

ECONOMETRICS I

ECO 608

Fall 2022

Instructor: Dr. Nurgul Tilenbaeva

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Lectures: Monday 12:45 pm

Seminars: Thursday 12:45 pm

Office hours: Monday (02:15 pm – 03:00 pm)

Course Description:

This intermediate-level econometrics course is designed for beginning Master's students in Economics. The objective of the course is to equip you with the basic econometric tools necessary to conduct your research and successfully continue your studies. The first part of the course is devoted to the review of the basics of Econometrics in the cross-sectional context, while the second part introduces topics in time series econometrics. The emphasis will be put on application and practice with no detailed treatment of theoretical derivations. The course features weekly lectures covering theory and seminars covering practical exercises in Stata

Upon completing the course, you will be able to:

- (1) apply Ordinary Least Squares to identify basic relationships between variables using Stata;
- (2) interpret regression model estimates;
- (3) identify endogeneity and its specific source when studying various economic problems;
- (4) use Instrumental variables and 2SLS to correct for certain types of endogeneity;
- (5) identify issues in working with time-series data and know ways to address them.

Course Textbook: No single textbook is followed throughout the course. However, a good reference to topics (where available) is:

Wooldridge, J. M. (2013). *Introductory econometrics: a modern approach*. 5th ed. Mason, OH: South-Western Cengage Learning.

Course Outline:

1. Review:

- a. Structure of economic data.
- b. Causality and the notion of ceteris paribus.
- c. Single variable and multivariable Ordinary Least Squares (OLS).
- d. Inference and further issues with multivariable OLS.

2. Endogeneity:

- a. Sources of endogeneity.
- b. Instrumental variables and 2SLS.

3. Time series econometrics:

- a. Basic regression analysis with time series data.
- b. Further issues in using OLS with time series data.
- c. Serial correlation in time series regressions.
- d. Further topics in time series regressions.

Course requirements:

- Attendance is essential for learning Econometrics because most of the course material will be examined during the class. Every class I will give you **2 points** if you come to class, so if you are

absent, you will lose these points. Every excused absence (confirmed by a medical certificate, etc.) will be worth **1 point**. Altogether, attendance will comprise **10%** of your final grade.

- There will be **one mid-term exam (30%** of your final grade) and **one final exam (40%** of your final grade). The mid-term exam will cover topics studied in the first part of the course, while the final exam will cover both parts of the course, with more points allocated to the second part of the course. In each of the exams, there will be questions for **extra points**, so this will allow you to improve your final grade for this class.
- There will also be two homework assignments where students will need to work in groups. Each group will need to hand in one solution. Homework assignments will involve the use of Stata and interpretation of obtained results. Each homework will comprise **10%** of your final grade (**20%** for both).

Grading:

Attendance	- 10%
Homework assignment 1	- 10%
Homework assignment 2	- 10%
Mid-term exam	- 30%
Final exam	- 40%
<hr/> Total	<hr/> 100%

Grade	Award %
A	90% - 100%
A-	85% - 89%
B+	80% - 84%
B	76% - 79%
B-	72% - 75%
C+	68% - 71%
C	64% - 67%
C-	60% - 63%
D+	57% - 59%
D	54% - 56%
D-	50% - 53%
F	0% - 49%

Good Luck with your studies!!!