ECON 382: Econometric Theory and Practice (Winter 2025)

Instructor: Professor Jing Tao (jingtao@uw.edu)

Teaching Assistant: Zewei Chai (zchai3@uw.edu)

Class Webpage: Course materials will be posted on Canvas.

Course Time: Tuesday and Thursday, 8:30-9:50 AM, SAV 260.

TA Session: Wednesday 10:30-11:20 AM, JHN 102.

TA sessions are a requirement of this class. In these sections, you will review problem sets and learn how to use R and RStudio for econometrics.

Instructor Office Hours: Thursday 10:00 AM-11:30 AM, Zoom or by appointment.

Questions should mostly go to lecture time or office hours. Otherwise, emails will be responded to within two business days.

Textbooks:

Main Reference: Wooldridge, Jeffrey M., Introductory Econometrics: A Modern Approach, South- Western College Publishing, 7th edition. The 6th edition or the 5th edition is acceptable. Check with classmates to make sure that you are doing the right problem set questions if you use some other editions.

Recommended Reference: Heiss, Florian, Using R for Introductory Econometrics, 2nd edition. It can be read online for free here:

http://www.urfie.net/

Required Software:

R (r-project.org) and RStudio (rstudio.com) are required for this course. Both are available for free and will be used throughout the course. R Markdown is recommended.

Course Overview:

Economics 382 is a course in economic statistics and econometrics. Econometrics is distinguished by the unification of economic theory and statistical methodology. It is concerned with estimating economic relationships, confronting economic theory with facts, and testing hypotheses involving economic behavior. Specific topics addressed in this course include mathematical statistics, single and multiple variable regression analysis, the Gauss-Markov Theorem, hypothesis testing, model specification, multicollinearity, dummy variables, heteroskedasticity, and endogeneity.

As a course in applied econometrics, we will frequently use these methods with real-world financial and economic data. Students will be introduced to data and regression analysis in R. Given the applied nature of much of the coursework, some mathematical, statistical, and computer proficiency will be assumed. Once you have finished this course, you will be able to:

- Interpret and implement multiple regression and related statistical techniques.
- Identify the limitations and pitfalls of regression methods.
- Write a focused explanation of the findings of a statistical investigation, clearly and concisely.

Tentative Topics to Be Covered:

1. Introduction to simple regression (Chapter 2)
2. Multivariate Regression: Estimation and Inference (Chapter 3-5)
3. Multivariate Regression: Further Issues (Chapter 6)
4. Binary or Dummy Variables (Chapter 7)
5. Heteroskedasiticy (Chapter 8)

Requirements:

1. Problem sets (20%).
2. Three exams (25% each)
3. Participation (5%)

Key Dates:

1. Problem sets are due before class time of the due date. NO late problem sets are accepted. Solutions will be posted after the assignments are due for help studying. The lowest homework score will be dropped from your grade.
2. The three exams are scheduled for **January 30** (Tuesday), **February 27** (Thursday), and **March 13** (Thursday).
3. Students are responsible for announcements made via Canvas and emails.
4. As a general rule, I do not give make-up exams. However, if there are exceptional circumstances that make it impossible for you to take an exam at the scheduled time you should contact me at least five days BEFORE the exam.

Read "Department Policy on Academic Conduct" from the department webpage.

Academic integrity is the cornerstone of the Department's rules for student conduct and evaluation of student learning. Students accused of academic misconduct will be referred directly to the Office of Community Standards and Student Conduct for disciplinary action pursuant to the Student Conduct Code and, if found guilty, will be subject to sanctions. Sanctions range from a disciplinary warning to academic probation to immediate dismissal for the Department and the University, depending on the seriousness of the misconduct. Dismissal can be and has been, applied even for first offenses. Moreover, the instructor for the course can assign a grade of zero.

Accommodations:

Should you require disability accommodations, please contact Disability Resources for Students at http://depts.washington.edu/uwdrs/ or 206-543-8924.

Washington state law requires that UW develop a policy for the accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW's policy, including more information about how to request an accommodation, is available at Religious Accommodations Policy. Accommodations must be requested within the first two weeks of this course using the Religious Accommodations Request form.