Course Information

- **Instructor** Kisoo Kim (kisoo@uchicago.edu)
- **Class Meeting** We will meet daily 9-10:30am at Keller Center 2112 through Aug. 30th - Sep. 17th except for weekends and Labor Day. The lectures will be broadcasted through Zoom synchronously. The lectures will be recorded and uploaded on Canvas.
- **Office Hour** By appointment.
- **Teaching Assistant:** Steve Kim (kimsy@uchicago.edu)
- **TA Review Session:** 8 - 9pm at Keller Center 2112. The sessions will be broadcasted through Zoom synchronously.

**Overview:** This course aims to prepare students to succeed in the Harris PhD core courses, and provide a foundation for further studies. The course aims to provide a self-contained material.

**Plan:** The course covers topics relevant to study of applied economic theory and econometrics, following the tentative course outline below. The outline is subject to change.

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Logic and Proofs .................................................. Day 1
Mathematical Preliminaries ...................................... Day 2
Calculus 1 ............................................................. Day 3
Calculus 2 ............................................................. Day 4
Real Analysis 1 ....................................................... Day 5
Real Analysis 2 ....................................................... Day 6
Linear Algebra 1 ...................................................... Day 7
Linear Algebra 2 ...................................................... Day 8
Optimization 1 ......................................................... Day 9
Optimization 2 ......................................................... Day 10
Probability and Statistics 1 ....................................... Day 11
Probability and Statistics 2 ....................................... Day 12
Linear Regression and Causal Inference ......................... Day 13
Microeconomics and Game Theory .............................. Day 14
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Homework will be distributed after each lecture, but it is not for submission nor grading. The solution will be discussed in the TA’s review sessions.

**References**
The course material consists of eclectic collection from the following list.


