ECON 807
Econometrics II

P.W. Wilson Spring 2009

Class location and time: 209 Sirrine Hall, Tue. and Thu., 3:30pm–4:45pm
Office: 232 Sirrine Hall
Office hours: 2:00pm–3:00pm Tue. and Thu., or by appointment
Email: pww@clemson.edu
WWW: http://www.clemson.edu/economics/faculty/wilson

Required texts:

- W.H. Greene, *Econometric Analysis,* 6th edition Upper Saddle River, NJ: Prentice-Hall, Inc., 2008.
- P. Kennedy, *A Guide to Econometrics,* 5th edition, Cambridge, MA: The MIT Press, 2003.

Other texts that might be useful:

- A.C. Cameron and P.K. Trivedi (2005), *Microeconometrics: Methods and Applications,* New York: Cambridge University Press.
- J. Johnston and J. DiNardo, *Econometric Methods,* New York: McGraw-Hill Book Co., 1997.
- G.G. Judge, R.C. Hill, W.E. Griffiths, H.Lütkepohl, and T.C. Lee, *Introduction to the Theory and Practice of Econometrics,* New York: John Wiley & Sons, 1988.
- P.A. Ruud, *An Introduction to Classical Econometric Theory,* New York: Oxford University Press, 2000.

Additional Course Materials:

You can find additional course materials by going to my home page (see above), clicking on the link entitled "course materials for students," and following the obvious links.

Course Objectives:

This course is the second in a sequence of graduate econometrics courses required for Ph.D. students in economics. The course deals primarily with fully parametric, linear estimation. Homework assignments will provide opportunities for students to gain hands-on experience in working with real economic data. The homework assignments will hopefully reinforce the concepts discussed during class.

I will make reading assignments in class. Students should review material from the previous class as well as any reading assignments before each class.

Requirements:

Students are expected to have successfully completed ECON 806 (Econometrics I), or an equivalent course. Students should have a working knowledge of matrix algebra, distribution theory, modes of convergence, limit theorems, etc.

Course Grade Determination:

Students will have the following opportunities to demonstrate their abilities: homework assignments (10%), midterm exam (30%), and a final exam (60%). I expect the homework assignments to be done individually; however, I encourage you to consult with each other in working the homework assignments, although copying someone else's work is not permitted—I am encouraging only a mutual exchange of ideas. The homework assignments will include problems as well as empirical exercises, and will serve to reinforce material discussed in class.

The relative weightings shown above are approximate. In particular, homework assignments are manditory, as is class attendance. Shirking will result in (perhaps severely) reduced grades.

Grades on homework or exams may be challenged only if the student presents a written (i.e., typed), well-reasoned argument within 24 hours after the homework or exam is returned to students in class. I am happy to discuss concepts, etc. at any time, but will consider changes to assigned grades only within the framework described here.

Please note that homework submitted late will receive a grade of zero. All students must take the midterm and final exams. In the event of a serious medical problem, other arrangements will be made after sufficient evidence of a serious medical problem is provided. To avoid possibly unpleasant outcomes, students are advised to make such arrangements before missing an exam.

Office Hours:

My office hours are shown above. If you need to see me at other times, I will be happy to meet with you; a good approach is to ask me about an appointment after class. I will be happy to meet with you.

You may also visit my Teaching Assistant, who will be able to answer many of your questions. I will provide details in the first class.

Tentative Course Outline:

1. Introduction
2. The Bivariate Regression Model
   (a) the statistical model
   (b) least squares estimation
   (c) classical assumptions
   (d) properties of estimators
   (e) Gauss-Markov theorem
   (f) statistical properties of LS estimators
   (g) statistical inference

(h) goodness-of-fit

3. Matrix Algebra
4. The Multivariate Regression Model
   (a) the statistical model
   (b) least squares estimation
   (c) statistical properties of LS estimators
   (d) statistical inference
   (e) goodness of fit
5. Maximum Likelihood Estimation
6. Hypothesis Testing within the Multivariate Regression Model
   (a) basic approaches
   (b) the restricted LS estimator
   (c) tests of structural change
7. Generalized Least Squares
8. Violations of the Classical Assumptions
   (a) heteroskedasticity
   (b) autocorrelation
   (c) misspecification
9. Data Problems
   (a) multicollinearity
   (b) missing observations
   (c) measurement error
   (d) grouped data
   (e) outliers, etc.
10. Lagged Independent Variables
    (a) introduction
    (b) finite distributed lags
11. Lagged Dependent Variables (LDV)
    (a) autoregressive linear model
    (b) LDV models with autocorrelated errors
    (c) estimation with autocorrelated errors
12. Models with Multiple Equations

(a) seemingly unrelated regressions

(b) simultaneous equations models

Other topics may be covered as time permits. I reserve the right to revise the above list as the course progresses, but will make relevant announcements in class.