

## **Syllabus: Econ 438 A, Econometric Applications, Winter 2019**

PLEASE READ VERY CAREFULLY for grading policy. No exceptions will be made later AFTER damage is already done.

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(I will respond to your class-related emails within 48 hours unless it is urgent.)

OH : W 2:20–3:10pm

### **Schedule**

Lecture : MW, 12:30 – 02:20pm, MGH 228

### **Description**

The goal of the course is putting econometric theory in practice. Students will be asked to independently think about an economic question, develop econometric methodologies to tackle the question, discuss limitation of such methodologies, and finally present and write up findings.

### **Prerequisite**

- Minimum grade of 2.0 in ECON 301; either ECON 311/STAT 311, STAT 341, MATH 390/STAT 390, or Q SCI 381.
- Experience on statistical packages (Stata or R)
- If you haven't used Stata or R, you might have to spend hours to learn by yourself. If you are familiar with coding in general, don't worry. Stata/R are easy to learn.
- STATA:

For statistical analyses, students should use a statistical program, like STATA. One reasonably good introduction is <http://data.princeton.edu/stata/>. It is readily available on the computers in Savery Hall, but some students elect to purchase it anyway for the convenience. You can purchase STATA by following the instructions at <https://www.washington.edu/uware/stata/>. Choose Intercooled STATA (Stata/IC), not Small STATA. Small STATA is not adequate for many of the applications we will consider. STATA contains an extensive on-line and embedded help facility. (Students can also use other statistical software, like R.)

### **Textbook**

There is no textbook, but you will benefit from having as reference:

*Wooldridge, Jeffrey M., Introductory Econometrics: A Modern Approach, South- Western College Publishing*

### **Class Requirements**

**Please do NOT use cell-phones, laptops, tablets, etc. during class.**

**I may be cold-calling. In-class participation is graded anyway. So don't wait to be called.**

The grade will be mostly based on individual project (proposal, final paper, and two presentations), and participation in discussion (asking questions, giving comments, any form of participation will be appreciated) during your classmate's presentation. Remember: there is no stupid question!

Also, there will be one easy problem set using statistical package, preferably Stata or R.

In-class quiz: 10%

- This is mainly to check ATTENDANCE. You will get 80% of the full point (that is, 80% of the 10 % portion) even if you don't answer ANY questions in quiz as long as you write your name legibly. Quiz will be extremely coarsely graded (for example, 80%, 90%, or 100%)
- If you don't take quiz, you get zero for that day.
- I will NOT announce that number of quizzes, and when they are taken. Remember, the main purpose of quiz is to check attendance.

Additional attendance check on presentation dates: 5%

- On presentation dates, we don't have time for quizzes. So, I will randomly call your names and check attendance. You will get zero point for failing to answer.

In-class participation (includes questions/suggestion during classmates' presentation): 15%  
(NOTE: absence during classmates' presentations will lead to point deduction BOTH in Attendance (if quiz is taken that day) and Participation parts.)

Problem set using statistical package: 20%

Proposal: 5%

Proposal in-class presentation: 5%

Final in-class presentation: 10%

Final paper: 30%

For detailed description of the project, refer to the pdf file ("final paper guideline") on Canvas. Note that **NO LATE SUBMISSION IS ALLOWED without asking for permission 2 WEEKS PRIOR TO DEADLINE**. My suggestion: To prevent any "accidents", be ready to submit your homework at least one day before the deadline. That way, you won't miss the *actual* deadlines.

### **Topics (tentative)**

(class 1) Introduction and Class survey

- (class 2) Econometrics and causality
- (class 3, 4) Simple regression
- (class 4, 5) Introduction to Stata
- (class 6, 7) Students' proposal presentation
- (class 8) Multiple regression
- (class 9) Heteroskedasticity
- (class 10, 11) Endogeneity and Instrumental variable
- (class 12) Difference in difference
- (class 13) Limited dependent variable
- (class 14-17) Student' final presentation
- (class 18) Panel data – basics, wrap-up

**Remark**

This course is NOT a “writing-intensive” (“W”) course. Final paper is more about quantitative analysis and related discussion. Indeed, this course is not designed to be writing intensive.