

**Case Western Reserve University  
Department of Economics**

**Advanced Econometrics (Econ 327)**

**Contact Information**

Prof. Justin Gallagher  
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**Lecture Logistics**

Mon. and Wed. 3:00 – 4:15  
PBL Room 121

**Office Hours**

Mon. 4:30-5:30 PM  
Tues. 8:30-9:30 AM

**Course Description**

This course is a 2<sup>nd</sup> semester continuation of Econ 326 (Econometrics). While the course is called “Advanced Econometrics”, the mathematical and statistical preparation necessary to succeed in the course is no different than that for Econ 326.

The objective of this course, for the most part, is not to go “deeper” (i.e. a more mathematically rigorous treatment), but rather to go “broader”. We will cover core econometrics topics and methods commonly used by academic researchers and real world practitioners.

The goal of this course is to prepare students to be able to both critically evaluate statistical reports (for example, by consultants and government agencies), and to have the ability to implement research using the methods we discuss in class (for example, an honors thesis).

The course is framed around the question of whether we can *causally* interpret estimates from an econometric model. The first half of the course discusses models that focus on controlling on observable characteristics. The second half of the course discusses experimental and quasi-experimental methods.

**Email Policy**

I will do my best to respond to all emails within 24 hours. Please don't send the same email 2x unless it has been more than one day. Please put: “Econ 327” in the subject line. Keep in mind that typing out a detailed response to a problem set (or lecture) question can take a long time and

is generally difficult to read over email anyway. I will defer most substantive questions to office hours or before/after class. Email is best for logistical questions.

### **Grading**

Test 1:	20%
Test 2:	20%
<u>Test subtotal:</u>	40%
9 Problem Sets:	30%
2 Class Presentations:	20%
Class Attentiveness & Preparation:	10%

### **Tests**

The first test is scheduled in class the last class before spring break. The second test is scheduled in class the last class of the semester. The first test will cover material from the first half of the course, while the second test will cover material from the second half of the course.

If you miss the day of the test you will receive a zero for that test. The only exceptions are an illness or a death in the family (in both cases you will need documentation). Please be sure to talk to me before/after class, or during office hours if you have a disability that may require additional testing accommodations. Don't wait until the day of the exam. We will be sure to arrange a suitable accommodation.

Test re-grading: If I have miscounted points on a test please notify me immediately and I will fix the grade. If you think that I have incorrectly scored an answer, submit a complaint in writing to me indicating the question and your specific concern. I will re-grade the entire test. You should keep in mind that this might decrease your final grade.

### **Problem Sets**

This course will emphasize applying the statistical methods discussed in class. I feel strongly that econometrics is a subject that is best learned by getting your hands dirty. You can anticipate that each problem set will have problems where you will be asked to work with data using the statistical program Stata.

Problem sets will be collected at the start of class on the day which they are due (generally Wednesdays). I will not accept late problem sets, nor will I accept electronically submitted problem sets. If you know in advance that you must miss a class the day a problem set is due then please drop off the problem set at my office before the scheduled class time, or have a

classmate turn in the problem set for you. There are 10 problem sets, but you will be able to drop your lowest scoring problem set. That is: The 9 highest problem set grades will be calculated towards your final grade. The same testing re-grade policy applies to problem sets.

You are welcomed and encouraged to work in groups (of 2-4 people) when completing the problem sets. However, each member of the group must turn in their *own copy* of the problem set with the answers written in their own words. If you work in a group you must also cite your other group members by listing their names under your own (i.e. “group members: ...”).

Important note: If you do not cite group members then any similarities between your answers and another student’s answers will be considered cheating and disciplinary action will be taken according to CWRU Academic Integrity Standards.

### **Paper Presentations**

Each student will present 2 papers during the semester in class. Each presentation will count towards 10% of your final grade. I will post a sign-up calendar online after the first day of class. Depending on the number of students enrolled in the course, the presentations will be done by one person per paper or in pairs. This will be determined after the first week of class.

Each presentation should be 15-20 minutes long and use slides. The papers are timed to coincide with the topics we are discussing in class. After each presentation, we will open up the discussion to the entire class. Please refer to the document “Econ 327 Presentation Papers” for more details and a list of the papers.

### **Textbook and Readings**

#### Required Text:

Joshua Angrist and Jorn-Steffen Pischke (2009). *Mostly Harmless Econometrics*. Princeton, NJ: Princeton University Press.

#### Recommended Text:

Jeffrey M. Wooldridge (2009). *Introductory Econometrics A Modern Approach (4e)*. Mason, OH: South-Western.

- This is the same text required for Econ 326
- The 5<sup>th</sup> edition is available, but you should feel free to purchase the 4<sup>th</sup> edition.

#### Published Papers:

The document “Econ 327 Presentation Papers” posted on Blackboard has the bibliographic information and online links for the papers that will be presented in class.

- I suggest printing out all the papers and keeping them in a 3-ring binder. Questions about the papers will appear on both tests.

### Statistical software

Stata is the statistical software used in the class. Stata version 13 is installed on all of the computers in the computer lab. You are not required to purchase the software. The software is available for purchase at: <http://www.stata.com/order/new/edu/gradplans/student-pricing/> “Stata/IC” is the version of the software that you will need for the class (don’t purchase “small Stata”). You can purchase either Stata 12 or Stata 13. I encourage you to purchase the software if you are considering writing an honors thesis in economics or would like to save the hassle of having to do all of the Stata portions of the problem sets in the computer lab.

### **Academic Integrity**

All students in this course are expected to adhere to university standards of academic integrity. Cheating, plagiarism, and other forms of academic dishonesty will not be tolerated. For example, you may not consult with another person during an exam, or turn in written work that was prepared in whole or in part by someone else. It is also dishonest to submit, without the instructor’s consent, the same or similar work for more than one course. Ignorance will not be permitted as an excuse. If you are not sure whether something you plan to submit violates these standards, it is your responsibility to ask for clarification. You may either ask me, or consult credible sources such as:

<http://www.indiana.edu/~wts/pamphlets/plagiarism.shtml>

As a reminder, the Case Western Reserve University Academic Integrity Standards can be found:

<http://studentaffairs.case.edu/groups/aiboard/policy.html>

[I thank Prof. Helper for granting me permission to use her Academic Integrity statement].

More comments on academic integrity:

- Cheating is a disservice to those classmates who study hard and play by the rules.
- I am confident that most students wouldn’t cheat on an exam regardless of the circumstances. However, I am an economist and also recognize that there are some students that may be tempted to cheat on exams if it appears that the benefit outweighs the cost.
- In case you have any doubts, we will strictly and fully enforce the above Academic Integrity Standards in this course. What this means is that all suspected cases of cheating on exams will be forwarded directly to Weatherhead’s Academic Integrity Officer. This is the case regardless of the “amount” of cheating (i.e. even if the suspected cheating is on just a subpart of a subpart of one question).
- To further dissuade academic dishonesty we will be taking a number of precautions that will increase the likelihood of catching anyone who cheats including some measures that will not be obvious unless you happen to be caught.