



## EC228.04

### Econometric Methods

Tuesday-Thursday 1:30, Lyons 202

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Office Hours: T-Th 4:30{5:30 p.m. and by appointment

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**Course Description:** This is a basic course in econometrics that provides tools for understanding and doing empirical research. Students will learn the basic theory and get experience working with data. This course builds on statistics, but unlike statistics, econometrics is concerned with relationships between variables rather than analysis of just one variable. We will learn how to construct simple econometric models, estimate and interpret the parameters of those models.

**Prerequisites:** Calculus and statistics (Econ 1151 or equivalent).

**Text:** *Introduction to Econometrics*, 3<sup>rd</sup> Edition, by James H. Stock and Mark W. Watson (Addison-Wesley, 2011).

**Software:** Computer software will be needed for some problem sets and the project. We will be using Stata, a package that is versatile, powerful and popular. Stata is available for both Windows and the Mac. More information about software is available in a separate handout.

**Grading:** The course grade is based on the following:

|  |            |
|--|------------|
| Midterm (in class, Thursday, October 19)                   | 20 percent |
| Final Exam (Thursday, December 14, 9:00{11:00 a.m.)        | 35 percent |
| Research Paper (due December 7, beginning of class)        | 25 percent |
| Problem Sets (seven in all, due at the beginning of class) | 10 percent |
| Lab  | 10 percent |

**No make up or early exams will be given** Students should check their schedules to make sure that no conflicts occur on these exam dates.

**Reading:** A tentative reading schedule is outlined on pages 2 and 3. Reading averages less than 10 pages per class, but it's dense and takes time to comprehend. Sticking to the schedule keeps you concurrent or ahead of the lectures.

**Classes:** The lecture will begin precisely at the beginning of the scheduled class time. All students should arrive at least 3 minutes early, so that we can start (and end) on time. All electronic devices must be stowed during class.

## Schedule

| Date      | Reading | Main Topic               | Things Due                         |
|-----------|---------|--------------------------|------------------------------------|
| August 29 |         | Introduction             |                                    |
| August 31 | Ch. 1   | Least squares regression | Completed math diagnostic test due |

## Schedule, continued

| Date       | Reading                              | Main Topic  | Things Due     |
|------------|--------------------------------------|---|----------------|
| October 24 | Ch. 13,<br>sec. 13.1-13.2            | Potential Outcomes<br>Selection Bias<br>Causality |                |
| October 26 | Ch. 5, sec. 5.4<br>Ch. 14, sec. 14.2 | Heteroskedasticity<br>Autocorrelation             |                |
| October 31 | Ch. 9, sec. 9.1-9.3                  | Internal/external validity<br>Misspecification    | Problem set #6 |
| November 2 | Ch. 9, sec. 9.4-9.7                  | Measurement error<br>Simultaneous causality       |                |