Introduction to Econometrics

Course Syllabus

Course overview: This course is an introduction to the theory and application of statistics to economic problems. This course focuses on the techniques used in empirical research with a particular focus on intuitive understanding. Weekly problem sets will introduce real world applications and teach you the fundamentals of statistical programming. No prior knowledge of computer programming is required. Class meets twice a week for lectures and once per week for section which are strongly suggested though not mandatory.

Instructor: Jae Hoon Choi (jchoi24+econ113@ucsc.edu)
Office hours: Wednesday 1:00pm – 3:00pm, Engineering 2 building 405G (E2 405G)
Course location: Jack Baskin Auditorium (JBE 101)
Course time: July 28th to August 27th, 2014, Monday and Wednesday 9:00am – 12:30pm
Course website: www.jchoih.com/econ113

Teaching assistant: Kyle Neering (kneering@ucsc.edu)
TA section: Thursday 10:00am – 11:10am, Jack Baskin 165 (JBE 165)
TA office hours: Tuesday 10:00am – 12:00pm, Engineering 2 building 403G (E2 403G)

MSI: Sarmad Moalem (smoalem@ucsc.edu)
MSI schedule: TBA

Textbook: Introductory Econometrics (any edition after 3rd) by Jeffrey Wooldridge
The textbook is not mandatory but highly recommended for this course and future reference. There are six on reserve at the Science and Engineering Library.

Statistical analysis software: Stata (Stata 10 and higher)

- Stata GradPlan™: $35 Small Stata will be sufficient for this class
  http://www.stata.com/order/new/edu/gradplans/campus-gradplan/
- The latest version is also available on Windows in computer labs

Problem set: Problem sets will be assigned weekly. (15% of grade) The goal of these assignments are to offer practice and send a clear signal as to what I think is important for you to learn and understand in the course. Although you may work in groups on problem sets, you must turn in your own homework and write up the answers on your own. All assignments should be typed, printed, stapled, and submitted in the beginning of the class for full credit. The assignments failing to meet the requirement will be penalized.

Exams: There will be two midterm exams during the session, followed by a final on the last day. The first midterm (5% of grade) is to review the basics of statistics, probability, and statistical inference, and the second midterm (30% of grade) will be on single and multiple regression and inference of the result. The final (50% of grade) will be comprehensive.

Important dates:

- Midterm exams: August 4th and August 18th, 2014

- Final exam: August 27th, 2014
- Deadline to drop: August 3rd, 2014
- Deadline to withdraw: August 15th, 2014

Course outline (subject to change)

Lecture	Date	Topics
1	July 28th	Introduction, Population & Sample, Mean and Variance, Unbiased estimator
2	July 30th	Probability, Statistical inference (Significance test, Confidence Interval, P-value)
3	August 4th	**Midterm 1**, Relationship between two variables (Covariance, Correlation)
4	August 6th	Simple regression, OLS estimator
5	August 11th	Gauss-Markov assumptions, Multiple regression
6	August 13th	Omitted variable bias, Quadratic terms, Comparing parameters
7	August 18th	**Midterm 2**, Multiple restrictions, Standardizing coefficients, Adjusted R-squared
8	August 20th	Interaction term, Dummy variable, Instrumental variable
9	August 25th	Measurement error, Heteroskedasticity (Breusch-Pagan test, White test, WLS)
10	August 27th	**Final**

You are expected to maintain the standards of academic integrity delineated in http://www.ue.ucsc.edu/academic_integrity. Any violations of academic integrity standards will be dealt with in accordance with University policy.