EC 320: Introduction to Econometrics
M/W Fenton 110, 4-5:20 pm

Amna Javed
Office: PLC 520
Email: amnaj@uoregon.edu
OH: W 2-3:30 pm

GE: Sichao Jiang
Office: PLC 525
sichaoj@uoregon.edu
OH: T/R 10-11 am

GE: Cory Briar
Office: PLC 523
Email: cbriar@uoregon.edu
OH: M/W 1-2 pm

GE: Youssef Ait Benasser
Office: PLC 506
youssefa@uoregon.edu

This syllabus is preliminary and is subject to change.

Course summary

Description: This course introduces the statistical techniques that help economists learn about the world using data. We will focus much of our attention on regression analysis, the workhorse of applied econometrics. Using calculus and introductory statistics, we will cultivate a working understanding of the theory underpinning regression analysis—*how* it works, *why* it works, and, *when it can lead us astray*. We will apply the insights of theory to work with and learn from actual data using `R`, a statistical programming language. To the extent that you invest the requisite time and effort, you can leave this course with marketable skills in data analysis and—most importantly—a more sophisticated understanding of the notion that **correlation does not necessarily imply causation**.

Prerequisites: Math 242 (Calculus) and Math 243 (Introduction to Statistics) or equivalent.

Software

- We will use the statistical programming language `R`.

- We will use `RStudio` to interact with `R`.

Learning `R` is challenging, but well worth the effort. `R` is a powerful and versatile tool for data analysis and visualization, which makes it popular among employers. The SSIL lab in McKenzie has `R` and `RStudio` installed and ready for you, but I strongly recommend that you install these programs on your own computer. Don't worry, **both are free**. I also recommend that you purchase a flash drive to save your scripts, data, and assignments. Alternatively, you can use the class network drive (the "R drive"), which is available on all university computers.

If you are concerned about learning `R`—or you want to learn quicker—I recommend that you check out the following free online resources:

- *R for Data Science*
- Hadley Wikham's *Advanced R*
- *Introduction to Econometrics with R*

Textbooks

Required: There is one required textbook for this course:

1. **Introduction to Econometrics**, 5th ed. by Christopher Dougherty

You can purchase this at the Duckstore or your preferred online bookseller. You should complete the assigned readings from the textbooks *before* lecture. Attending lecture is not a substitute for reading and comprehending the texts. Likewise, reading is not a substitute for attending lecture. The lectures and the readings are meant to *complement* one another. The tentative course schedule (further below) lists the assigned readings for each topic.

In addition to the textbook readings, I may occasionally assign readings from peer-reviewed studies for classroom discussion. I will post these readings on Canvas.

Course Structure

Grading

I will award grades based on your relative performance in the class, as determined by the following weights:

Problem Sets	30%
Midterm Exam I	20%
Midterm Exam II	20%
Final Exam	30%

Problem Sets

I will assign **five** problem sets throughout the quarter. Each problem set will include an analytical component and a computational component.

- I will announce due dates in class.
- You will turn in an **electronic copy** of each problem set on Canvas.
- Presentation matters.
- I will drop your lowest problem set score.

I encourage you to work together on the problem sets. Unless explicitly stated, **each student is required to write and submit independent answers**. I will take word-for-word copies as evidence of academic dishonesty. If you work with others, list their names at the top of your assignment. If you fail to list your collaborators, you will receive a score of zero.

Exams

During the exams, you may use a writing utensil and a non-programmable calculator. As you turn in your exam, I will ask you to present your student ID. I do not give makeup exams. See the course policy on makeup assignments for more information.

Lab

In your weekly lab section, you will learn to apply the concepts discussed in lecture using R. While the lab may include some general econometrics instruction, the main focus is on the practical application of statistical techniques and working through the computational components of the problem sets. Attending lab is crucial for learning the material and passing the course. Due to space constraints, **you must attend the lab for which you registered**.

Course Policies

Late Policy

If you turn in a problem set after the deadline, you will receive a 2 percentage point deduction for each **hour** your assignment is late. If you turn it in after I post the key, you will receive a zero.

Makeup Assignments

I do not give makeup assignments or exams. Please check the final exam schedule before registering for this course. In extreme circumstances that lead you to miss one of the midterm exams—such as death in the family or grave illness or injury—I will consider re-weighting your grade toward the final. To qualify for re-weighting, you will need to notify me no later than two days after the exam.

Grade Appeals

You must submit any request for re-grading in writing **within one week** of the day grades are posted for the problem set or exam in question. Your request should include a cogent argument explaining why your responses warrant more credit.

Etiquette

Please respect those around you by turning off your phone and other potentially distracting devices. I ask that you stay for the entire lecture: getting up and leaving distracts your fellow classmates. If you must leave early, please position yourself near the door when you get to class.

Academic Integrity

I will not tolerate cheating, plagiarism, and other violations of the Student Conduct Code. If I catch you cheating or plagiarizing on any component of this course, you will receive a failing grade for the term and I will report your offense to the university.

Accommodations

Notify me if there are aspects of this course that pose disability-related barriers to your participation. If you require special accommodations for a documented disability, then you will need to provide me a letter from the Accessible Education Center (AEC) that verifies your need and details the appropriate accommodations. Please make arrangements with the AEC by the end of Week 1. If your accommodations include exam proctoring at the AEC, then you are responsible for scheduling those exams with the AEC *at least seven days in advance.*

Discrimination and Harassment Policy

I will direct students who are not minors and who report sexual violence or sexual harassment to me to resources to help them and will report to the university administration only when requested by the student (unless someone is in imminent risk of serious harm). Students experiencing any form of prohibited discrimination or harassment, including sex, gender, race, or religion based violence, may seek information on safe.uoregon.edu, respect.uoregon.edu, or investigations.uoregon.edu or contact the non-confidential Title IX office (541-346-8136), Office of Civil Rights Compliance (541-346-3123), or Dean of Students offices (541-346-3216), or call the 24-7 hotline 541-346-SAFE for help. I am also a mandatory reporter of child abuse. Please find more information at Mandatory Reporting of Child Abuse and Neglect.

Tentative Schedule

Table 1: *
Lectures and Exams

Week	Date	Topic	Reading
01	06/01	Introduction	
02	08/01	Statistics Review I	ItE Review
02	13/01	Statistics Review II	ItE Review
03	15/01	The Fundamental Econometric Problem	
03	20/01	*No class*	
03	22/01	The Logic of Regression	
04	27/01	Carry forward and Midterm I Review	
04	29/01	**Midterm Exam I** (in-class)	
05	03/02	Simple Linear Regression: Estimation I	ItE 1
05	05/02	Simple Linear Regression: Estimation II	ItE 1
06	10/02	Classical Assumptions	ItE 1
06	12/02	Simple Linear Regression: Inference	ItE 2
07	17/02	Multiple Linear Regression: Estimation	ItE 3
07	19/02	Multiple Linear Regression: Inference	ItE 3
08	24/02	**Midterm Exam II** (in-class)	
08	26/02	Categorical Variables	ItE 5
09	02/03	Interactive Relationships	ItE 4
09	04/03	Nonlinear Relationships	ItE 4
10	09/03	TBD	
10	11/03	Final Review	
11	16/03	**Final Exam** (see final exam schedule)	

Subject to change!