cases of extreme personal emergencies*. Also, examinations will not be given *before* the indicated dates.

Safewalk / Campus Security: 220-5333
