

# Economics 1630: Econometrics I

**Professor Frank Kleibergen**

**Fall 2009**

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Office Hours: Tuesday 1.00-2.30 pm

Classes: Monday 8.30-9.50 am & Wednesday 8.30-9.50 am, Wilson Hall 101

**Teaching Assistant Zhaoguo Zhan**

Section I: Wednesday 12:00 - 12:50 pm Salomon Center 003

Section II: Wednesday 7:00 - 7:50 pm Wilson Hall 101

Office Hours: Friday 3:00 - 4:30 pm Robinson Hall Basement

## **Course Description:**

This course is the introduction to econometrics course offered by the Economics Department at Brown.

Prerequisites: EC 1110 or 1130, MA 520, and either APMA 1650, MA 1620 or ECON 1620. Computer (Stata) programming experience is helpful but not required.

## **Required Textbook:**

(SW) Stock, J., and M. Watson. *Introduction to Econometrics*, 2-nd Edition, Addison-Wesley, 2006.

The course will follow SW. The lectures will go into more depth about some aspects where we take advantage of the skills EC163 students have acquired prior to taking the class. There is some use of vector/matrix algebra when we discuss the multivariate linear regression model. I will provide some introduction to it but please refresh your knowledge about it when you need to.

The sections will review the material from the lectures and homeworks.

## **Grading:**

Grades will be based on three exams ( $3 \times 25\%$ ) and four homeworks (25%). The exams will be in class on **Wednesday, October 7-th; Wednesday, November 4-th** and **Wednesday, December 9-th**. There is no final exam. Only in the case of a family emergency or medical absence (confirmed by the dean) will absence from the exams be allowed.

## **Homework:**

I encourage you to study in groups. Your homework assignments MUST, however, entirely be your own work. I will not accept identical homeworks turned in by different students. Homework assignments and transparencies will be put on my homepage under the courses section.

Homeworks are due at the beginning of class on the due date. Please turn homeworks in on time as late homeworks will not be accepted. The homeworks are tentatively scheduled for: HW1 9/30, HW2 10/21, HW3 11/18, HW4 12/2.

**No classes:** Wednesday November 25-th. No TA sessions in the 12-th (Thanksgiving) week.

**Course Outline:**

The chapters and sections listed below. The material we will cover may be adjusted somewhat towards the end of the semester.

1. Introduction  
Chapter 1
2. Fundamentals: (probability, random variable, mean, variance, statistical model, estimation, inference)  
Chapter 2 & 3
3. Linear Regression with One Regressor  
Chapter 4, 5 & 17.1-17.4
4. Linear Regression Model with Multiple Regressors  
Chapter 6, 7 & 18.1-18.5
5. Nonlinear Regression and Specification Analysis  
Chapter 8 & 9
6. Panel Data  
Chapter 10
7. Logit and Probit Models  
Chapter 11
8. Instrumental Variables (IV)  
Chapter 12
9. Experiments and Quasi-Experiments  
Chapter 13
10. Time Series Models  
Chapter 14