

# ECO 311: Examining Economic Data and Models

Spring 2024

Section A: TR 08:30 to 09:50 am, Laws Hall 205

Section C: TR 10:05 to 11:25 am, Laws Hall 205

Instructor: Jing Li  
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Office Hour: 2:45-5:45 pm Tuesday (or by appointment)

## Prerequisite

Earn a grade of at least a C in ECO 201, ECO 202, and ISA 125 or STA 125 or STA 261 or STA 301 or STA 368, and MTH 151 or MTH141.

## Course Objectives:

This course helps students gain a working understanding of econometrics, which focuses on causality. After taking this course, students should know how to empirically infer causality by running regression, checking the assumption and interpreting the result.

## Required Textbook:

*Introductory Econometrics, a Modern Approach* 7<sup>th</sup> edition by Jeffrey M. Wooldridge, ISBN 978-1337558860 (older editions are ok).

## Optional Reading:

*The Art of Statistics, How to Learn from Data* by David Spiegelhalter

## Lecture Notes:

I will write down notes on whiteboard. Please ask your classmates for completed lecture notes if you miss a class.

## Software:

We use R for this course, which can be downloaded from <https://www.r-project.org/>. I will teach the basic R, and you are welcome to use something like RStudio.

## Homework Assignments:

There will be three homework sets, and each set is worth 10 points. The total points for homework are 30. The homework can be either theoretical or empirical. You need to turn in homework by the due date (at the beginning of the class). Late homeworks are unacceptable.

## Empirical Project:

You need to finish an empirical project that is worth 10 points. I will provide data and you are supposed to run regressions and interpret results. The typed project should be less than 5 pages with standard margins and fonts. The topic will be determined by the instructor. The complete project is due at the beginning of final exam. Co-authorship is not allowed.

## Exams:

There will be two in-class midterm exams and a final exam. None of the exams is accumulative. Each exam is worth 20 points, and is composed of several essay questions. The total points for all the exams are 60. You need to bring pencil and calculator to each exam. Cell phone must be turned off during exams.

### Make-Up Policy:

You will get zero point for a missed exam. Exams will be given only at the scheduled times. Regardless of the reason for missing an exam, no make-up will be given unless arrangements are made prior to the time of the relevant exam. You must provide documented evidence of a conflict that merits rescheduling (e.g. a university sponsored event).

### Grades Appeals:

If you feel that the score you received on an exam is incorrect, you must contact me within 1 week of the date that the score for the exam is posted.

### Extra Points of Attendance

You are strongly encouraged to attend class, although there will be no reduction to grades as a result of poor attendance. I will randomly monitor attendance three times during the semester. If you show up each time when I take roll, you will receive 3 extra points. If you miss only one time, you will receive 2 extra points. Those who miss two times or more will receive no extra points. The reason that you miss a class is irrelevant in determining the bonus point (since it is bonus).

### Grades:

Your final grade will be determined by your points earned from the empirical project, the homeworks, the three exams, and your extra points of attendance. You only need to add up all points you earned.

For example, if a student has the following grades on paper, homeworks and exams, and he misses one time when I take roll

Project: 8; HW: 22, Exams 1: 20; Exam 2: 18; Final Exam: 12

He earns total points of

$8 + 22 + 20 + 18 + 12 + 2 \text{ (extra points for attendance)} = 82.$

Letter grades will be assigned as follows (where X is the total points calculated in a way shown in the previous example):

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$97 \leq X \rightarrow A+$ ;  $94 \leq X < 97 \rightarrow A$ ;  $90 \leq X < 94 \rightarrow A-$

$87 \leq X \rightarrow B+$ ;  $84 \leq X < 87 \rightarrow B$ ;  $80 \leq X < 84 \rightarrow B-$

$77 \leq X \rightarrow C+$ ;  $74 \leq X < 77 \rightarrow C$ ;  $70 \leq X < 74 \rightarrow C-$

$67 \leq X \rightarrow D+$ ;  $64 \leq X < 67 \rightarrow D$ ;  $60 \leq X < 64 \rightarrow D-$

$X < 60 \rightarrow F$

Please don't ask me to raise your grade to "A" if your total points are 89, and so on. There is no rounding in points. There is no "curving". There is no set distribution of grades for this course.

### Academic Integrity:

Please check out <http://miamioh.edu/fsb/academics/integrity/index.html>. The full FSB Honor Code may be found at: <http://miamioh.edu/fsb/about/honor-code/index.html>

The student handbook states "Students are expected to behave honestly in their learning and in their behavior outside the classroom. Cheating and other forms of academic dishonesty undermine the value of a Miami education for everyone and especially for the person who cheats." Cases of academic dishonesty will be pursued to the fullest extent possible. Ignorance of what constitutes academic dishonesty is not a defense. If you have any doubt about the acceptability of any action on your part, please ask me.

### Some Advices:

This course is tough. Therefore you are expected to study really hard for this course. In particular I have the following three advices for you:

- (1) Reading the textbook
- (2) Coming to class and earn bonus points of good attendance
- (3) Seeking help from me and using my office hours effectively

### Withdrawal

The last day to drop with a W is April 8, 2024.

I will follow the schedule as follows. Please mark those testing dates on your calendar.

## **Tentative Schedule**

Date	Topic	Remark
Jan 30	Syllabus, Review of Math	Math Refresher/Appendix A
Feb 1, 6, 8, 13	Review of Probability	Math Refresher/Appendix B
Feb 15, 20, 22	Review of Statistics	Math Refresher/Appendix C
Feb 27, 29, Mar 5, 7	Simple Regression	Chapter 2, <b>HW 1 is due on March 7</b>
Mar 12	Exam 1	
Mar 14, 19, 21, Apr 2	Multiple Regression	Chapter 3, Chapter 4
Apr 4, 9, 11	Function Form, Residual Analysis	Chapter 6, <b>HW 2 is due on Apr 11</b>
Apr 16	Exam 2	
Apr 18, 23, 25, 30	Dummy Variables, DID	Chapter 7
May 2, 7, 9	Heteroskedasticity	Chapter 8 <b>HW 3 is due on May 9</b>
Check MyMiami	Final Exam	Empirical project is due

Advice again: Read the textbook and work hard