Econometrics

Department of Global Economics, Sungkyunkwan University

Fall 2025

GEC3204-01

Instructor: Seunghee Lee
E-mail: prious@skku.edu or shlee@kdi.re.kr

Class Dates: Sep 2, 2025 – Dec 16, 2025
Class Time: Tue 10:30–11:45 (Flipped Learning)
Class Location: 9B118

Office Hours(Zoom): Thu 10:00 – 11:00 or by appointment

1 Course Objectives

This course introduces the field of Econometrics and its related disciplines. You will explore econometric models and techniques, focusing on those commonly applied to economic analyses. By the end of the course, you will have a solid understanding of statistical and econometric theories, enabling you to comprehend empirical research in economics and other fields. Additionally, you will develop the skills to use econometric tools effectively. The course primarily focuses on linear models and least squares estimation.

2 Prerequisites

All students are expected to have completed an introductory statistics course, such as 'Statistical Analysis for Economics' or an equivalent. In this course, you will not only learn theoretical concepts but also practice applying them by working with and analyzing data. This will require the use of a computer and statistical software.

If you are already familiar with a statistical software package (e.g., STATA, EVIEWS, GAUSS, etc.) or programming language (e.g., Python, R, MATLAB, etc.), you are welcome to continue using it. For those who are not yet proficient with any software, guidance will be provided for a user-friendly package.

We will use Canvas for this course. All class announcements, assignments, and other relevant materials will be posted there.

3 Main Course Material

There is no mandatory textbook for this course. All materials necessary for this course can be accessed through Canvas. The course material mainly consists of lecture notes and slides.

For those interested in a more advanced level of econometrics, the following textbook will be helpful (though they are not required for this course).

1. Gujarati and Porter (2017), *Basic Econometrics*, 6th ed., McGraw-Hill.
2. Stock and Watson (2019), *Introduction to Econometrics*, 4th ed., Pearson.
3. Wooldridge (2025), *Introductory Econometrics: A modern Approach*, 8th ed., Cengage Learning.

4 Course Grade

Problem sets will be assigned on a biweekly basis, along with a midterm and a final exam. The grading breakdown is as follows:

- **Midterm Exam**: 30% of the grade;
- **Final Exam**: comprehensive, 50% of the grade;
- **Six Homework Assignments**: 2.5% for each HW, in total 15% of the grade;
- **Quizzes**: in-class, 1–2 times, in total 5% of the grade

Missed assignments are counted as zero points towards your final grade.

Midterm and Final exam will be held during the regular class hours.

Exam dates are tentatively set in the syllabus and may be subject to change in the exceptional circumstances:

Midterm	**October 21, 2025**
Final Exam	**December 16, 2025**

The topics covered in the midterm will be announced prior to the exam. The midterm will not be cumulative and will cover only the relevant material. The final exam will be comprehensive and will include all topics discussed in the class.

5 Tentative Course Schedule

The schedule is flexible to change with possibly more added topics and omitting some due to time constraint. Any changes will be notified prior via announcement on Canvas.

1. Basic Statistical Concepts and Introduction
    (a) Review of Introductory Statistics Course
    (b) Basic Probability Concepts
    (c) Introduction to Econometrics
2. Classical Linear Regression Model
    (a) Simple Regression
    (b) Multiple Regression
    (c) Functional Forms of Regression Models
    (d) Dummy Variables
3. Relaxing the Classical Assumptions
    (a) Multicollinearity
    (b) Heteroskedasticity
    (c) Autocorrelation
4. Additional Topics
    (a) Time Series Basic
    (b) Binary Choice Models
    (c) Simultaneous Equation Models