Course Description:

This course focuses on techniques for estimating regression models and on problems that are encountered in applying these estimation techniques. The goal of the course is to teach you the theory of econometrics and to give you experience in estimating econometric models with actual data. This class will enable student to understand economic research and carry out empirical projects.

Prerequisites:

One course with a minimum grade of C- from (ECON325, ECON326); and one course with a minimum grade of C- from (STAT400, ECON321).

Restriction: Must be in a major within the BSOS-Economics department. Credit only granted for: ECON422, AREC422, or AREC489F.

Students should be familiar with the following concepts: random variable, probability distribution, joint probability distribution, independence, expected value and its properties, variance, variance of sums of random variable, sampling distribution (of sample mean, sample variance), statistical inference (hypothesis testing, confidence intervals), estimation techniques, properties of estimators (e.g., biasedness)

Textbook:


Organization and Office Hours:

Lectures are held M-W from 11 to 12:15pm. I will hold weekly office hours on Monday from 9:45 to 10:45am. Questions regarding any of the material can be sent to me by e-mail.

Grading:

Two exams (25% midterm and 35% final) and four problem sets (40%).
Problem sets will combine theoretical and empirical exercises. You may work with other students on the problem sets. Problem sets can be submitted in groups (no more than two students per problem sets). NO LATE problem sets will be accepted. Up to 15% of the total points can be deducted for problem sets that do not follow a proper, neat and professional presentation that is easy to follow.

The exams are mandatory. The final exam will be comprehensive/cumulative.

**Statistical Software:**

The problem sets will include empirical questions. These are exercises to familiarize you with STATA and to give you some experience in running and interpreting regressions. You have access to it in the OACS computer labs in LeFrak Hall (Do not buy it. It is expensive).

**Examinations:**

There will be a midterm examination and a final examination. Examinations must be written in non-erasable ink. Electronic devices such as cell phones, PDAs, and Ipods cannot be used. They must be turned off and stored away.

**Makeup Examinations:**

If you will miss the midterm, you must inform me in advance and present satisfactory documentation of the reason for your absence from an independent source (e.g., medical staff). If you can document your absence satisfactorily, you will be graded on the problem sets and final examination.

To reschedule the final exam you must have taken care of ALL of the following: Inform the professor in advance that the exam will be missed, the excuse must conform to university policies (it must be based either on religious observances, medical emergencies or acts of nature), provide formal written excuse signed by a third party.

**Classroom Courtesy and Academic Integrity:**

Turn off your cell phone and other noisy devices before entering the classroom.

The University has approved a Code of Academic Integrity available and an Honor Pledge. The Code prohibits students from cheating on exams, plagiarizing, submitting fraudulent documents, and forging signatures. The code will be enforced.

**Special Needs:**

Any student with a documented disability needed accommodation is requested to contact the Disabilities Support Service (847-467-5530). She/he is required to inform the instructor of her/his needs at the beginning of the semester.

**Up-to-date information:**

Problem sets and announcements will be posted on the course web page. All of the course materials will be posted on the website. Please check it regularly.
Tentative Course Outline:

**August:**
31  Introduction to Econometrics, Ch. 1 WR, Appendices B and C WR.

**September:**
1  Introduction to STATA, Simple Linear Regression, Ch. 2, WR
9  Simple Linear Regression, Ch. 2, WR
14 Simple Linear Regression, Ch. 2, WR
16 Simple Linear Regression, Ch. 2, WR/Problem Set I (due date)
21 Simple Linear Regression, Ch. 2, WR
23 Simple Linear Regression, Ch. 2, WR
28 Multiple Linear Regression – Estimation, Ch. 3, WR
30 Multiple Linear Regression – Estimation, Ch. 3, WR

**October:**
5  Multiple Linear Regression – Inference, Ch. 4, WR
7  Multiple Linear Regression – Inference, Ch. 4, WR / Problem Set II (due date)
12 Review Session (Midterm)
14* Midterm Exam
19 STATA Review Session
21 Multiple Linear Regression – Inference, Ch. 4, WR
26 Multiple Linear Regression – Inference, Ch. 4, WR
28 Multiple Regression – Further Issues, Ch. 6, WR

**November:**
2  Multiple Regression – Qualitative Variables, Ch. 7, WR / Problem Set III (due date)
4* Multiple Regression – Qualitative Variables, Ch. 7, WR
9  Review – Multiple Regression
16* Multicollinearity, and Heteroskedasticity, Ch. 3.4, 8, WR
18 Multicollinearity, and Heteroskedasticity, Ch. 3.4, 8, WR
23 Instrumental Variables (IV) (Ch. 15 + Lecture notes)
25 IV and Program Evaluation (Ch. 15 + Lecture notes)
30 STATA Review session/Problem Set IV (due date)

**December:**
2  Program Evaluation (Lecture notes)
7  Time Series Analysis Ch. 10, WR
9*  Review for Final Exam

FINAL EXAM