

# Syllabus for Econ 470

## Econometrics

### **Professor Peter Reinhard Hansen**

Email: reinhardhansen@gmail.com

Lectures: Tue & Thu 14:00-15:15 in Gardner Hall 307.

Office Hours: TBD Gardner Hall 300G.

### **Prerequisites:**

Econ 400 (Statistics) and 410 (Intermediate Microeconomics) with a grade of C or better in both courses.

### **Course Outline**

Econometrics is the application of statistical methods and economic theory to the problem of identifying, estimating, and testing economic models, and address interesting economic questions. This course covers concepts and methods used in empirical economic research. Students will learn how to conduct and how to critique empirical studies in economics. Accordingly, the emphasis of the course is on various empirical applications. Topics include classical single-equation regression model, multiple regression models, instrumental variables, and panel data. In the lectures, there will be many empirical examples using a wide variety of data sets.

### **Website**

Course website: <https://sakai.unc.edu/portal/site/econ470fall19>

### **Textbook**

We will use “Introduction to Econometrics” by Stock & Watson as the textbook. It recently came out in its 4th edition. You can use earlier editions of the book in this course, but you will need access to the 4th edition for problem sets.

### **Problem Sets**

A number of homework assignments will be given during the course. You may discuss and exchange ideas about how to solve the assignments, but each student must turn in her own work. Some assignments will require the use STATA. STATA 14 is available in computer labs

on campus, a student edition can be purchased, and it is available as part of the Citrix virtual computer lab that you can access with your onyen and password.

## **Grading Policy**

Grades will be based on (5-7) homework assignments (20%), two midterm exam (20%+25%), and a final exam (35%). Exams are closed-book, but you may bring a sheet with your own notes (one side of a letter-sized sheet of paper for the midterm, both sides for the final exam). Active participation during lectures is expected.

## **Electronic Devices**

All electronic devices must be turned off during class. This includes cell phones and laptop computers. You should plan on taking notes “by hand.”

## **Schedule (preliminary)**

### **Week 1-2**

Introduction and Review of Basic Statistics (SW 2-3)

### **Week 3**

Linear Regression Analysis (Simple Case with Single Regressor) (SW 4)

### **Week 4**

Inference in Simple Linear Regression (SW 5)

### **Week 5**

Regression with Multiple Regressors (SW 6)

### **Week 6-7**

Hypothesis Testing (SW 7)

[Midterm 1 \(October 8\)](#)

**Week 8**

Nonlinear Regression Models (SW 8)

**Week 9**

Panel Data (SW 10)

**Week 10-11**

Midterm 2 (November 12)

**Week 12-13**

Regression with Binary Dependent Variables (SW 11)

**Week 14**

Advanced topics and Review

**Final Exam (December 7, 12:00-3:00pm)**