ECON3500: Econometrics and Applications

Syllabus | Spring 2026

January 2026

Contents

Course Information

Course Details

- Days: TTh
- Dates: January 12 - May 8
- Time: 1:15–2:30
- Location: Living/Learning CM 314

Instructor

- Dr. Emily Beam
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- Email: emily.beam@uvm.edu
- Office Hours: Thursdays 2:30-4:30 PM

Teaching Assistant

- Rae Tiffen
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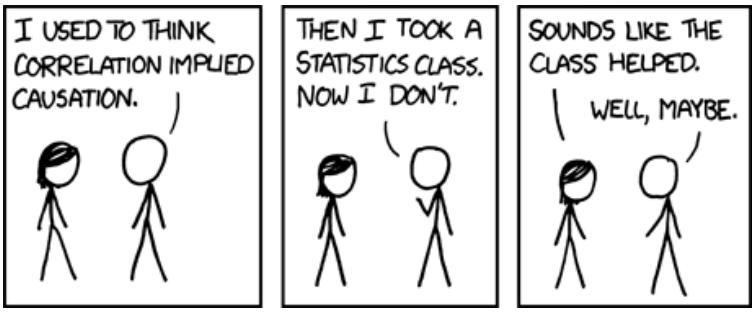
- Office: TBD
- Office Hours: TBD



Course description

Credits: 3

This course will provide a theoretical and practical background in basic econometric techniques. We will review probability and statistics before covering classical linear regression with two or more variables, estimation and hypothesis testing, and violations of classical assumptions. ECON3500 is a challenging course. If you are not interested in taking a challenging course, you should take a different course. The prerequisites are STAT1410, ECON2400, and ECON2450

The course will combine lectures, discussion, and lots of practice. Learning econometrics requires a healthy blend of theory and practice, so you will complete problem sets throughout the semester, and you will design and and write a short research paper that applies some of the techniques we've learned about to real-world data. We won't have enough course time to cover all the Stata preparation you'll need, but I'll cover the basics and you'll have to rely on other resources to figure out the rest.

Learning objectives

- To understand and apply foundational tools in econometric theory
- To use econometric tools and statistical packages (Stata) to analyze real-world data and interpret findings
- To formulate, assess, and answer economic questions by selecting and applying appropriate econometric techniques

Required materials

- **Textbook:** Stock, James H. and Mark W. Watson. *Introduction to Econometrics*, 4th edition, Pearson. ISBN-13: 9780134448046. (about $95)
  - The ISBN above is for the electronic edition. You can also pay about $60 for a six-month rental at pearson.com.
  - The 4th global edition is also fine, although your problems/solutions could differ from the version I'm using. For all assignments, I *will* provide the full text independent of the textbook.
  - If you want to save money by purchasing an older 3rd updated edition, that would be a reasonable approach. However, **you are responsible for the 4th edition content**, so make sure you've compared what might be different.
  - We are **not** using any digital Pearson tools. StudyPrep, MyLab - please don't pay for this!
- **Stata**: We will use Stata extensively in this course, including outside of class. You have free access as a UVM student. You should download a copy at https://www.uvm.edu/software/. Note that you will need to manually enter the licensing information from the UVM software website. (You'll be required to install Apps Anywhere. It's obnoxious, but it is a real thing.)

Course components

Lecture time

If you arrive at class without preparing, things could feel very fast! We will go through most course material in class, but I tend to move quickly so we have time for in-class practice and feedback. Check the calendar to see what you need to do.

Assignments

Our class assignments consist of roughly five problems sets and eight labs, graded for completion and due before class. Make sure to check the schedule for deadlines. Materials will be available at least one week before their due date.

Post-assignment quizzes

On each assignments' due date, you *may* also have an in-class post-assignment quiz. These will be geared such that you'll do well if you worked hard on the assignment, and you'll do very well

if you completed the assignment accurately.

Deadlines

- With the exception of a handful of research paper assignments, deadlines are before class at **1:15pm**
  - As a general rule, problem sets are due on Thursdays at 1:15pm. Labs will bounce around depending on the schedule.
- Please submit all assignments through Brightspace. If you encounter technical issues, e-mail is a fine last resort.
- Late problem sets and labs will be penalized 10% per day. In-class assignment quizzes cannot be made up.
- Regarding **research paper elements *only***, I have an *"extensions for all"* policy
  - If you need an extension, request it by e-mail **before** the deadline and provide a proposed new deadline.
  - Some assignments build on previous ones, so be careful when requesting that you don't put yourself in a tricky position. I don't need to know why you need the extension.
  - If you exceed your revised deadline (or you request an extension *after* the due date), then I will start applying the 10% deduction per day.
  - Some assignments will have restrictions on extensions.

Class engagement and attendance

This is a challenging course, and you'll get the most out of it if you engage with the material both during and outside of class. You are responsible for finding a classmate or checking Brightspace for any content you may miss during class.

What if I'm sick?

Please stay home! Get notes from a classmate. Fill out the Short-Term Acute Illness Form (available on UVM's website). I excuse assignment quizzes that are documented in this way.

Grading

Assignment weights

Assignment	Percent
Assignment quizzes	4%
Labs	8%
Problem sets	8%
Exams (3 exams at 5%, 20%, 20%)	45%
Research paper	35%

I will drop your lowest assignment quiz.

Grading distribution

Range	Grade
93.0 - 100.0	A/A+
90.0 - 92.99	A-
87.0 - 89.99	B+
83.0 - 86.99	B
80.0 - 82.99	B-
77.0 - 79.99	C+
73.0 - 76.99	C
70.0 - 72.99	C-
67.0 - 69.99	D+
63.0 - 66.99	D
< 60.0	F

- I determine grades by a threshold - 93.01 is an A, and 92.97 is an A-. In cases of very near misses of higher grades, however, I will take into account class participation/attendance.
- I will never curve quizzes down, but I may curve them up if the median grade is less than a B-.

Exams

There are two unit exams (15% each) and one stats exam (5%). All exams are in-class. You can use a single page formula sheet (double-sided is fine) that you prepare.

These exams are not explicitly cumulative, but you'll need to master skills from earlier chapters to tackle the newer material.

FAQ

1. *I don't remember ANYTHING from statistics. Will I be able to pass this class?* The stronger your stats background, the more useful you'll find this class. Whether or not you can recall the formula for a one-sample hypothesis test should have no bearing on your ability to succeed (you can always look it up!) But having a sense of what big concepts mean will be very important. We'll review together at the beginning of the term.
2. *I am sick and need to miss class. Will I lose points? Do I need to tell you?* You don't need to let me know if you will be missing class. If you're sick, fill out the Short-Term Acute Illness Form.

   If you need an extension, though, I will need to know that in advance of the deadline.
3. *Do I really need to buy a textbook?* Yes. 4th edition. You can probably get by with a used 3rd updated edition.
4. *Do I need a computer for this class?* You will need a computer for any work with Stata. I *think* there is a way to get Stata to run on a Chromebook, but I can provide you with roughly zero technical support for setting that up!

5. *My computer is broken/missing/on fire and I cannot submit my assignment on time!* Remember that Howe Library has desktop computers and that ETS can help with problems. But if you're really stuck, give me a heads up *prior* to the deadline, and we can work out an extension.
6. *Can I use open-source, glorious, R?* Sure. But I have many caveats and warnings. (1) You will need to to be comfortable reading and interpreting Stata output in order to be successful on exams. (2) I will be teaching in Stata exclusively, and the technical support I will be able to provide is limited.
7. **Can't I just ChatGPT my way through this course?** Please don't. That would be a silly way to spend your one wild and precious life and many precious dollars. Also, it's unlikely to serve your grade very well. See our Gen AI policy below!

Gen AI policy

That said, generative AI is also a useful tool that *can* enhance your learning—when it's a complement rather than a substitute to your own practice and review.

My general policy is this:

I do not expect or encourage the use of ChatGPT. However, if you use it, then *ChatGPT should be no more than a friend*:

For regular homework, assignments, studying:

- You may ChatGPT/genAI as a study aid, just as you might study with a friend. **However**, know that you alone are responsible for learning the material so you can demonstrate your knowledge during our broad range of in-class activities, and there is no guarantee it will effectively cover all the important topics at the depth required.
- Consulting these tools to explain something you're stuck on or check your work is not a violation in this course - just as you might run your answers by a friend
- Having ChatGPT entirely do your work would be, well, cheating. Just as it would if your friend did your problem set for you.

For our research paper:

- You might have ChatGPT check your grammar, or help you reword something you're stuck on.
- It might teach you a new way to code something you didn't know how to do, help you troubleshoot a problem, or make your figure prettier.
- But if it writes your paper for you or conducts all your analysis, that's cheating. And ChatGPT is being a bad friend.
- For submissions, I'll ask you to include an AI attribution statement indicating how, if at all, you used genAI in the submission. Please err on the side of over-disclosure.

I will report violations of this policy to the Center for Student Conduct. If you're unsure about something, reach out!

I am in college and having some problems

UVM offers many resources for students experiencing difficulties. Please visit the UVM website for information on academic support, health and wellness, and other services.

Student responsibilities and rights

Student learning accommodations In keeping with University policy, any student with a documented disability interested in utilizing accommodations should contact Student Accessibility Services, within the Office of Accessibility Services on campus. SAS works with students to create reasonable and appropriate accommodations via an accommodation letter to their professors as early as possible each semester.

Contact Student Accessibility Services: A170 Living/Learning Center; 802-656-7753; access@uvm.edu

See UVM's policy on disability certification and student support at: https://www.uvm.edu/policies/disability-certification-accommodation-and-support-students

Academic integrity: Do not cheat, and do not plagiarize. Although you are permitted to work together on problem sets and labs, the work you submit should be *your own*. See https://www.uvm.edu/policies/code-academic-integrity for details. This policy is supplemented by our class Gen AI policy.

Grade Appeals If you would like to contest a grade, please follow the procedures outlined at: https://www.uvm.edu/policies/grade-appeals

Code of Student Rights and Responsibilities: https://catalogue.uvm.edu/undergraduate/academicinfo/rightsandresponsibilities/

FERPA Rights Disclosure The purpose of this policy is to communicate the rights of students regarding access to, and privacy of their student educational records as provided for in the Family Educational Rights and Privacy Act (FERPA) of 1974. See: https://www.uvm.edu/policies/ferpa-rights-disclosure