

Economics 522a  
Econometrics  
Spring 2005

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McClelland 401QQ  
Office Hours: T-Th. 2-3 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*, 5th ed. (Prentice Hall, 2003)

Optional: Kennedy, P., *A Guide to Econometrics*, 5th ed. (MIT Press, 2003)

Class materials and assignments for this course will be available for downloading from the following website: <http://uaeller.eller.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 - Thursday, March 3, 2005
2. Final - Thursday, May 12, 2005 (8-10 a.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 425 points possible from the exams.

1. The midterm exam is worth 200 points.
2. The final exam is worth 225 points.

B. There are a total of 75 points possible from graded take-home problem sets.

#### C. Letter Grade Guidelines

- A 455+ points
- B 405–454
- C 330–404
- D 280–329
- E 0–279

### 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 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:
    - LIMDEP (student version) - available at [www.prenhall.com/greene](http://www.prenhall.com/greene)
    - LIMDEP - McClelland 335 and McClelland 401RR
    - GAUSS - McClelland 401RR
    - SAS - University PC site license and McClelland 401RR
  - 3. STATA - McClelland 401RR

## COURSE OUTLINE AND READING LIST

### I. Background Review

Greene, *Econometric Analysis*, 5th. ed., Chapter 1, Appendices A, B, C, and D.  
Kennedy, Chapter 1

### II. Classical Linear Regression Model

Greene, Chapters 2, 3, 4 (pp. 41-56) , 5 (pp. 65-72), & 7 (pp. 116-120, 122-124, 130-134).

Kennedy, Chapters 2, 3, 4, 14 & 19

Davidson, R. and J. Mackinnon, *Estimation and Inference in Econometrics*, Chapters 1, 4, 8, 13

Johnston, J., *Econometric Methods*, 3rd ed., Chapters 2, 3, 5, 6 (pp. 204-233), & 7

Pindyck, R. S. and D. L. Rubinfeld, *Econometric Models & Economic Forecasts*, 3rd ed., Chapter 8

Schmidt, P., *Econometrics*, Chapters 1 & 3 (sections 3.1 & 3.2)

### III. Single Equation Econometric Problems

#### A. Multicollinearity

Greene, Chapter 4 (pp. 56-59)

Kennedy, Chapter 11

Johnston, J., *Econometric Methods*, 3rd ed., Chapter 6 (section 6.5)

#### B. Specification Error

Greene, Chapter 8 (pp. 148-151)

Kennedy, Chapter 6

Johnston, J., *Econometric Methods*, 3rd ed., Chapter 6 (section 6.6)

Schmidt, P., *Econometrics*, Chapter 2 (section 2.3)

#### C. Errors in Variables

Greene, Chapter 5 (pp. 74-91)

Kennedy, Chapter 9

Kmenta, J., *Elements of Econometrics*, 2nd. ed., Chapter 9 (section 9.1)

Schmidt, P., *Econometrics*, Chapter 3 (sections 3.3 & 3.4)

#### D. Nonspherical Disturbances

Greene, Chapters 10 (pp. 191-201, 207-212) 11, (pp. 215-232) & 12

Kennedy, Chapter 8

Davidson, R. and J. Mackinnon, *Estimation and Inference in Econometrics*, Chapters 10 & 16

Judge, et al., *Introduction to the Theory and Practice of Econometrics*, 2nd ed., Chapters 8 & 9

Johnston, J., *Econometric Methods*, 3rd ed., Chapter 8 (pp. 287-329)

Schmidt, P., *Econometrics*, Chapter 2 (section 2.5)

#### E. Multi-Equation Models

##### 1. Seemingly Unrelated Regressions

Greene, Chapter 14 (pp. 339-357)

Kmenta, J., *Elements of Econometrics*, 2nd. ed., Chapter 12 (pp. 635-646)

Judge, et al., *Introduction to the Theory and Practice of Econometrics*, 2nd ed., Chapter 11 (pp. 443-462)

Johnston, J., *Econometric Methods*, 3rd ed., Chapter 8 (section 8.6)

Schmidt, P., *Econometrics*, Chapter 2 (pp. 72-85)

##### 2. Simultaneous Equations

Greene, Chapter 15 (pp. 378-400, 404-409)

Kennedy, Chapter 10

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.

Davidson, R. and J. Mackinnon, *Estimation and Inference in Econometrics*, Chapter 18

Schmidt, P., *Econometrics*, Chapters 4 & 5

#### IV. Generalized Method of Moments

Greene, Chapter 18

Davidson, R. and J. Mackinnon, *Estimation and Inference in Econometrics*, Chapter 17

#### V. Nonlinear Regression

Greene, Chapter 9

Judge, et al., *Introduction to the Theory and Practice of Econometrics*, 2nd ed., Chapter 12 (pp. 497-527)

## VI. Distributed Lag Models

Greene, Chapter 19 (pp. 558-571)

Kmenta, J., *Elements of Econometrics*, 2nd. ed., Chapter 11 (pp. 527-542)

Judge, et al., *Introduction to the Theory and Practice of Econometrics*, 2nd ed., Chapter 17 (pp. 720-742)

Johnston, J., *Econometric Methods*, 3rd ed., Chapter 9 (sections 9.1 & 9.2)