



**Subject: Research Methodology**

**Number: EBG695**

**Course Title: Research Methodology**

**Section: A**

**Semester/year: Spring 2015**

**Instructor: Graham A. Davis**

**Contact information (Office/Phone/Email): EH325/303 273-3550/gdavis@mines.edu**

**Office hours: These may change week to week. Check the course Blackboard site or my office door posting for my current office hours.**

**Class meeting days/times: Tuesdays and Thursdays 9:30 AM – 10:45 AM**

**Class meeting location: EH217**

**Instructional activity:**   3   hours lecture      0   hours lab      3   semester hours

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

  X   Major requirement       Elective       Other (please describe \_\_\_\_\_)

**Course description:**

This is a course about how to do mineral and energy economics research. It will focus on research methods rather than on research philosophy. The goal is to provide you with a toolkit that will increase the probability that you will successfully complete your thesis research, and within a reasonable amount of time. While you could learn most of what is in this course in one-on-one meetings with your thesis advisor, there are economies of scale in group communication of this material that merits this collective course.

Students will get most out of this course if they are well underway in searching for a research topic and suitable research question. I would anticipate that the course will be interactive, whereby you bring astute observations and comments about the readings to class. You can also bring questions to class as you proceed with your thesis research and we bump into topics that are directly relevant to your current activities.

**Prerequisites:**

M.S. Students: must have completed the Mineral and Energy Economics core (509, 510, 511, 521, 590), and should take this course in their 3rd semester. A thesis committee form must be completed and filed with the Graduate School.

Ph.D. Students: must have completed Mineral and Energy Economics Ph.D. Qualifier I with marginal fail or better, and should take this course in their 4th or 6th semester. Completion of Qual II is desirable, but not necessary.

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

Szenberg, Michael, ed. Passion and Craft: Economists at Work. Ann Arbor, MI: U of Michigan P, 1998.

Zerubavel, Eviatar. The Clockwork Muse: A Practical Guide to Writing Theses, Dissertations, and Books. Cambridge, MA: Harvard UP, 1999.

**Optional text:**

Firebaugh, Glenn. Seven Rules for Social Research. Princeton: Princeton UP, 2008 (I will provide you with selected chapters). Other required supplemental information will be provided on Blackboard.

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

1. Develop valid research questions in mineral and energy economics
2. Manage research time effectively
3. Model research models using simple microeconomic or macroeconomic models
4. Create logs of research steps and correctly archive data
5. Navigate the administrative process for thesis work at CSM
6. Recognize the recipe for reading and writing research papers in economics
7. Write a research paper contributing to the stock of knowledge in mineral and energy economics

**Brief list of topics covered (in rough order):**

How long does it take to do a Ph.D. in economics?  
How do the experts do economics research? (Szenberg p. 11 of Intro onwards, Varian, Schmalensee, Dixit, Krugman, Friedman)  
The refereeing process  
The research process (see Varian in Szenberg)  
Research questions and testable hypotheses (Firebaugh, Chapter 1, and examples from econ journals)  
The "So What" stamp  
How to read and write papers – the paper formula  
Economic modeling and testing  
Practicing doing research using a simple economic model  
Replicability and data archiving  
Plagiarism  
The thesis proposal  
The role of the literature review  
Documenting sources, style conventions  
Time management/when to start writing? (Zerubavel)  
The role of the advisor and the thesis committee  
Sources of data, use of the library and its databases  
CSM style Guidelines, The Writing Center, economical writing

The administrative process at the Graduate School  
Nuts and bolts (word processors, bibliographic formatting packages, making backups, making notes, keeping your notes and references organized)

### **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:**

Preparation for class and in-class participation	50 points
Short assignments	25 points
Sample research paper or replication paper	<u>25 points</u>
Total	100 points

Individual assignments and projects that have a quality acceptable for graduate credit will be awarded a grade of A (4.0), A- (3.7), B+ (3.3), or B (3.0), with the grade reflecting the proficiency of the work. Work that is below par but may be acceptable for graduate credit if sufficient acceptable work is done in this class and in other classes such that a 3.0 GPA can be maintained will be awarded grades of B- (2.7), C+ (2.3), C (2.0), or C- (1.7), with the grade reflecting the proficiency of the work. Work that is unacceptable for graduate credit is awarded a grade of D+ (1.3), D (1.0), D- (0.7), or F(0.0), with the grade reflecting the proficiency of the work. The final grade for the course will be a weighted average of the individual grades, calculated just as a grade point average is calculated.

### **Coursework Return Policy:**

I will endeavor to return assignments, with comments and a grade, within 7 days of receiving them, and in all cases within 14 days of receiving them.

### **Absence Policy:**

There is a substantial class participation grade that motivates you to attend. If you miss class or miss handing in or presenting an assignment or taking an exam because of an event that CSM classifies as an "excused absence" (see <http://inside.mines.edu/Student-Absences>), I will allow you to present or hand in substitute work that makes up the lost ground.

## **The Writing Center**

The Writing Center provides free one-on-one tutoring to members of the CSM community to assist them with any writing project and with any stage of the writing process. Our expert, professional consultants can help with brainstorming, organization, citation and documentation, and mechanics, on first and final drafts and everything in between. While we don't proofread or edit papers, we give writers the tools and techniques they need to learn how. To make an appointment, please visit our online scheduling system at: <http://mines.mywconline.com>. Questions can be directed to Sara Hitt, Writing Center Director, at: [sjhitt@mines.edu](mailto:sjhitt@mines.edu) or 303-273-3484. We look forward to working with you.