

**HSMP 7607 - METHODS IN HEALTH SERVICES RESEARCH I (3 credits)**  
**COURSE SYLLABUS**  
**Spring 2014**

**Tuesdays, 2:30-5:20 pm @ Ed 1, Room 1103**  
**except 2/4, 2/25, 4/29 @ Ed 2 North, Room 1206**

**Instructor**

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<https://sites.google.com/site/genkanter/teaching-advising>

**1. Course Description**

HSMP 7607 (Methods In Health Services Research I) is the first of a 2-course sequence in empirical methods in health services research. This course will introduce students to the statistical theory underlying basic empirical methods used in health services research and the implementation/practice of these methods. Emphasis will be placed on understanding the assumptions underlying regression techniques, building sensible models, and interpreting and critiquing models. Students are expected to have already taken an introductory course in probability and statistical theory and should have some facility with algebra and calculus. Prereq: BIOS 6611.

**2. Course Learning Objectives and Core Competencies**

**2.1. Course Learning Objectives**

- Understand the statistical theory assumptions underlying regression methods
- Identify the major challenges facing empirical health services research work using ordinary least squares (OLS) regression methods
- Interpret and critique empirical health services research papers that use regression techniques
- Write functioning Stata programs that prepare a dataset for analysis, that compute summary statistics, and that specify and estimate models that can be used to answer basic health services research questions
- Interpret the results from regression output and identify the limits of the statistical models used
- Understand the general and ideal conditions under which causality may be inferred from the results of a statistical model

## 2.2. Core Health Services Research Competences

- Critically appraise health services literature
- Accurately select, use, and interpret statistics commonly used in health services research
- Apply and use appropriate study designs and methods to address research questions/hypotheses
- Identify and measure clinically relevant and meaningful outcomes
- Utilize healthcare databases and other information technologies used in research

## 3. Required Texts and Materials

**Text:** Wooldridge, Jeffrey. 2012. *Introductory Econometrics: A Modern Approach, 5<sup>th</sup> edition*. Cengage Learning.

**Software:** Stata/SE statistical software version 13 (IC, SE, or MP). (Available at a discount for UCD students.)

There may additional assigned articles and readings. These will be made available through Canvas.

## 4. Supplementary Materials (Recommended/Optional) and Resources

### **Solutions manual:**

*Student Solutions Manual* to Wooldridge, *Introductory Econometrics, 5<sup>th</sup> edition*. Available through Cengage.

### **Other econometrics texts:**

If you have trouble understanding a concept presented in lecture or in the Wooldridge book, reading another exposition of the topic may be helpful. Here are some econometrics texts that students have found helpful in the past (the latest editions are most up-to-date on the methods but any edition may be helpful):

Kennedy, Peter. *A Guide to Econometrics*.

Gujarati, Damodar, and Dawn Porter. *Basic Econometrics*.

Stock, James H. and Mark W. Watson. *Introduction to Econometrics*.

Or... any other econometrics book that speaks to you (check Amazon or <http://www.econometricsbooks.com/>)

### **Stata guides:**

The best way to learn Stata is to jump in and try commands until your program works. There are introductory tutorials online and on Youtube that may be helpful to structure self-learning, and the <help> function provides background for specific commands. In addition, here are some books that students have found useful in the past:

Acock, Alan C. *A Gentle Introduction to Stata, Revised Third Edition*.

Baum, Christopher F. *An Introduction to Stata Programming*.

(Or... any other books you find helpful from Stata Press.)

Cameron, A. Colin, and Pravin K. Trivedi. *Microeconometrics Using Stata, Revised edition*.

### **Additional software:**

Stat/Transfer 12: converts datasets from one format (e.g. SAS) to another (e.g. Stata)

## 6. Evaluation

The course grade will be based on 10 problem sets, 2 midterm exams, and a final exam.

Problem Sets #1-#10	40% (4% each)
Midterm Exam I	15% (Part A 6%, Part B 9%)
Midterm Exam II	15% (Part A 6%, Part B 9%)
Final Exam	30% (Part A 12%, Part B 18%)

### 6.1. Problem sets

There will be 10 problem sets. Problem sets will be assigned every week except during exam weeks. They are due at the beginning of each class. You may consult with other students on your problem sets but each student must write up his or her own work.

One problem, not announced in advance, from each problem set will be selected for grading. Solutions to the problem sets will be posted weekly. Students are advised to review the solutions and check their answers for the problems that are not graded. Late problem sets will be accepted and graded but no points will be recorded.

### 6.2. Midterm exams

There will be two midterm exams. Midterm exams are comprised of two parts. Part A is the in-class portion of the exam. Part A will be conducted during class in the conventional way, with no notes or resources--electronic or otherwise--permitted during the exam. Part B is the take-home portion of the exam, often requiring the use of Stata. Students are not allowed to consult with other classmates on Part B of the exams but are allowed to refer to class notes, library books, and web sources. Part B exams are due at the beginning of class on the day scheduled for the Part A exam (you turn in Part B before taking the in-class Part A exam). Late Part B exams will be accepted and graded, but penalties will be levied for lateness. Penalties for late Part B exams are as follows: (a) within 24 hours: 25% penalty; (b) more than 24 hours but 48 hours late: 50% penalty; (c) more than 48 hours late: no points.

### 6.3. Final exam

The final exam is cumulative. It consists of two parts and follows the same protocol as the midterm exams. Part A is the in-class portion of the final exam. Part A will be conducted during class in the conventional way, with no notes or resources--electronic or otherwise--permitted during the exam. Part B is the take-home portion of the exam, often requiring the use of Stata. Students are not allowed to consult with other classmates on Part B of the exam but are allowed to refer to class notes, library books, and web sources. Late Part B exams will be accepted and graded, but penalties will be levied for lateness. Penalties for late Part B exams are as follows: (a) within 24 hours: 25% penalty; (b) more than 24 hours but 48 hours late: 50% penalty; (c) more than 48 hours late: no points.

Part A of the Final Exam will given during Final Exam week on Tuesday, May 13, 2:30-5:20 pm. Part B of the Final Exam will be due Friday, May 16, 5 pm, uploaded via Canvas.

### 6.4. Blind grading

Every effort will be made to grade problem sets and exams blind, i.e. the instructor will not know the identity of the student submitting the work when she does the grading. For this reason, please include, with your assignments, a cover sheet with the assignment title and (only) your ID number (no names).

### 6.5. Makeup exams

Makeup exams for this class are highly unusual and granted only under extenuating circumstances with extensive documentation (e.g. hospital discharge notice, obituary notice). In any case, you must notify the instructor within 24 hours of a missed exam.

### 6.5. Re-grades

Although care is taken in grading, mistakes in grading assignments and exams can on rare occasions occur. If you feel an error was made in grading, please do the following:

- (1) Make a photocopy of your graded assignment, as re-grades will only be examined at the end of the semester, after the final exam, and you may need the graded assignment to study.
- (2) If you believe an error was made in grading, submit a written explanation of why you believe an error was made, i.e., why your original answer was the correct answer and incorrectly graded, and submit a hard copy of your explanation and the graded assignment. These documents should be e-mailed or submitted in person to the instructor by Friday, May 16, 5 pm.
- (3) Bear in mind that the homework assignment or exam will be re-graded in its entirety, and there is a possibility that new errors that had been previously overlooked will be found. A request for a re-grade may thus result in a lower score, not just a higher score.

All appeals for re-grades must go through this formal process. No informal appeals will be accepted.

## 7. Class policies and expectations of student conduct

### 7.1. Class attendance

Attendance will not be taken. Nevertheless, it is strongly recommended that you attend class and be well-prepared to engage in class discussions because attendance in class will be crucial in preparing you for the exams and assignments. In addition, there may be in-class quizzes that count towards your problem set points. If you have to miss class for any reason, you are responsible for reviewing the material covered and for turning assignments in *when they are due*. If what you need is not available on Canvas, please request materials and information from a fellow student.

### 7.2. Holidays

Please inform the instructor at the beginning of the semester of any anticipated (exam) absences because of religious holidays, and we will negotiate reasonable accommodations for those absences.

### 7.3. Civility in discourse and courtesy towards fellow classmates

Please respect each person and his/her ideas and questions. Please turn off all cell phones and do not listen to music, play games, or read outside materials.

### 7.4. Academic conduct policy

Students are expected to know, understand, and abide by the Honor Code of the Colorado School of Public Health. Unless otherwise instructed, all of your work in this course should represent completely independent work. Students are expected to familiarize themselves with the Student Honor Code, which can be found at:

[http://www.ucdenver.edu/academics/colleges/PublicHealth/Academics/academics/Documents/Policies/Handbooks/CSPH\\_Honor\\_Code.pdf](http://www.ucdenver.edu/academics/colleges/PublicHealth/Academics/academics/Documents/Policies/Handbooks/CSPH_Honor_Code.pdf)

Any student found to have committed acts of misconduct (including but not limited to cheating, plagiarism, misconduct of research, breach of confidentiality, or illegal or unlawful acts) will be subject to the procedures outlined in the Colorado School of Public Health Honor Code.

#### 7.5. Access, disability, and communication

Please contact the Office of Disability Resources and Services if you have disability-related concerns that require assistance to participate in this course. Their staff will assist in determining reasonable accommodations as well as coordinating the approved accommodations. Location: Building 500, Room W1103. Tel 303-724-5640.