BPHD8130: Econometrics II
Spring 2020

Instructor: Dr. Craig A. Depken, II   **E-mail**: cdepken@uncc.edu
Office: 220 Friday   **Office Hours:** T, Th 1-3PM and by appointment
Phone: 704.687.7474   **Class Meets**:   Th 10am-12:45pm 207 Friday

Course Objective: Advanced course in cross-section and panel data methods. Focus on underlying assumptions regarding the population, specification, estimation, and testing of microeconometric models. Students become acquainted with a variety of extensions of conventional linear models for cross-sectional and panel data, including panel data models, instrumental variables models, simultaneous equations models, and qualitative response models.

Text and readings: There is no dedicated textbook for this course. Recommended texts include *Mostly Harmless Econometrics* and *Mastering Metrics* by Angrist and Pischke and *Microeconometrics using Stata* by Cameron and Trivedi. An excellent resource is *Econometric Analysis of Cross Section and Panel Data* by Jeffery Wooldridge. Another good source is *A Guide to Econometrics* by Peter Kennedy. Course readings will be assigned in advance and posted at the course's Canvas page.

Software: STATA is the supported software in this course. STATA is available on campus computers and can be purchased for a reduced price at www.stata.com. GRETL is a free econometric software package (available at http://gretl.sourceforge.net/) which can do most of what we will do in this class. SAS is also capable of estimating most of the models discussed in this class. You can use any software you wish (SAS, R, Matlab, etc.) to perform out-of-class projects; however I can only support Stata (and a little SAS).

Course Web Page: Course materials projects will be posted on *canvas.uncc.edu*.

Grading: Grading will proceed in the following manner:

Assignment	Total Value
6 Out-of-class assignments	150 points
1 Midterm Exam (take home)	100 points
1 Term Paper	100 points
1 Non-cumulative Final Exam (take home)	100 points
	450 points

Letter grades are awarded as follows (after standard rounding):

A 450-394   B 393-338   C 337-297   U 296-0

Attendance: There is no attendance policy in this class. You are free to attend or not attend class, this is your decision. However, attendance is a major factor in how well you will perform in the class. No points are artificially added or subtracted based on attendance. I appreciate your arriving on time and not leaving class early. If you miss class, you should NOT ask me for the material you missed; it is your responsibility to get this information from one of your classmates.

Academic Honesty: Please note that academic misconduct (cheating) will NOT be tolerated. In addition, students have the responsibility to know and observe the requirements of The UNC Charlotte Code of Student Academic Integrity. This code forbids cheating, fabrication or falsification of information, multiple submissions of academic work, plagiarism, abuse of academic materials, and complicity in academic dishonesty. Academic evaluations in this course include a judgment that the students work is free from academic dishonesty of any type; and grades in this course therefore should be and will be adversely affected by academic dishonesty. Students who violate the code can be expelled from UNC Charlotte. The normal penalty for a first offense is zero credit on the work involving dishonesty and further substantial reduction of the course grade. In almost all cases, the course grade is reduced to F. Copies of the code can be obtained from the Dean of Students Office. Standards of academic integrity will be enforced in this course. Students are expected to report cases of academic dishonesty to the course instructor.

Make-up Projects: Make-up exams are generally not offered. Out-of-class assignments turned in late can earn a maximum of 60% of the original point value.

Cell Phone Externalities: All beepers, pagers and cell phones must either be turned off prior to class starting or placed in silent mode. The proliferation of cell phones and other communication devices has only increased the negative externalities imposed on others when they activate during class.

Laptop Externalities: The use of tablets, laptops, and desktop computers in this class is restricted to uses that are not distracting to the professor or other students.

Statement on Diversity: The Belk College of Business strives to create an inclusive academic climate in which the dignity of all individuals is respected and maintained. Therefore, we celebrate diversity that includes, but is not limited to ability/disability, age, culture, ethnicity, gender, language, race, religion, sexual orientation, and socio-economic status.

Important dates:
- First Day of Class: January 9
- No Class: March 5 (Spring Break)
- Paper proposal: March 13 (Friday)
- First paper draft: April 17 (Friday)
- Final paper draft: May 8 (Friday)
- Last Class: April 23
- Take-home Midterm Exam: due Friday March 13 5:30 PM EDT
- Take-home Final Exam: due Tuesday May 5 5:30 PM EDT

Course Outline (Subject to Change)

Part I. What is on the Left Hand Side?
1. OLS/MLE and Non-standard Standard Errors
2. Binary response models: linear probability model, probit, logit.
3. Multinomial response models: multinomial probit and logit (unordered and ordered)
4. Censored and Truncated Data: Tobit type models
5. Sample Selection
6. Count data: Poisson, Negative Binomial, Zero Inflated models
7. Duration data: Hazard Models

Part II: What is on the Right Hand Side?
8. Causal Theory and Causal Inference Using Observational Data
9. Panel data models
10. Difference-in-differences
11. Matching Models
12. Quantile Regression
13. Instrumental Variables
14. The Bootstrap and Clustered Standard Errors

Term Paper Guidelines

Students will write a short term paper involving econometric analysis. The paper is an opportunity to apply the econometric tools learned in class to a real-world issue chosen by the student. I recommend that you choose a topic in which you are interested but also with a narrow focus. A narrow focus increases the probability that the project can be completed by semester's end and be of sufficient quality. If you have trouble choosing a paper topic, I can offer suggestions.

I recommend you begin thinking about this project as soon as possible.

Proposal (1-3 pages)   **due by Friday March 13, 2020, 5:30EDT.**
First draft (8-15 pages)   **due by Friday April 17, 2020, 5:30EDT.**
Final draft (8-15 pages)   **due by Monday May 8, 2020 at 5:30 PM EDT**.

Paper guidelines:

- Papers should be 8-15 double-spaced, single-sided pages using either Times New Roman 11 font or 12 font;
- Papers should be generally structured in the following manner:
    - Introduction of the economic/econometric problem
    - Brief review of previous literature dealing with your problem
    - Introduction of your econometric model and data including data source(s)
    - Review and interpretation of your estimation results
    - Concluding remarks
    - Reference list
    - Econometric Results in tabular form
    - Figures
- You must provide an electronic form of your data, programs, program output and paper. If I do not receive all required files, you will receive a zero on the term paper.

- Here is the rubric used to grade the term papers:
    - 20 points – appropriate specification of research question
    - 20 points – appropriate data and description
    - 20 points – appropriate methodology and description
    - 20 points – appropriate interpretation and discussion of results
    - 20 points – overall paper structure (including writing style and grammar)

Plagiarism: I will not hesitate to initiate academic dishonesty proceedings against anyone who plagiarizes. If you do not know what constitutes plagiarism, contact me first.