

BPHD 8120: ECONOMETRICS I

Syllabus for Fall 2017

9:30 a.m. – 10:45 a.m. MW

Friday 207

Instructor

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Office Hours

2:30 p.m. – 3:15 p.m. MW & 4:45 p.m. – 5:30 p.m. MW

If the hours established are not convenient, feel free to make an appointment with me for another time or to stop by at another time when I am in the office.

Course Objectives

The objectives of this course are for you to master basic econometric concepts and apply these concepts to research questions in Economics and Finance.

Textbooks and Other Resources

There are three textbooks that are required for this course:

- (1) Verbeek, Marno. 2012. *A Guide to Modern Econometrics*, 4th edition. New York, NY: John Wiley and Sons, Inc.
- (2) Wooldridge, Jeffrey M. 2016. *Introductory Econometrics*, 6th edition. Boston, MA: Cengage Learning.
- (3) Stock, James H., and Mark W. Watson. 2015. *Introduction to Econometrics*, updated 3rd edition. Boston, MA: Pearson Education.

We will be using MyEconLab in the course, so you will need the supplemental package, Pearson eText/Access Card. I will give you the sign-up information you need in a separate document. There are several other excellent introductory or specialized econometrics textbooks that you may find useful:

Greene, William H. 2012. *Econometric Analysis*, 7th edition. Upper Saddle River, NJ: Pearson Prentice Hall.

Gujarati, Damodar N., and Dawn C. Porter. 2009. *Basic Econometrics*, 5th edition. New York, NY: McGraw-Hill/Irwin.

Hamilton, James D. 1994. *Time Series Analysis*. Princeton, NJ: Princeton University Press.

Johnston, Jack, and John DiNardo. 1997. *Econometric Methods*, 4th edition. New York, NY: McGraw-Hill, Inc.

Kennedy, Peter. 2008. *A Guide to Econometrics*, 6th edition. Malden, MA: Blackwell Publishing.

Wooldridge, Jeffrey M. 2010. *Econometric Analysis of Cross Section and Panel Data*, 2nd edition. Cambridge, MA: The MIT Press.

Gujarati and Porter (2009) is another especially useful introductory text. Johnston and DiNardo (1997) and Verbeek (2012) are more advanced but still quite accessible introductory texts that rely on matrix algebra to a greater extent than Gujarati and Porter (2009), Stock and Watson (2015), and Wooldridge (2016). The text by Greene (2012) is particularly advanced, as are the more specialized texts by Hamilton (1994) and Wooldridge (2010). Kennedy (2008) emphasizes the intuition behind econometric analysis.

Software

I will support STATA for the econometric analyses that you will be doing in this course. You are free to use other software, but I may not be able to help you if you have any trouble completing assignments with other software. You can purchase STATA at a reduced rate through the STATA website (<http://www.stata.com/order/new/edu/gradplans/student-pricing/>). The STATA/IC version is sufficient for the problem sets that you will be assigned in this course and in BPHD 8130 (Econometrics II). If you expect to work with large datasets in your research, then you may want to consider the STATA/SE version. The following websites have a number of examples and other resources that you may find helpful as you work with STATA: <http://data.princeton.edu/stata/>, <http://www.ats.ucla.edu/stat/stata/>, and <https://www.ssc.wisc.edu/sscc/pubs/sfr-intro.htm>.

Means of Student Evaluation

Grades will be determined by your performance on 4 problem sets (10% each), 4 MyEconLab assignments (3% each), and 4 in-class tests (12% each). Letter grades for the course will be based on the following scale: A, 90%-100%; B, 80%-89.99%; C, 70%-79.99%; U, below 70%.

NOTE WELL: Grades will be based solely on your performance on the 4 problem sets, the 4 MyEconLab assignments, and the 4 in-class tests. Individual extra credit assignments will **NOT** be made.

Problem Sets

Problem sets must be typed and must be submitted in class on the assigned due date. A problem set may be submitted after the due date, but there will be a penalty of one letter grade for each day that the submission is late. Once a problem set has been graded and returned to the class, no late submission will be accepted, and you will receive a grade of zero on that problem set. The first problem set will be due on September 13; the second, on October 11; the third, on November 13; and the fourth, on December 6.

MyEconLab Assignments

Each assignment in MyEconLab includes additional empirical exercises. There is one MyEconLab assignment per problem set, so a MyEconLab assignment will be made available at the same time that a problem set is made available. The first MyEconLab assignment will be due on September 15; the second, on October 13; the third, on November 15; and the fourth, on December 8. Late submissions of MyEconLab assignments will not be accepted.

Tests

The first test will be on September 20; the second, on October 18; the third, on November 20; and the fourth, in the final exam slot for the course (8:00 a.m. – 10:30 a.m. on December 13).

Academic Integrity

All students are required to read and abide by the Code of Student Academic Integrity. Violations of the Code of Student Academic Integrity, including plagiarism, will result in disciplinary action as provided in the Code. Definitions and examples of plagiarism are set forth in the Code. The Code is available from

the Dean of Students Office or online at <http://legal.uncc.edu/policies/up-407>. Please be aware that faculty may ask students to produce identification at examinations and that faculty may require students to demonstrate that assignments completed outside of class are their own work.

Disability Accommodations

UNC Charlotte is committed to access to education. If you have a disability and need academic accommodations, please provide a letter of accommodation from the Office of Disability Services early in the semester. For more information about accommodations, you may contact the Office of Disability Services at 704-687-0040 or visit the Office of Disability Services itself in Fretwell 230.

Other

The standards and requirements set forth in this syllabus may be modified at any time by the course instructor. Notice of such changes will be by announcement in class and by email.

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.

Outline of Topics and Reading Assignments

I assume that you have a working knowledge of calculus, matrix algebra, and statistics, so we will not review these topics in class. Appendices A and B of Verbeek (2012), Appendices A, B, C, and D of Wooldridge (2016), and Chapters 2 and 3 of Stock and Watson (2015) cover the material that we need.

- I. Linear Regression with One Regressor
 - Wooldridge (2016), Chapter 2
 - Stock and Watson (2015), Chapter 4
- II. Linear Regression with Multiple Regressors
 - Verbeek (2012), Chapter 2
 - Wooldridge (2016), Chapters 3, 4, & 5
 - Stock and Watson (2015), Chapter 6
- III. Interpreting and Comparing Regression Models
 - Verbeek (2012), Chapter 3
 - Stock and Watson (2015), Chapter 8, pp. 256-278
- IV. More about Regression Analysis with Dummy Variables
 - Wooldridge (2016), Chapter 7
 - Stock and Watson (2015), Chapter 8, pp. 278-299
 - Stock and Watson (2015), Chapter 11, pp. 386-391
- V. Heteroskedasticity
 - Verbeek (2012), Chapter 4, pp. 94-111
 - Wooldridge (2016), Chapter 8
 - Stock and Watson (2015), Chapters 5 & 7
- VI. Regression Analysis with Time Series Data
 - Verbeek (2012), Chapter 4, pp. 112-134
 - Wooldridge (2016), Chapters 10, 11, & 12
- VII. Introduction to Forecasting
 - Verbeek (2012), Chapter 8
 - Stock and Watson (2015), Chapter 14