ECON 8080
Econometrics III

P.W. Wilson Fall 2022

Class location and time: 329 Powers Hall, Tuesday and Thursday, 11:00am–12:15pm
Office: 320A Powers Hall
Office hours: 3:45pm–4:45pm Thursdays or by appointment
Email: pww@clemson.edu
WWW: https://pww.people.clemson.edu

Required text:


Other texts that might be useful:


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 8060) or an equivalent course, and Econometrics II (ECON 8070). This course will provide students with tools needed to evaluate empirical work by others, as well as to conduct empirical research using nonlinear models and methods.
Requirements:

Students are expected to have a solid grasp of concepts presented in ECON 8060 and 8070. In addition, students should possess basic computer skills, and the ability to read and understand software documentation.

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

Class attendance is not mandatory in the sense that I will not check the class roster in each class. However, it is not possible to pass this class (or any other worthwhile graduate-level class) without attending and actively engaging in the intellectual exercises that take place in class. Consequently, students should act as if class attendance is mandatory.

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 (5%);
- one midterm exam (15%);
- paper (40%);
- final exam (40%).

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—you may discuss how to approach a given problem with others, but each student should do his own work. Some of the homework assignments will include empirical exercises, and will serve to reinforce material discussed in class.

You are responsible for taking exams and handing in homeworks at the beginning of class on the day when due. 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.

Grades on exams, homework, or other assignments may be challenged by presenting a well-written, well-reasoned argument. Any such challenge must be typed on paper and either given to me or one of the department’s secretaries within 24 hours after receipt of the graded exam, homework, etc. For this purpose, only hard copies will be accepted; cases submitted by email will not be considered. I am happy to discuss concepts, etc. at any time, but will consider changes to assigned grades only within the framework described here. Do not ask me questions such as, “why did I receive $x$ points less than so-and-so?”