ECN 102: Analysis of Econ Data

Spring Quarter 2025

Instructor: Remy Beauregard

Email: rebeauregard@ucdavis.edu

Lecture time: *MWF* 9-9:50am

Lecture location: Everson 176

Class support:

Instructor office hours: *WF* 10-11am Gold Room (SSH 1131)

Class email: beauregard.teaching@gmail.com

Class tutor: Wesley Kim (wbkim@ucdavis.edu)

Tutoring hours: *M* 11:30-1:15pm; *R* 10:30-11:45am

Zoom link (pass. 102)

Section	A01	A02	A03	A04
Time	*T* 10-10:50am	*T* 11-11:50am	*R* 12:10-1pm	*R* 1:10-2pm

Location	Hutchison Hall 93

TA	Julie Kim	Mitali Mathur
Email	jzkim@ucdavis.edu	mrmathur@ucdavis.edu
OHs	*M* 2-4pm SSH 137	*R* 8-10am SSH 136

Class description: Analysis of economic data to investigate key relationships emphasized in introductory micro and macro economics. Obtaining, transforming, displaying data; statistical analysis of economic data; basic univariate and multivariate regression analysis.

Course goals: This class aims to provide both a theoretical and applied understanding of how variables and the relationships between variables are visualized and analyzed in Economics. We will use standard statistical software *Stata* to read, clean, visualize, and analyze data. The class serves as a bridge between introductory statistics courses and more advanced courses in Econometrics (e.g. ECN 140, 141, 142). Students should expect to participate in lectures through knowledge check exercises and attend sections to gain familiarity with Stata.

Course materials: Students should purchase Prof. Colin Cameron's textbook *Analysis of Economics Data: An Introduction to Econometrics* (2022), available in print or Kindle app pdf download. Chapters 1-4 are available free here. Be aware that Equitable Access provides only a physical copy of the textbook. The tentative schedule of topics and weekly readings are listed below; you are not responsible for textbook material not covered in lecture. I will post my lecture slides ahead of each class; students can expect to download and annotate these for notes. I will make lecture recordings and my own annotated slides available after each class, but your attendance is still critical to ask clarifying questions.

Prerequisites: ECN 1A-B, Statistics 13 or 32, Math 16A-B; or Consent of Instructor.

Registration: I cannot offer PTA codes for this class; please contact the registrar or advising directly.

Stata: The main statistical software for this class is unfortunately locked behind a paywall. However, many campus resources exist to access Stata for free. Our sections will be held in Hutchison Hall 93, a basement lab with Stata-equipped Windows computers. The availability of this room outside of class can be checked here. Stata is also available weekdays and weekends in Shields 91 (see link for hours). After hours, Stata can be accessed remotely using the IET virtual lab, available here. Please contact me or your TA if you are having issues connecting to Stata. The final access option is purchasing a Stata license for your private machine, but you should not feel at all required to do this. If you do choose to purchase Stata (BE student 6-month ∼$48), you can get started here.

Assignments and grading (% of overall class grade):

- Knowledge checks (10% total): Chapter slide decks will end with a review exercise to complete and upload to Canvas by the end of the day. These will be completed as a class during lecture. Knowledge checks will be graded on effort not accuracy, but serve as good practice questions for exams. I will automatically drop up to two missing knowledge checks for the quarter.
- Homework (10% total): We will have seven homework assignments that include theoretical and applied problems. Questions requiring Stata will be demonstrated in discussion sections. Homework must be submitted as a single pdf and include all Stata output and code. All homework submissions will be due Sundays at 11:59pm through Canvas. Homework will be graded on completion, with full credit given for submissions that reasonably attempt all questions and half credit for incomplete submissions. No homework will be given on exam weeks. Late homework is not accepted; please contact the instructor before the deadline if you must request an extension.
- Stata quiz (20%): We will have a quiz Week 8 during discussion sections (5/20 or 5/22) on data processing, visualization, and analysis using Stata. You can expect questions similar to previous homework assignments. The quiz will be closed-note, but you will have access to all posted homework answer keys. The quiz cannot be taken on personal computers except through SDC.
- Midterm exam (25%) and final exam (35%): Our midterm will take place May 2nd 9-9:50am. Our final exam will take place June 6th 3:30-5:30pm during finals period. It is your responsibility to arrive on time on these days. No makeup time will be given on exams. Both exams will be cumulative and closed-book. No notecards or cheat-sheets are allowed for exams. If you will need to miss the midterm, you must notify me at least one week before the exam and give a valid reason for your absence. If I accept your petition to miss the midterm, the weight of the midterm in your class grade will be added to your final exam (60% total). Missing the final exam for any reason will result in either failure of the class or an incomplete ("I") grade with valid justification.

Regrading policy: Scores for each exam will be posted on Canvas within one week of the exam date. In addition, your exam pdf and the grading rubric for each question will be available on Gradescope with points earned/lost. If you feel you were graded incorrectly on one or more questions, you will have one week from when exam scores are released to submit a regrade request on Gradescope with justification for points back. It is then up to the instructor and TAs whether points will be returned. If necessary, I reserve the right to make the final decision over the allocation of points back. No regrade requests can be made after the one-week window elapses. Regraded exams are considered holistically.

Class grades: Any curving or rescaling of the grade distribution for this class will not be done until all assignments are submitted and evaluated. There is no hard limit on the distribution of grades in this class, but I expect the class average to fall between 80-85%. Prior to all assignments being graded, I cannot provide intuition as to the letter grade associated with any percentage grade. Instead, I encourage all students to compute their z-score following an exam as a signal of their relative performance in the class: a positive z-score would indicate you are outperforming the average, while a negative z-score would suggest you are falling behind.

Special accommodations: If you have any form of disability, difficulty understanding English, or other extenuating circumstance you feel will prevent you from doing your best in this class, please meet with me during the first week of class to discuss appropriate arrangements. Any student registered to take their exams through SDC should expect to do so. Students taking the midterm and/or final exam through SDC will be provided a non-scientific calculator by default. *Students taking the Stata quiz through SDC should expect to purchase a copy of Stata (BE) software for their personal computer.*

Cheating: I have a zero tolerance policy for academic dishonesty. This includes but is not limited to: cheating on exams, submitting work from another student as your own, submitting work from an external source without proper citation, and submitting work produced by generative AI (e.g. ChatGPT). If I find you have engaged in any form of academic misconduct on any assignment or exam, you will receive a zero for that assignment or exam. Cheating includes use of personal electronic devices or talking between students during exams. I fully reserve the right to submit instances of cheating to student judicial affairs for review and discipline. Please review the UC Davis Code of Academic Conduct here.

Class culture: My class is built on a foundation of mutual respect and professional courtesy. All individuals should feel welcome, regardless of their age, sex, gender identity, race, ethnicity, national origin, immigration status, sexual orientation, religious beliefs, socioeconomic status, or disability status. Economics and academia more broadly are enriched through their embrace of diverse perspectives, ideas, and backgrounds. Additional university resources for issues of equity and inclusion can be found here. A link to student health and counseling services can be found here. If you feel you have experienced any form of discrimination in my class, please report the matter to me or use the link above.

Course schedule: Broadly, this class is broken down into four main components:

(a) Introduction: what we can do with data

(b) Univariate analysis: analysis of a single variable (ch. 1-4)

(c) Bivariate analysis: the relationship between two variables (ch. 5-9)

(d) Multivariate analysis: the relationship(s) between several variables (ch. 10-15)

A tentative schedule of topics and associated textbook chapters for each week are below:

Week 1: Monday 3/31

lecture: descriptive statistics; data visualization - *chapters 1+2*

section: introduction to Stata

no hw due

Week 2: Monday 4/7

lecture: data visualization; the sample mean - *chapters 2+3*

section: hw 1 examples

hw 1 due 4/13 at 11:59pm

Week 3: Monday 4/14

lecture: univariate inference; bivariate data - *chapters 4+5*

section: hw 2 examples

hw 2 due 4/20 at 11:59pm

Week 4: Monday 4/21

lecture: bivariate data; the least squares estimator - *chapter 5+6*

section: hw 3 examples

hw 3 due 4/27 at 11:59pm

Week 5: Monday 4/28

lecture: bivariate inference; bivariate practice - *chapters 7+8*

section: midterm practice

midterm exam 5/2 ch. 1-7

no hw due

Week 6: Monday 5/5

lecture: midterm recap; bivariate transformations - *chapter 9*

section: hw 4 examples

hw 4 due 5/11 at 11:59pm

Week 7: Monday 5/12

lecture: multiple regression; multivariate inference - *chapter 10+11*

section: hw 5 examples

hw 5 due 5/18 at 11:59pm

Week 8: Monday 5/19

lecture: multivariate inference; error & prediction - *chapters 11+12*

section: **Stata quiz**

no hw due

Week 9: Tuesday 5/27

no class Monday 5/26 (Memorial Day)

lecture: indicator variables - *chapter 14*

section: hw 6 examples

hw 6 due 6/1 at 11:59pm

Week 10: Monday 6/2

lecture: multivariate transformations - *chapter 15*

section: final practice

hw 7 due 6/5 at 11:59pm

Final Exam: Friday 6/6

3:30-5:30pm in Everson 176

ch. 1-7; 9-12; 14-15