**East China Normal University**
**GEC International Summer School**

**ECO 34: Intermediate Econometrics**

**Term: June 16th to July 18th, 2025**
**Class Hours: Monday through Friday, 110 minutes each day (2,750 minutes in total)**
 **Instructor:  Xingzi Ren**
**Home Institution: TBD**
**Office hours: TBD**
**Email: TBD**

## *Course Description*

Economists develop economic models to explain consistently recurring relationships. Their models link one or more economic variables to other economic variables. Econometrics uses economic theory, mathematics, and statistical inference to quantify economic phenomena. In other words, it turns theoretical economic models into useful tools for economic policymaking.

This course is a continuance of ECO33 Introduction to Econometrics, in which we have dig into the regression analysis with cross-sectional data. In this course, we will continue to examine time series data, as well as to cover some advanced topics in the subject of Econometrics.

*Prerequisite: ECO33 Introduction to Econometrics or equivalent.*

## *Required Text*

Jeffrey M. Wooldridge, Introductory Econometrics, A Modern Approach, 7th Edition

Publisher: South-Western Cengage Learning, Mason.

ISBN: 978-1-337-55886-0

### *Required Software Package*

STATA, available at [www.stata.com](www.stata.com)

### *Course Hours*

The course has 25 class sessions in total. Each class session is 110 minutes in length, for a total of 2750 minutes of in-class time. The course meets from Monday to Friday. ECNU awards 3 credits for this course. Different universities may count course credits differently. Consult officials at your own home institution.

### *Attendance*

Summer school is very intense and to be successful, students need to attend *every class*. Occasionally, due to illness or other unavoidable circumstance, a student may need to miss a class.  ECNU policy requires a medical certificate to be excused. Any absence may impact on the student's grade. Moreover, ECNU policy is that a student who has more than 3 absences will fail the course. Arriving late or leaving early will count as a partial absence.

### *Grading Policy*

ECNU awards grades of A, A-, B+, B, B-, C+, C, D, and F.  Most colleges and universities do not award transfer credit for grades of D or F.

In this course, grading will be based on the following:

| | |
|---|---|
| Attendance/participation | 10% |
| Lab Assignments*4 | 10%*4=40% |
| Midterm Exam | 20% |
| Final Exam | 30% |

### Lab Assignments
Like ECO33, we will continue to practice our empirical analytical skills as econometricians. This course contains 4 lab assignments, each worth 10%. The labs are hold every Friday in class in the first 4 weeks. For each lab

assignment, students are required to submit a report with answers and the corresponding do-file. Each lab assignment is due Sunday 23:59 Beijing time the week the lab takes place. No late assignment will be accepted.

*Exams*
There will be two exams: 1 midterm in Week 3 and 1 final in Week 5 (last day of school). The midterm exam is expected to cover the materials from Chapters 1 to 7, and the final exam is cumulative, with higher emphasis on materials after midterm. Detailed information about the exams will be released at least 1 week before each exam. There is no make-up exam for this course.

## General Expectations

Students are expected to:
- Attend all classes and be responsible for all material covered in class and otherwise assigned. Any unexcused absence may impact a student's grade.
- Arrive to class on-time:  Late arrivals are disruptive to your fellow students and to the conduct of the class.
- Complete the day's required reading and assignments before class
- Review the previous day's notes before class; make notes about questions you have about the previous class or the day's reading
- Refrain from texting, phoning or engaging in computer activities unrelated to class during class (不要用手机) It is highly disrespectful to the professor and to the class.
- Participate in class discussions and complete required written work on time.

## Course Schedule

The planned schedule sketched out below may be modified to suit the interests or abilities of the enrolled students or to take advantage of special opportunities or events that may arise during the term.

*Week 1*

- *Day 1*
  - *Course outline*

- o *Review of ECO33 material*
- *Day 2*
  - o *Basic Regression Analysis with Time Series Data (Chapter 10)*
- *Day 3*
  - o *Basic Regression Analysis with Time Series Data (Chapter 10 – continued)*
- *Day 4*
  - o *Further Issues in Using OLS with Time Series Data (Chapter 11)*
- *Day 5*
  - o *Hands-on: Lab 1 – Running OLS with times series data*

*Week 2*

- *Day 1*
  - o *Further Issues in Using OLS with Time Series Data (Chapter 11 – continued)*
- *Day 2*
  - o *Serial Correlation and Heteroskedasticity in Time Series Regressions (Chapter 12)*

- *Day 3*
  - o *Serial Correlation and Heteroskedasticity in Time Series Regressions (Chapter 12 - continued)*

- *Day 4*
  - o *Pooling Cross Sections across Time: Simple Panel Data Methods (Chapter 13)*
- *Day 5*
  - o *Hands-on : Lab 2 – Testing and correcting for serial correlation and heteroskedasticity*

*Week 3*

- *Day 1*
  - o *Advanced Panel Data Methods (Chapter 14)*
- *Day 2*
  - o *Instrumental Variables Estimation and Two-Stage Least Squares (Chapter 15)*
- *Day 3*
  - o *Midterm review session*
- *Day 4*
  - o *Midterm exam (covering Chapters 11-14)*

- *Day 5*
  - o *Hands-on: Lab 3 – Panel Data Methods & Applying 2SLS*

*Week 4*

- *Day 1*
  - o *Instrumental Variables Estimation and Two-Stage Least Squares (Chapter 15 – continued)*
- *Day 2*
  - o *Simultaneous Equations Models (Chapter 16)*

- *Day 3*
  - o *Simultaneous Equations Models (Chapter 16 - continued)*

- *Day 4*
  - o *Advanced Time Series Topics (Chapter 18)*
- *Day 5*
  - o *Hands-on: Lab 4 – Infinite distributed lag models, testing for unit roots, cointegration and error correction models, and forecasting*

*Week 5*

- *Day 1*
  - o *Advanced Time Series Topics (Chapter 18 - continued)*
- *Day 2*
  - o *Advanced Time Series Topics (Chapter 18 - continued)*
- *Day 3*
  - o *Final review session*
- *Day 4*
  - o *Final review session*
- *Day 5*
  - o *Final exam*

## *Academic Honesty*

Students are expected to maintain high standards of academic honesty. Specifically, unless otherwise directed by the professor, students may not consult other students, books, notes, electronic devices or any other source, on examinations. Failure to abide by this may result in a zero on the examination, or even failure in the course.