Econometrics II Syllabus

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Office Hours: Thursdays 11:00 – 12:00

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Objectives

This course introduces advanced tools and methodologies that allow us to make better quantitative predictions and inference in the context of both cross sectional and time series data. We will cover,

1. Estimation by instrumental variables (two-stage least squares).
2. Analysis and interpretation of data collected in experiments and quasi-experiments.
3. Analysis of binary dependent variables (least-squares and maximum likelihood).
4. Prediction and analysis of time series data, predictive modeling, dynamic causal models, structural changes.

The overall objective is for the student to learn new theory and methodology to help him/her critically examine empirical data, and ultimately put these results to use in economic and business decisions.

Prerequisites

Econometrics I or the following:

1. Basic knowledge of the concepts of statistical inference, hypothesis testing and constructing confidence intervals.
2. Knowledge of the methodology of estimation by OLS, obtaining and interpretation of estimators, hypothesis testing, causes and consequences of problems of internal and external validity of the models.
3. Basic knowledge of the use of econometric software STATA.
4. Knowledge of the fundamental concepts of economics and management that allow students to design and interpret the results of empirical studies using econometric techniques studied.

Organization

Teaching consists of 20 lectures and 6 seminars of 1.5 hours each. Lectures will develop the concepts and methodologies of the subject. Seminars will cover solutions to the homework problems and any other material not covered in lectures. Students are encouraged to work in groups of 3–4 in order to practice teamwork and share different ways to tackling the problems. Submission and evaluation of these exercises will be on group–by–group basis. Participation and asking questions in lectures and seminars is highly encouraged.

Evaluation

To pass the course, you should get at least 50 points out of 100, according to the following distribution:

Homework: 30 points

Midterm: 30 points

Final: 40 points

The midterm of 1.5 hours is scheduled for Tuesday 25/10/2011 and will cover all material up to that point. The final will cover all topics in the course but the focus will be mainly on the material covered after the midterm.

Book

The course follows *Introduction to Econometrics* (3rd Edition) by Stock and Watson very closely. This book is useful not just as a textbook but also as a reference. Another useful textbook is *Introduction to Econometrics* by Wooldridge, which is also available in Spanish.

Course Plan

Week	Topic(s)	Chapter(s)
1	Revision	2–7,9
2	Revision	9
	Instrument Variable Regression	12
3	Instrument Variable Regression	12
	Causal Effects	13
4∗	Causal Effects	13
	Binary Data	11
5∗	Binary Data	11
	Midterm	
6	No lectures or seminars	
7∗	Time Series	14
8∗	Time Series	14
	Dynamic Causal Effects	15
9∗	Dynamic Causal Effects	15
	Additional Topics	16
10∗	Overview and Revision	

∗ indicates a seminar that week.