

THE NEW SCHOOL
EUGENE LANG COLLEGE
SPRING TERM 2013

Syllabus for LECO 3010 Introduction to Econometrics

Instructor: Dr. Christian Proaño
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Lecture: MW 10-11.40am
Office hours: Mondays 1:30-3:00pm

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Course Description

Econometrics is the field of statistical inquiry using economic data, which emphasizes on estimation and testing of the parameters used to specify economic models. In this course, students learn about linear regression, starting from foundations in probability theory. Topics covered from multiple perspectives include parameter estimation, hypothesis testing, and the statistical properties of estimators. Time permitting, the course may conclude with discussions about how the techniques covered can be extended to time-series analysis and other advanced topics.

Course Prerequisites

LMTH 3006 Math Tools for Social and Natural Sciences or equivalent. This assumes that students have a basic knowledge in statistical theory and calculus. Students without this prerequisite will not be allowed to take this class.

Conduct of Course

In lectures, new material will be presented that will follow topics from the textbook, but may differ in emphasis. All students are expected to attend lecture regularly. Besides all the obvious reasons to attend lecture, some exam questions may not be covered in the text but only covered in lectures. In the off chance that you miss a lecture, you should get lecture notes from a fellow student if they are willing to share. In practical classes, the instructor and/or the TA will solve with the students practical exercises of the theoretical contents covered in the previous classes, and will go over the homework exercises which the students are supposed to have solved by then.

Examination Policy and Grading

The midterm and final exams will take place during regular class time in the regular class room on the dates listed above. They will be a combination of multiple-choice questions and short answer questions. You may also bring a pocket calculator. Exam questions will be based on material covered in lecture and the textbook. There will be NO make-up exams.

Grading will be based on homework exercises (30%), a midterm in-class exam (30%), a final in-class exam (30%) and class participation (10%).

Policy on Attendance and Lateness

Absences may justify some grade reduction and a total of four absences mandate a reduction of one letter grade for the course.

More than four absences mandate a failing grade for the course, unless there are extenuating circumstances, such as the following:

- an extended illness requiring hospitalization or visit to a physician (with documentation)
- a family emergency, e.g. serious illness (with written explanation)
- observance of a religious holiday

The attendance and lateness policies are enforced as of the first day of classes for all registered students. If registered during the first week of the add/drop period, the student is responsible for any missed assignments and coursework.

For significant lateness, the instructor may consider the tardiness as an absence for the day. Students failing a course due to attendance should consult with an academic advisor to discuss options.

Course Content

- Preliminaries
- Basic Statistical Theory
- Linear Regressions with Single/Multiple Regression
- Confidence Intervals and Hypothesis Testing
- Nonlinear Specifications
- Instrumental Variables Estimation
- Time Series Regressions and Forecasting

Course Outline (Tentative)

Week of	Lecture Topic
Jan. 28	CLASS I: Introduction (SW Ch.1)– What is Econometrics? Different types of data
	CLASS II: Review of Statistics I (SW Ch.2) – Sample and population moments
Feb. 4	CLASS III: Review of Statistics II (SW Ch.3)– Conditional moments
	PRACTICAL CLASS I:
Feb. 11	CLASS IV: OLS with One Explanatory Variable (SW Ch.4)
	CLASS V: Analytical Derivation of the OLS Formula (SW Ch.4)
Feb. 18	PRACTICAL CLASS II: OLS in Excel
Feb. 25	CLASS VI: Coefficients Interpretation (SW Ch.4)
	CLASS VII: OLS Small & Large Sample Properties (SW Ch.4)
Mar. 4	CLASS VIII: Hypothesis Testing I (SW Ch.5)
	CLASS IX: Hypothesis Testing II (SW Ch.5)
Mar. 11	PRACTICAL CLASS III
	PRACTICAL CLASS IV
Mar. 19	– TAKE-HOME MIDTERM PROJECT –
Mar. 25	SPRING BREAK
Apr. 1	– TAKE-HOME MIDTERM PROJECT –
Apr. 8	CLASS IX: Binary Regressions (SW Ch.5)
	PRACTICAL CLASS V
Apr. 15	CLASS IX: Multiple Regression (SW Ch.6)
	CLASS X: Hypothesis Testing in Multiple Regressions (SW Ch.7)
Apr. 22	PRACTICAL CLASS VI
	CLASS XI: NONLINEAR SPECIFICATIONS (SW CH.8)
Apr. 29	CLASS XII: Nonlinear Specifications (SW CH.8)
	PRACTICAL CLASS VIII
May 6	CLASS XIII: Instrumental Variables (SW Ch. 9)
	PRACTICAL CLASS IX
May 13	REVIEW CLASS
May 20	Final Exam

Course Textbook

Stock, J. & Watson, M. (2010), Introduction to Econometrics, 3rd edition, Prentice-Hall

Plagiarism Policy

Plagiarism is the unacknowledged use of someone else's work as one's own in all forms of academic endeavor (such as essays, theses, examinations, research data, creative projects,

etc), intentional or unintentional. Plagiarized material may be derived from a variety of sources, such as books, journals, internet postings, student or faculty papers, etc. This includes the purchase or “outsourcing” of written assignments for a course. A detailed definition of plagiarism in research and writing can be found in the fourth edition of the MLA Handbook for Writers of Research Papers, pages 26-29. Eugene Lang Colleges full Policy on Academic Honesty details the procedures for allegations of plagiarism and for penalties and can be found in the Lang catalog at

<http://www.newschool.edu/lang/subpage.aspx?id=374>

Disabilities

In keeping with the University’s policy of providing equal access for students with disabilities, any student requesting accommodations must first meet with Student Disability Services. Jason Luchs or a designee from that office will meet with students requesting accommodations and related services, and if appropriate, provide an Academic Adjustment Notice for the student to provide to his or her instructors. The instructor is required to review the letter with the student and discuss the accommodations, provided the student brings the letter to the attention of the instructor. This letter is necessary in order for classroom accommodations to be provided. Student Disability Services is located at 80 Fifth Avenue - 3rd Floor. The phone number is (212) 229-5626. Students and faculty are expected to review the Student Disability Services webpage. The webpage can be found at <http://www.newschool.edu/studentsservices/disability/>