

ECON2311: EMPIRICAL METHODS IN ECONOMICS I

Fall 2017

Instructor: Xizi Li
Email: xizi.li@uconn.edu
Location: Oak Hall 308
Office Hours: Tue, Thurs after class until 10:45 at Oak Hall 307

Description of the Course

The course aims to prepare students for practical empirical research in an academic or business setting. As a main goal, students learn and practice the following three basic concepts in econometrics:

1. Quantifying uncertainty with confidence interval.
2. Using regression to infer and identify causal relationships.
3. Using regression for predictions.

Students will also practice and build competency in STATA which is a standard software package to perform the empirical analysis in economics.

Textbook

- *Introduction to Econometrics, 3rd Edition*, by James H. Stock and Mark W. Watson
- *Introductory Econometrics: A Modern Approach*, by Jeffery M. Wooldridge (Optional)

Course Web Page

A course web page is available at **HuskyCT** (<https://lms.uconn.edu>). It will include information relevant to the course, such as syllabus, announcements, homework assignments, information on STATA tutorials, practice problem sets and solutions, exams, etc. **Please check the course page regularly.**

Required Softwares

STATA is a general-purpose statistical software package. Students are not required to purchase the software as you can access these tools in the computer lab or through **Skybox** (<http://skybox.uconn.edu>).

Homework

There will be **three or four (depending on our schedule) homework assignments** in this course. Homework assignments are STATA exercises and will serve as a way to learn and practice the software. Complete all your homework assignments on your own. **Late Assignment without any formal medical/legal proof will not be accepted.**

Exams

There will be one midterm exam and one final exam. Midterm is scheduled on **Oct. 19th**(tentative) in class. The schedule for final exam will be announced later. Final exam will be cumulative.

The exams will be closed book and notes. You are allowed to bring calculator and one piece of cheat sheet (US Letter) for both midterm and final.

Grading

30% Homework Assignments / 30% Midterm Exam / 40% Final Exam

In general, the class average corresponds to the lowest B

Tentative Course Outline

Part I: Introduction and Review of Basic Statistics for Economics (Stock and Watson Chap 1-3)

- Covariance and Correlation
- Correlation vs. Causality; Policy analysis vs. Prediction; Experimental vs. Non-experimental data
- Exam/finite sample distribution vs. large sample distribution
- Introduction to STATA
- Homework I

Part II: Linear Regression with One Regressor (Stock and Watson Chap 4-5)

- Least Square principle
- Sample distribution of OLS estimator
- Confidence interval and hypothesis testing: small sample approach and large sample approach
- Use regression with only intercept to infer about the mean
- Use dummy variable regression to compare means from different subpopulation
- Practice a simple linear regression with STATA
- Homework II

Part III: Linear Regression with Multiple Regressors (Stock and Watson Chap 6-7)

- Sampling distribution of the OLS estimator
- Confidence interval and hypothesis testing for a single coefficient
- Confidence set and joint hypothesis testing for more than one coefficient
- Practice multiple linear regression analysis with STATA
- Homework III

Part IV: Topics in Multiple Regression (Stock and Watson Chap 8-9, Maybe Chap 13 too)

- Dummy Variable Regressions
- Modeling nonlinear functions
- Measurement error, omitted variable, simultaneity and sample selection
- Causal inference

Academic Integrity Academic honesty is fundamental to the activities and principles of a university. All members of the academic community must be confident that each person's work has been responsibly and honorably acquired, developed, and presented. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. The academic community regards academic dishonesty as an extremely serious matter, with serious consequences that range from probation to expulsion. When in doubt about plagiarism, paraphrasing, quoting, or collaboration, consult the course instructor.

ADA If you have special needs as addressed by the Americans with Disabilities Act (ADA) and need assistance, please notify the Department of Human Resources Americans with Disabilities Act (ADA) Accommodations Case Manager is charged with processing and facilitating requests for employee ADA accommodations. If you believe you may need an accommodation, or if you are a supervisor or manager who has been presented with a request for an accommodation, please contact the ADA Case Manager, Ryan Bangham, and/or visit our page on Employee Accommodations. See the guide to HRs Reasonable Accommodations Process. Students who require an accommodation in the academic setting should contact the Center for Students with Disabilities. Please feel free to contact the ADA Case Manager at (860) 486-2036 or via e-mail at ryan.bangham@uconn.edu for further assistance.

For other policy Against Discrimination, Harassment and Related Interpersonal Violence and the Statement on Absences from Class Due to Religious Observances and Extra-Curricular Activities: <http://provost.uconn.edu/syllabi-references/>