Econ 570
Applied Econometric Analysis
Fall 2016

Instructor: Ju Hyun Kim
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Office: Gardner 302
Office Hours: Wed 10 AM - noon

Class: Tu, Th 8:00 – 9:15 AM, Phillips 381

Midterm: Tuesday October 18, in Class
Final Exam: Thursday December 15, 8:00-11:00 AM
Research Paper Deadline: Wednesday December 14, 10 AM

1st Presentation: October 27, November 1
2nd Presentation: December 1, December 6

Prerequisite:
The pre-requisites are Econ 400 (Statistics), Econ 410 and 420 (Intermediate Microeconomics and Macroeconomics), and at least one semester of differential calculus.

Course description:
Econometrics is the application of statistical methods and economic theory to the problem of identifying, estimating, and testing economic model. This course covers concepts and methods used in empirical economic research. Students will learn how to conduct and how to critique empirical studies in economics. Accordingly, the emphasis of the course is on various empirical applications. Topics include classical single-equation regression model, multiple regression models, discrete dependent variables, and the pooling of time-series, and cross-section data. We will discuss many examples from microeconomics, macroeconomics, and financial economics.

Grading:
Your final grade will be based on midterm exam (20%), final exam (40%), two presentations (5%), final research paper (20%), class participation and attendance (5%) and bi-weekly problem sets (10%). There will be no make-up exam for the midterm. If you miss a midterm exam because of a medical or family emergency, the final exam score will be 60% of your final grade.[1] Otherwise, you will receive a zero score for the missed midterm.

Midterms and final:

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[1] Family wedding events do not belong to the class of family emergency. Also, I only accept illness or family crisis when it is documented via official letter from the Dean of Students office. Also, I may ask additional documentation.

Individual cheat sheets are NOT allowed (therefore, of course closed book) I will provide formulae sheets in each exam. You are allowed (actually encouraged) to use your own calculator (but not laptop/phone/any type of tablet) in the exam. The level of difficulty and the format of the exam will be very similar to problem sets. The final exam will cover everything discussed in class throughout this semester.

Problem sets:
There will be bi-weekly problem sets, each of which involves empirical analysis. You should hand in your homework assignments at the beginning of class the day they are due. Late problem sets (but before answers are posted) will be marked down by 50%. Solutions will be posted on the course Website on Wednesday evening after 9 pm. Assignments handed in after that will receive no credit, no exceptions. Students are welcome to work in groups on their problem sets, but each student must write up answers separately. Also, if your answers are based on your friends' answers, you need to add casual citation in your homework as references. Copying is not allowed. Please append your STATA "log" files to your assignments whenever needed.

Statistical software:
Problem sets will include empirical questions that require the use of statistical software. The software used in this class is STATA. STATA is available in UNC computer labs. You can also purchase a student version of STATA.

Student presentation:
You will need to present the progress of your research twice in class during the semester. Five minutes will be given to each person for each presentation.

Empirical research paper:
For the empirical project, you should use data to answer some economic questions, using econometric techniques from this course. Your paper will be approximately 15-20 pages long and explain the research question, data, estimation strategy, and results. You should be able to write your research question as "the effect of A on B". Also, I expect that the econometric technique used in your research would be more sophisticated than simple OLS.

Textbook:
Introduction to Econometrics, Third Edition **Updated**, Stock, James H. and Mark W. Watson. Addison-Wesley, 2014. This edition has substantially new contents and problem sets compared to the previous versions.

Course outline:
(Contents may change during the course of the semester. However, exam dates will not change)
1. Review of basic statistic concepts (Ch. 1,2,3)
2. Linear regression with one regressor (Ch 4,5)
3. Linear regression with multiple regressors (Ch 6,7)
4. Nonlinear regression (Ch 8)

5. Internal and external validity (Ch 9)
6. Panel data models (Ch 10)
7. Limited dependent variable models (Ch 11)
8. Instrument Variables (Ch 12)

Classroom etiquette:
To maintain a classroom environment as a good learning environment for everyone, you must turn off all cell phones, laptops, and other electronic devices during class.