

## ECON 808 Econometrics III

P.W. Wilson

Fall 2009

**Class location and time:** 209 Sarrine Hall, Tue. and Thu., 11:00am–12:30pm  
**Office:** 201E Sarrine Hall  
**Office hours:** 4:00pm–5:00pm Tue. and Thu., or by appointment  
**Email:** pww@clemson.edu  
**WWW:** <http://www.clemson.edu/economics/faculty/wilson>

### Required text:

- A.C. Cameron and P.K. Trivedi (2005), *Microeconometrics: Methods and Applications*, New York: Cambridge University Press.

### Other texts that might be useful:

- Dhrymes, P. (1970), *Econometrics: Statistical Foundations and Applications*, New York.
- Judge, G.G., R.C. Hill, W.E. Griffiths, H.Lütkepohl, and T.C. Lee, (1988), *Introduction to the Theory and Practice of Econometrics*, New York: John Wiley & Sons, Inc.
- Maddala, G.S. (1983), *Limited Dependent and Qualitative Variables in Econometrics*, Cambridge: Cambridge University Press.
- Theil, H. (1971), *Principles of Econometrics*, New York: John Wiley and Sons, Inc.
- Zaman, A. (1996), *Statistical Foundations for Econometric Techniques*, San Diego: Academic Press, Inc.

### Additional Course Materials:

You can find additional course materials, including a reading list, 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 third in a sequence of graduate econometrics courses required for Ph.D. students in economics. Students are expected to have successfully completed the department’s graduate course on introductory probability and statistics (ECON 900 or ECON 806), or an equivalent course, and Econometrics II (ECON 807). This course will provide students with tools needed to evaluate applied work by others, as well as to conduct applied research using nonlinear models and methods.

**Course Content:** This course provides an introduction to a number of topics from econometric theory that are important in a variety of economic applications. Part I of the course will develop methods for estimation and inference. Whereas Econometrics II deals primarily

with linear estimation using least-squares methods, this course focuses on maximum likelihood estimation of nonlinear models. Other estimation methods may be briefly discussed as time permits, and at least one class will be devoted to nonparametric estimation methods. Particular attention will be given to specification and estimation of parametric statistical models, as well as inference and testing in both standard and non-standard situations.

Part II of this course will focus on application of methodologies for estimation and inference developed in Part I of the course to specific econometric models. Although rather different models will be considered, in each case the approach will consist of several steps. First, a statistical model will be specified. Estimation of parameters and perhaps other features of the model using an appropriate method will then be discussed. Inferences and hypothesis tests about the parameters will be considered, with a discussion of how the model and estimation results might be interpreted.

The following is a list of data types to be examined in some depth:

1. discrete choice;
2. ordered discrete data;
3. censoring, truncation, and selection;
4. count data;
5. duration data;
6. mixtures;
7. production data;
8. miscellaneous problems.

**Course Grade Determination:** Students will have the following opportunities to demonstrate their abilities:

- homework assignments (10%);
- midterm exam (25%);
- paper (30%);
- final exam (35%).

The relative weightings shown above are approximate. I expect the homework assignments to be done individually; however, I encourage you to consult with each other in working the homework assignments. Copying someone else's work is not permitted—I am referring here to a mutual exchange of ideas. The homework assignments will include many empirical exercises, and will serve to reinforce material discussed in class.

Grades on exams, homework, or other assignments may be challenged by presenting a written (i.e., typed), well-reasoned argument within 24 hours after receipt of the graded exam, homework, etc. I am happy to discuss concepts, etc. at any time, but will consider changes to assigned grades only within the framework described here.