

Economics 522a
Econometrics
Spring 2015

Professor R. L. Oaxaca
McClelland 401QQ
Office Hours: M-W 1:30 - 3:00 p.m.,
or by appointment

SYLLABUS

This course is a Ph.D. level introduction to econometrics. The objective of the course is to provide a rigorous treatment of basic econometric techniques and the body of theory underlying their applications.

Prerequisites: Econ 520 or its equivalent and competency in calculus and linear algebra.

Required: Greene, William H., *Econometric Analysis*, 7th ed. (Prentice Hall, 2012)

Optional: Kennedy, P., *A Guide to Econometrics*, 6th ed. (Blackwell, 2008)

Class materials and assignments for this course will be available for downloading from the following website: Class materials for this course will be available for downloading from the following website: www.u.arizona.edu/~rlo/. Once you have arrived at the website just click on the label "Teaching". The website may also be accessed by following the links from the UofA website <http://www.arizona.edu> to the Eller College of Management, Department of Economics.

COURSE POLICIES & REQUIREMENTS

I. Exams

A. Schedule

1. Midterm - Wednesday, March 4, 2015
2. Final - Thursday, May 14, 2015 (10:30 a.m. - 12:30 p.m.)

B. All exams will be closed book, however the use of calculators is permitted.

II. Determination of the Final Course Grade

A. There are a total of 400 points possible from the exams.

1. The midterm exam is worth 200 points.
2. The final exam is worth 200 points.

B. There are a total of 200 points possible from graded take-home problem sets.

C. Letter Grade Guidelines

- A 546+ points
- B 486–545
- C 396–485
- D 336–395
- E 0–335

III. Take-Home Problem Sets

- A. Take-home problem sets involving computer applications will be assigned throughout the semester.
 - 1. Students may work together in groups of 3 or less on these assignments, i.e. no more than 3 names may appear on a completed assignment.
 - 2. Each completed assignment must clearly indicate the answers and include supporting computer printout in order to receive credit.
- B. Available Econometrics/Statistical Programs
 - 1. Students are free to use whatever software package and system they find the most convenient.
 - 2. Partial listing of available econometrics/statistical software programs suitable for this course:
STATA, R, SAS, GAUSS, MATLAB

COURSE OUTLINE AND READING LIST

I. Background Review

Greene, *Econometric Analysis*, 7th. ed., Chapter 1, and Appendices A - E.
Kennedy, Chapters 1, 2

II. Classical Linear Regression Model

Greene, Chapters 2, 3, 4 (pp. 51-56, 58-88), 5 (pp. 108-133), & 6
Kennedy, Chapters 3, 4, 15 & 20

III. Single Equation Econometric Problems

A. Multicollinearity

Greene, Chapter 4 (pp. 89-91)
Kennedy, Chapter 12

B. Specification Error

Greene, Chapter 4 (pp. 56-59,88-91)
Kennedy, Chapter 6, 7

C. Nonspherical Disturbances (Heteroscedasticity & Serial Correlation)

Greene, Chapter 9, 20 (pp.903-913, 918-921, 922-930)
Kennedy, Chapter 8

D. Endogeneity and IV estimation

Greene, Chapter 8 (219-251)
Kennedy, Chapter 9, 10

E. Multi-Equation Models

1. Seemingly Unrelated Regressions

Greene, Chapter 10 (pp. 290-299)

2. Simultaneous Equations

Greene, Chapter 10 (pp. 314-334)
Kennedy, Chapter 11

Cox, James C. and Ronald L. Oaxaca, "Can Supply and Demand Parameters be Recovered from Data Generated by Market Institutions?," *Journal of Business and Economic Statistics*, July 1999, Vol. 17, No.3, 285-297.

IV. Nonlinear Regression

Greene, Chapter 7 (pp. 181-202)