

Econ-122: Intro to Econometrics  
Georgetown University, Department of Economics  
Summer 2022

Instructor: Chang, Tae Hun [tc882@georgetown.edu]  
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## Course Description

Econometrics studies statistical methods used to analyze economic topics. This course will introduce various tools and concepts in econometrics that help you understand empirical analysis.

The class will focus on two things. First, we provide you with an theoretical aspect of statistical analysis such as estimation, inference, and asymptotic properties. You will see how to understand many models mathematically and statistically. Another goal of this course is to study various models without going into details. Depending on a topic you are interested in, you must use different data. In this perspective, we also discuss more advanced topics of three different cases: cross-section data, panel data, time-series data.

Throughout the class, we provide fundamental knowledge of econometrics so that you can understand economic issues that we can encounter in our life.

## Class- Tentative

Location: ICC 116, Day: Monday-Thursday, Time: 3:30 PM- 5:25 PM

1. **Mon, Jul 11** Review of statistics, probability, and linear algebra
2. **Tue, Jul 12** Review of statistics, probability, and linear algebra
3. **Wed, Jul 13** Introduction to linear regression model (W Ch 2)
4. **Thu, Jul 14** Multiple linear regression model (W Ch 3,4,5)
5. **Mon, Jul 18** Multiple linear regression model (W Ch 3,4,5)
6. **Tue, Jul 19** Multiple linear regression model (W Ch 3,4,5)
7. **Wed, Jul 20** Multiple linear regression model (W Ch 3,4,5)
8. **Thu, Jul 21** Additional topics: binary variables, log variables, interactions, omitted variable
9. **Mon, Jul 25** Heteroskedasticity (W Ch 8)
10. **Tue, Jul 26** Midterm

11. **Wed, Jul 27** Instrument variables and Two Stage Least Squares (W Ch 15)
12. **Thu, Jul 28** Instrument variables and Two Stage Least Squares (W Ch 15)
13. **Mon, Aug 1** Maximum Likelihood Estimation (W C-4)
14. **Tue, Aug 2** Maximum Likelihood Estimation(W C-4)
15. **Wed, Aug 3** Panel data (W Ch 14)
16. **Thu, Aug 4** Panel Data (W Ch 14)
17. **Mon, Aug 8** Time-series (W Ch 18)
18. **Tue, Aug 9** Time-series (W Ch 18)
19. **Wed, Aug 10** Time-series
20. **Thu, Aug 11** Final

## Recitation- Tentative

Location: ICC213, Day: Wednesday, Time: 7:00 PM- 9:00 PM

1. **Wed, Jul 13** Related Examples
2. **Wed, Jul 20** Problem set 1 review
3. **Wed, Jul 27** Midterm review
4. **Wed, Aug 3** Related Examples
5. **Wed, Aug 10** Problem set 2 review

## Other Information

### Office Hour

- Chang, Tae Hun: TBD
- Lee, Youngjin: TBD

### Textbook

- **Main:** Wooldridge, J. M. (2020): Introductory Econometrics: A Modern Approach, Cengage, 7th edition.
- **Recommendation:** Stock, J. M. and Watson, M. W. (2019): Introduction to Econometrics, Pearson, 4th edition.

## **Grading**

- Class participation(10%)
- 2 Problem sets(20%)- Due date: Set 1(Jul 20); Set 2(Aug 10)
- Midterm(25%)
- Final(45%) - Comprehensive

## **Title IX Syllabus Statement**

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