Econ 113: 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 three times a week for lectures which are mandatory, and once per week for section which are strongly suggested though not mandatory.

Instructor: Jae Hoon Choi (jchoi24+econ113@ucsc.edu)
Office hours: Friday 1:00pm - 3:00pm, Engineering 2 Building 403C (E2 403C)
Course location: Physical Science Building 114 (PSB 114)
Course time: July 27th to August 28th, 2015; Monday, Wednesday, Friday 9:00am - 11:30pm
Course website: www.jchoih.com/econ113

Teaching Assistant: Kyle Neering (kneering@ucsc.edu)
TA section: Thursday 9:00am - 10:10am, Physical Science Building 114 (PSB 114)
TA office hours*: Tuesday 3:00pm - 4:00pm, Engineering 2 Building 403G (E2 403G)
* TA office hours starts from August 4th.

LSS Tutor: Lindsey Newman (lrnewman@ucsc.edu)
To sign up for a Learning Support Services tutor, go to https://eop.sa.ucsc.edu/OTSS/tutorsignup/

Textbook: Introductory Econometrics (any edition from 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^{TM}: $38 Small Stata will be sufficient for this class
  http://www.stata.com/order/new/edu/gradplans/student-pricing/
- The latest version is also available on Windows in computer labs

Problem sets: 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. There will not be any make-up exams.

Important dates:

- Midterm exams: August 3rd and August 17th, 2015
- Final exam: August 28th, 2015
- Deadline to drop: August 3rd, 2015
- Deadline to withdraw: August 14th, 2015

Course outline (subject to change)

Lecture	Date	Topics
1	July 27th	Introduction, Population & Sample, Mean and Variance, Unbiased estimator
2	July 29th	Probability
3	July 31st	Statistical inference (Significance test, Confidence Interval, P-value)
-	August 3rd	**Midterm 1**
4	August 5th	Relationship between two variables, Simple regression
5	August 7th	OLS estimator
6	August 10th	Gauss-Markov assumptions, Goodness-of-fit measures
7	August 12th	Multiple regression, Omitted variable bias
8	August 14th	Quadratic terms, Comparing parameters, Multiple restrictions
-	August 17th	**Midterm 2**
9	August 19th	Adjusted R-squared, Standardizing coefficients, Interaction term
10	August 21st	Dummy variable, Instrumental variable
11	August 24th	Difference-in-differences
12	August 26th	Measurement error, Heteroskedasticity (Breusch-Pagan test, White test, WLS)
-	August 28th	**Final**

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