



Subject: EBGN Number: 430

Course Title: Advanced Energy Economics

Section:

Semester/year: Autumn 2015

Instructor or Coordinator: Ian Lange

Contact information (Office/Phone/Email): EH 329/x2430/ilange@mines.edu

Office hours: TR 2:30-3:30

Class meeting days/times: TR 3:30-4:45

Class meeting location: MZ 326

Web Page/Blackboard link (if applicable):

Teaching Assistant (if applicable):

Contact information (Office/Phone/Email):

Instructional activity: ___ hours lecture ___0_ hours lab ___ semester hours

Course designation: ___x_ Common Core ___ Distributed Science or Engineering
 ___ Major requirement ___x__ Elective ___ Other (please describe
_____)

Course description from Bulletin:

Textbook and/or other requirement materials:

Required text: None

Other required supplemental information: Readings as specified/given on Blackboard

Student learning outcomes: At the conclusion of the class students will...

- 1) Students will apply economic models to analyze
 - a) Optimal renewable and non-renewable resource use
 - b) Market structure effects on optimal use
 - c) Optimal electricity pricing
 - d) Basic market structure for fossil fuels
 - e) Economic reserves & what sustainability means in this context
- 2) Students will know where to find basic data on energy supply and consumption
- 3) Students will use economic models to organize and analyze data on energy supply and consumption
- 4) Students will write a well-organized, logical and technically sound research paper

Brief list of topics covered:

Behavioral Change
Energy Efficiency
Natural Monopoly
Natural Monopoly & Electricity Markets
Regulation
Non-Renewables
Renewables
Climate and Trade
Trade and Externalities

Policy on academic integrity/misconduct: The Colorado School of Mines affirms the principle that all individuals associated with the Mines academic community have a responsibility for establishing, maintaining an fostering an understanding and appreciation for academic integrity. In broad terms, this implies protecting the environment of mutual trust within which scholarly exchange occurs, supporting the ability of the faculty to fairly and effectively evaluate every student's academic achievements, and giving credence to the university's educational mission, its scholarly objectives and the substance of the degrees it awards. The protection of academic integrity requires there to be clear and consistent standards, as well as confrontation and sanctions when individuals violate those standards. The Colorado School of Mines desires an environment free of any and all forms of academic misconduct and expects students to act with integrity at all times.

Academic misconduct is the intentional act of fraud, in which an individual seeks to claim credit for the work and efforts of another without authorization, or uses unauthorized materials or fabricated information in any academic exercise. Student Academic Misconduct arises when a student violates the principle of academic integrity. Such behavior erodes mutual trust, distorts the fair evaluation of academic achievements, violates the ethical code of behavior upon which education and scholarship rest, and undermines the credibility of the university. Because of the serious institutional and individual ramifications, student misconduct arising from violations of academic integrity is not tolerated at Mines. If a student is found to have engaged in such misconduct sanctions such as change of a grade, loss of institutional privileges, or academic suspension or dismissal may be imposed.

The complete policy is [online](#).

Grading Procedures:

Paper Proposal:15%

Paper: 40%

Group Presentation: 45%

For the group presentation, approximately two students will put together a 10 minute presentation on:

- (i) An evaluation of a proposed piece of energy policy [what is it, merits, drawbacks, who is for/against it] or
- (ii) A report or academic article of interest to the group, or

Please have the topic of your group's presentation approved by me. The goal behind the presentations is to provide the class with additional information about energy policy outside of my lectures. Presentations will be marked on their clarity, depth of understanding shown, and quality. It is expected that each member of the group will speak during the presentation. In the first meeting, I will provide guidance on giving a presentation. Presentations will be given the last week of the term.

Paper proposal is due October 13th. This should be a one page outline describing your hypothesis and how you plan to answer it in your paper.

The final assignment is a research paper of your own. You are not required to perform your own econometric analysis but the paper is expected to be a serious analysis of a question of interest to you. It is highly suggested that you choose the topic of your presentation and paper strategically. I will provide some guidelines for a strong paper but one can/should also follow the patterns/style in the papers that are discussed in class.

Coursework Return Policy: The goal is to get coursework feedback within two week.

Absence Policy (e.g., Sports/Activities Policy): Please notify me ahead of time if you will be absent for tests or the final.

	Tuesday	Thursday
Week of Aug 24	Ian-Introduction to Course	Ian-Statistics/Methods
Week of Aug 31	Ian-Behavioral Energy	Ian-Energy Efficiency-Residential
Week of September 7	Ian-Energy Efficiency-Commercial/Industrial	Ian-Micro-Renewables
Week of September 14	Ian-Coal	Ian-Coal
Week of September 21	Pete – Domestic Oil & Gas Sector	Pete – World Energy Markets & Energy Security
Week of September 28	Pete - Fracking & Industry Interactions with Local Communities	Pete – Biofuels
Week of October 5	Harrison-Electricity Markets	Harrison-Renewable Policy
Week of October 12	Harrison-Environmental Policy & Electricity	Harrison-Clean Power Plan
Week of October 19	No class	Ed-Nuclear Energy
Week of October 26	Jared-Climate and Trade	Jared-Climate & Trade
Week of November 2	Jared-Discounting	Jared-P vs Q
Week of November 9	Ed-Trade Structures	Ed-Trade Structures
Week of November 16	Ed-Trade Structures	Ed- Border Adjustments
Week of November 23	Ian-Presentation Prep	No class
Week of November 30	Presentations-Ian	Presentations-Ian