Introduction to Econometrics
Economics 308
Spring 2017
Department of Economics, College of William and Mary
MWF 9:00-9:50 AM (Tyler 113)

INSTRUCTOR:	Prof. Priya Mukherjee
OFFICE:	Tyler Hall 338
EMAIL:	pmukherjee@wm.edu
OFFICE HOURS: times listed, or by appointment	Wednesdays: 12:50 pm - 1:50 pm
	Fridays: 10:45 pm - 11:45 pm
TEACHING ASSISTANT:	Haoge Chang (hchang)
TA OFFICE HOURS:	Wednesdays: 3:30 pm - 4:30 pm
TA OH LOCATION	Swem Library first floor - computer lab

Course Description and Pre-requisites

This course will introduce you to the tools used for analyzing data to answer specific questions in economics and related disciplines. In addition to covering topics conceptually. we will look at empirical/real world applications. We will learn how to construct simple econometric models, estimate the parameters of those models, and interpret the parameter estimates. This course has Econ 307 (or an equivalent class) as a pre-requisite, and students should therefore already be familiar with concepts taught there from probability and statistics.

Grading Policy and Exams

Grades in this course will be based on the following:

1. The top 7 grades out of eight problem sets (30%). Problem sets will be provided via Blackboard, and will be due by **12 noon (unless a different time is specified) on the due date**. **No late problem sets will be accepted**.

2. 1 midterm exam (20%), to be held in class on **March 17, Friday (this is the Friday after Spring break).**

3. Final exam (40%, and cumulative), will take place **in this classroom.** The timings for each section are posted at `http://www.wm.edu/offices/registrar/calendarsandexams/examschedules/spring17exam/index.php`. Note that:

(a) The final exam is cumulative and mandatory. **No makeup midterms or final exams will be offered.**

(b) Make-up final exams will be available only in extraordinary circumstances with documentation from the dean of students office.

(c) You must take the exam on **the date and time assigned to your own section**. Any changes must be requested and approved by me **at the start of the semester**.

4. If you are eligible for accommodations on exams, please contact Student Accessibility Services as soon as possible to set up an appointment (on the exam date) at the Watson lab. They will help develop and implement a plan for exams. It is the student's responsibility to contact them early on. If this applies to you, please begin the process weeks before the first exam.

   It is the policy of The College of William & Mary to accommodate students with disabilities and qualifying diagnosed conditions in accordance with federal and state laws. Any student who feels s/he may need an accommodation based on the impact of a learning, psychiatric, physical or chronic health diagnosis should be referred to Student Accessibility Services staff at 757-221-2509 or at sas@wm.edu. SAS staff will work with you to determine if accommodations are warranted, and if so, to help you obtain an official letter of accommodation.

5. **Your midterm score will be replaced by your final exam score if you do better on the final**. This way, your final would get a weight of 60% and the midterm would get zero wight. However, if the final exam score is lower than the lowest midterm score, then I won't make a replacement.

   - If you miss the midterm, it counts as a zero score. and will be replaced by the score you get on the final.

6. Project (10%). I will provide sample datasets on Blackboard (or you are also free to obtain a data set from another source), any of which you may use to do an applied econometrics project. This will involve forming an interesting research question in economics that can be answered using the dataset, carrying out the empirical analysis, and writing up a paper summarizing your work.

   - You must submit a short proposal (two or three short paragraphs) and the data set you plan to use, by **March 2** at noon. I will take this task's timely completion into account when assigning the project grade.

I am sure you will have questions about this before submitting the proposal, so I would encourage you to come and discuss your idea with me before the proposal deadline. I will make the datasets, along with additional relevant information on how to structure the (i) proposal, and (ii) final report for the project, available on Blackboard.

Working in groups: You may form groups of up to three people to submit a joint paper, but you may also submit individual projects. *Note that the final exam may have one question that relates to your project - this means that even if you worked in a group, each member will eventually be tested (albeit through only one question) on the final exam.*

The final deadline for the project report is **April 29** at noon. The paper is to be sent to me via email, along with your do file.

You must make sure when emailing me any work that the correct documents were indeed attached. You should always do this by checking your sent messages.

7. Class participation is not explicitly graded, but you are strongly encouraged to ask questions during class.

*****Extra Quizzes to help your overall grade:** *Finally, you will have two QUIZZES in class. The first one will be held on* ***February 13****, and the second one will be a surprise at some point later in the semester!* ***Your score on these quizzes will not count towards the final grade, but I may take your performance on these into account only if it looks like your grade is falling below a B-*** *****

Grading

While we take care to grade as fairly and consistently as possible, on rare occasions there may be grading mistakes. If you feel that your test has been graded incorrectly, you must submit it to the professor, along with an explanation of the issue **in writing.** You must do this within 2 weeks of the exam being returned (not the date you pick it up) for it to be regraded. The **entire** exam will be regraded, and as a result it is possible for your grade to go down as well as up.

Statistical Software - STATA

The software we will use for this course is STATA, which is available on all campus computers. On Blackboard, you will find a document titled "A BRIEF INTRODUCTION TO STATA", which gives an introduction to the software.

Blackboard

You should already be enrolled in the course's Blackboard site. The blackboard site will contain the most recent electronic version of this syllabus. All materials pertaining to this course, and well as any announcements will be posted there.

Office Hours

I will be available in my office at the times specified above. You do not need to schedule an appointment to meet with me during office hours. Please send me an email if you'd like to schedule a meeting outside of those times.

Honor Code

You are encouraged to collaborate and discuss problem set questions with your colleagues. However, graded homework assignments and all exam work should be written up without the aid of other students. Furthermore, students will not be allowed to refer to outside sources during exams. The use of unauthorized aid on a midterm or exam would be considered a violation of the Honor Code.

Announcements

Note that all important announcements will be made via Blackboard and email by me.

Course Outline

The main text book that I will refer to is **"Introductory Econometrics: A Modern Approach" by Jeffrey M. Wooldridge**, sixth edition. However:

- Having this text book is not a strict requirement: you may refer to other (older) editions, or other text books. You may also refer to e-texts if you prefer.

  The main topics we will cover are listed below. **I will provide notes in class, and you will receive practice problems through your problem sets on each topic.**

  You should *review Appendices B and C*, or your notes from the class you took in elementary probability and statistics. I will briefly review these when we need to directly rely on a specific concept.

1. Introduction (Chapter 1)
2. Simple Linear Regressions (Chapter 2)
3. Multiple Linear Regressions (Chapter 3)

4. Inference (Chapter 4)
5. Large Sample Properties - Asymptotics (Chapter 5)
6. Non-Spherical Errors: Heteroskedasticity; and Autocorrelation in time series data (Chapter 8, Chapter 10)
7. Dummy Variables (Chapter 7)
8. Instrumental Variable Estimation (Chapter 15)

   Time permitting, we may cover the following topics to some extent:

9. Limited Dependent Variable Models