COLORADOSCHOOLOFMINES

Subject: EBGN Number: 594

Course Title: Natural Resource Economics

Section:

Semester/year: Autumn 2016

Instructor or Coordinator: Ian Lange &

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

Office hours Lange: Th 1-2, W 11-12

Class meeting days/times: T 3:30-6:15

Class meeting location: BE 106

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 _x__ 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 or book chapters given to you in class or posted on blackboard

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

Students are welcome to refer to any time series textbook they prefer, such as Wooldridge. There are even some textbooks free online, such as:

http://www.ssc.wisc.edu/~bhansen/econometrics/Econometrics.pdf

http://faculty.chicagobooth.edu/john.cochrane/research/Papers/time_series_book.pdf

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

2. Basic issues in time series econometrics including stationarity and ARIMA models
3. Understanding how to forecast and what methods are used
4. Understanding econometric coding and output 5. Basic economic thinking/intuition skills
5. How to organize basic information in a paper/presentation
6. How to write/present your thoughts in a clear and concise manner

Brief list of topics covered:

1. Unit Roots, Stationarity

2. Cointegration
3. Forecasting
4. Vector Autoregression (VAR) and Vector Error Correction (VECM)
5. Understanding econometric coding and output

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: Midterm: 30% Presentation: 30% Paper: 30% Contribution: 10%

The midterm will be a short answer test.

The second assignment is to lead one of the classes with a topic of your interest. Please have your paper/report/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 start the week of XXXXX and we will schedule them during the third week of the course. Presentations will be marked on their clarity, depth of understanding shown, and quality. It is expected that each person will lead their own class. 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.

The final assignment is a research paper of your own. You are required to perform your own econometric analysis. 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 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.

Detailed Course Schedule:

1. Week 1 (August 23): **Introduction to Course and refresh your econometrics knowledge**
2 Week 2 (August 30): **Time Series Basics: Stationarity, Unit Roots, Lags, Decompisitions**

   Ch 16 of Hansen
2. Week 3 (September 6): **ARIMA models**

   Cochrane Ch 3
3. Week 4 (September 13): **VARs and VECMs**

   Ch 17 of Hansen
4. Week 5 (September 20): **Cointegration and Granger Causality**

   Ch 17 of Hansen
5. Week 6 (September 27): **Forecasting/Wavelets**
6. Week 7 (October 4): **Review/Discussion of Presentation Topics**
7. Week 8 (October 11): **Midterm on Tuesday, October 11**
8. Week 9 (October 18): **No class for Fall Break**
9. Week 10 (October 25): **Class Presentations**
10. Week 11 (November 1): **Class Presentations**
11. Week 12 (November 8): **Class Presentations**

    Week 13 (November 15): **Class Presentations**
12. Week 14 (November 22): **No Class**
13. Week 15 (November 29): **Class Presentations**