



**Subject: EBGN      Number: 632**

**Course Title: Primary Fuels**

**Section:**

**Semester/year: Fall 2018**

**Instructor or Coordinator: Ian Lange**

**Contact information (Office/Phone/Email): EH 329/303-384-2430/ilange@mines.edu**

**Office hours: MW 9:30-10:30**

**Class meeting days/times: MW 8-9:15**

**Class meeting location: EH 211**

**Web Page/Blackboard link (if applicable):**

**Teaching Assistant (if applicable):**

**Contact information (Office/Phone/Email):**

**Instructional activity:**  30 hours lecture     hours lab     semester hours

**Course designation:**  Common Core     Distributed Science or Engineering

Major requirement     Elective     Other (please describe  Core for MEE MS/PhD program \_\_\_\_\_)

**Course description from Bulletin:**

**Textbook and/or other requirement materials:**

**Required text: None, we will use journal articles and other readings**

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

**You may like to have your econometrics textbook nearby or Mostly Harmless Econometrics by Angrist and Pischke**

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

1. *Rigorous identification of issues affecting coal, oil and gas extraction*
2. *Market structure effects on production*
3. *The impact of policies on production and investment*
6. *Where to find basic data on energy supply and investment*
7. *How to organize basic information in a paper/presentation*
8. *How to write/present your thoughts in a clear and concise manner*

**Brief list of topics covered:**

1. Statistical Identification
2. Policy Evaluation

3. Coal Markets and Policy
4. Oil Markets and Policy
5. Gas Markets and Policy

**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 and 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: Assignment 1: 35%      Company Profile: 15%      Case Competition: 15%      Final: 35%**

There are four assignments in this course. The assignments were chosen to fit the structure of a seminar course. I expect that the PhD students will want to get something a little different out of this class than the Masters students. As a result, the manner in which these assignments will be completed is likely to differ for these two groups (PhD students focusing more on methods and data, Masters students focusing on takeaway points).

The first is a 10 minute presentation of a commodities trade that you would make that week. The presentation should include the logic of why they would make that trade and whom is taking the other side of the trade and why. Alternatively, one could choose a scientific review of a piece of work. As will be discussed in class, there are certain aspects of a review that are more pertinent to praise or critique a piece of work. For example, you can't argue that a paper written in 2011 should have included data from 2014. The goal with this assignment is to evaluate whether you can assess the quality of another piece of work. The scientific review will be due Thursday, October 24.

The second assignment is to write up a company profile. This will be an individual assignment. It is important that this report consist of three parts: 1) The macroeconomic trends (taxes, exchange rates, and world growth patterns), 2) Industry trends (how many competitors, merger activity, etc), and 3) company trends (investment pattern, profitability of current projects, health of countries that the company is most invested in). Expectation is that these will be about 4 pages long.

The third assignment is to participate in a mock case competition that will be judged by MEE alum and industry representatives. The question that groups of 4 will answer is: "Which Natural Resource market will be most impacted by the increased penetration of electric vehicles?" There are no requirements for breadth of sectors or depth of analysis in the case competition. In fact, there is no correct answer. The idea is to come up with the best answer to the question. I hope to firm up the judges and exact date/time for the competition.

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. 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.

I am also amenable to a final assignment being a presentation where you lead one of the classes with a topic of your interest. Please have your topic approved by me. There are a couple of reasons for this assignment. First, teaching a topic is one of the best ways to learn it well. Second, as the class is very specialized this assignment allows for the class to discuss topics they are most interested in. Finally, oral communication skills are extremely important for the careers most of you will be entering. Presentations will be marked on their clarity, depth of understanding shown, and quality. It is expected that each person will lead their own class when doing a presentation. Guidelines for strong presentations will be given in class. Additionally, I will be leading the first half of the course so you will see what I think is a good way to present.

A grading rubric for assignments will be provided.

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

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

**Homework:**

- Homework must be turned in before it is due to be graded – plan ahead.
- Exams: If you will be absent during a scheduled exam, you should schedule a make-up time before you leave.

**Students with Disabilities:** In guidance put forth by the Department of Justice and the Office for Civil Rights, it is incumbent upon us as an institution to ensure that students know where to seek assistance for disability-related accommodations or information. Inclusion of a disability support statement in syllabi is a national best practice and standard supported by ADA enforcement agencies and AHEAD (Association on Higher Education and Disability), as part of a multi-pronged approach to supporting an inclusive culture on campus.

As such, please include the following statement (italicized) in your course syllabi at Mines. Additionally, please make sure to underscore the statement pertinence and directive as part of your course welcome. Disability Support Services - The Colorado School of Mines is committed to ensuring the full participation of all students in its programs, including students with disabilities. If you are registered with Disability Support Services (DSS) and I have received your letter of accommodations, please contact me at your earliest convenience so we can discuss your needs in this course. For questions or other inquiries regarding disabilities or academic accommodations, I encourage you to visit [disabilities.mines.edu](https://disabilities.mines.edu) for more information.

**Discrimination, Harassment and Title IX** - All learning opportunities at Mines, including this course, require a safe environment for everyone to be productive and able to share and learn without fear of discrimination or harassment. Mines' core values of respect, diversity, compassion, and collaboration will be honored in this course (More information can be [found here](#)) and the standards in this class are the same as those expected in any professional work environment. Discrimination or harassment of any type will not be tolerated. As a participant in this course, we expect you to respect your instructor and your classmates. As your instructor, it is my responsibility to foster a learning environment that supports diversity of thoughts, perspectives and experiences, and honors your identities. To help accomplish this:

- Course rosters are provided to the instructor with the student's legal name. I will honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records.
- If something is said or done in this course (by anyone, including myself) that made you or others feel uncomfortable, or if your performance in the course is being impacted by your experiences outside of the course, please report it to:
  - Me (if you are comfortable doing so)
  - Wellness Center- Counseling (<https://www.mines.edu/counseling-center/>)
  - Speak Up (<https://www.mines.edu/speak-up/>)- Anonymous Option

In this course, we will cultivate a community that supports survivors, prevents interpersonal violence, and promotes a harassment free environment. Title IX and Colorado State law protects individuals from

discrimination based on sex and gender in educational programs or activities. Mines takes this obligation seriously and is committed to providing a campus community free from gender and sex-based discrimination. Discrimination, including sexual harassment, sexual violence, stalking, and domestic violence, is prohibited and will not be tolerated within the Mines campus community. If these issues have affected you or someone you know, you can access the appropriate resources here: <http://www.mines.edu/title-ix/>. You can also contact the Mines Title IX Coordinator, Karin Ranta-Curran, at 303-384-2558 or [krcurran@mines.edu](mailto:krcurran@mines.edu) for more information.

It's on us, all of the Mines community, to engineer a culture of respect

**Detailed Course Schedule:**

**Note: Class is cancelled for 8/20 and 8/22, 9/3, 10/15, and 11/21 for School holidays or MEE program issues.**

**Week 1: Introduction to Course and Statistical Methods**

**Week 2: Inference in Statistical Methods and Policy Evaluation (What do we believe)**

**Week 3, Week 4 and 5: Coal, Gas, Oil & Electricity Markets**

**Week 6 and 7: Oil & Refineries Issues**

**Week 8 and 9: Gas and Renewables Issues**

**Week 10 and 11: Mineral Markets**

**Week 12: Prepping for Case Competition**

**Week 13(?): Case Competition**

**Week 14-16: Your suggestions**