**APPLIED ECONOMETRICS**

**Economics 383**
**Winter 2020**

# COURSE DESCRIPTION

Econometrics is about using data to infer relations among economic variables. It aims at answering questions such as: By how much does a 5% price increase reduce the demand for a good? How much more do college graduates earn than high-school graduates? And how many commuters will switch from car to bus if another bus is added to a certain route? This course is about how to use data and modern software to build, evaluate, and use models to answer such questions. The course is taught in a computerized classroom. Each student sits at a computer terminal, which enables us to estimate and diagnose models in class. The course emphasizes the actual building of models. Econometric theory will be covered to the extent needed to understand and properly use the model-building methods that are the main focus of the course. Each student will write a paper describing the analysis of a real data set and the conclusions reached from that analysis.

**Textbook:** Stock, J.H. and M.W. Watson. *Introduction to Econometrics*, Most recent edition, Pearson/Addison Wesley.

**Software:** All computation will be with the econometric software package **STATA**. The software is available in the computerized classroom and the university's computer labs. A list of labs with Stata at http://www.it.northwestern.edu/education/complabs/index.html. You can purchase STATA for your own computer at www.stata.com (Links to an external site.)

**Data**: The data for the course will be posted on the course web site. Many data sets can also be obtained from the textbook's web site. You must obtain your own data for your paper. The American Economic Association lists many data sources. The web address is https://www.aeaweb.org/RFE/toc.php?show=complete (Links to an external site.).

**Other Books**: The best way to learn econometrics is to work problems. The library has many econometrics textbooks. They are good sources of problems to solve.

**Other Course Material:** Other course material will be on the Canvas course web site.

**Problem Sets**: Problem sets will be posted on the course web site. They will be assigned approximately once per week and will usually be due one week later. The problem sets are aids to learning, not examinations. You may work in groups if that helps you to learn the material. However, each student must hand in his/her own solutions. Problem sets are due in class on the assigned dates and must be submitted on paper. Late problem sets and electronic submissions will not be accepted or graded.

**Statistics and Econometrics Prerequisites**: A university-level probability and statistics course such as Math 314 or Statistics 210 or Statistics 320-1 and 320-2 is a prerequisite for this course. You must also have taken one of the econometrics courses Economics 281 or Economics 381-1.

**Paper**: Each student must write an empirical paper about a topic that interests him or her and uses methods presented in the course. You must find and use real data for the paper. You must write your own paper. You may not collaborate with another person. Papers must be submitted in hard copy form and posted on the Canvas web site. **PAPERS ARE DUE ON MONDAY, MARCH 9. LATE PAPERS WILL NOT BE ACCEPTED. IF YOU DO NOT SUBMIT YOUR PAPER BY MONDAY, MARCH 9, YOU WILL RECEIVE A GRADE OF F FOR THE COURSE.**

**Proposal**: Each student must submit a proposal for the final paper. A description of what the proposal should consist of is on the Canvas web site. Proposals are due on Wednesday, Feb. 5. **Late proposals will not be accepted**.

**Examinations**: There will be no examinations. In place of a midterm examination, a random selection of students will give 10-minute presentations and critiques of other students' proposals. Presenters will be selected and assigned proposals approximately one week before the presentation date. In place of a final examination, there will be a mini conference at which a random selection of students present their papers and a random selection of other students present critiques of the presented papers. The mini conference will take place during the regularly scheduled final examination period. Students presenting and discussing papers will be selected approximately one week before the presentation date. Students selected to present critiques will be selected and sent the papers they are to discuss approximately one week before the presentation date. Each student selected to present critique will be assigned one paper.

**Classroom Courtesy**: Turn off your cell phone and other noisy devices before entering the classroom. Your grade will be reduced if your cell phone rings repeatedly in class.

**Disabililties**: Any student requesting accommodations related to a disability or other condition is required to register with AccessibleNU (accessiblenu@northwestern.edu; 847-467-5530) and provide professors with an accommodation notification from AccessibleNU, preferably within the first two weeks of class. All information will remain confidential.

**Sexual Misconduct and Reporting** Northwestern University is committed to fostering an environment where students are safe and free from sexual misconduct. Confidential resources are available to those who have experienced sexual misconduct. Faculty, instructors, and TAs are not confidential resources and are required to report incidents of sexual misconduct, whether discussed in your assignments or in person, to the Office of Equity, which can provide information about resources and options. I encourage students who have experienced sexual misconduct to talk with someone to get support. For more

information, including how to request interim protective measures and academic accommodations or file a complaint, see the Get Help page.

**Discrimination and Sexual Harassment** Northwestern University's Policies on Discrimination, Harassment, and Sexual Misconduct apply to all members of the University community, including students, staff, faculty, and third parties. Any student, staff, or faculty member, or third party, who believes that they have been discriminated against or harassed on the basis of their race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, pregnancy, parental status, marital status, age, disability, citizenship, veteran status, genetic information or any other classification protected by law, should contact the Office of Equity at (847) 467-6571. Additional information about the University's discrimination and harassment policies, including the campus resources available to assist individuals with discrimination or harassment concerns, is available online on the Office of Equity website.

Students, staff, and faculty who report harassment, discrimination, or sexual misconduct are also protected under the University's Policy on Non-Retaliation