UC SANTA CRUZ

ECON 113
Introduction to Econometrics
Summer 2023
Session 1

Instructor
Haedong Aiden Rho
(harho@ucsc.edu)

Office Hours: Tuesdays 11:00am – 1:00pm
Zoom Meeting ID: 936 7369 9328
Passcode: 041412

Course Dates: 06/26/23 – 07/27/23

Lectures
Monday and Wednesdays, 1:00pm – 04:30pm
Zoom Meeting ID: 950 7165 5266
Passcode: 612262

Section Attendance: You must attend the section every week.

Teaching Assistant:
1. Mariana Bessa (mbessari@ucsc.edu)
   a. Sections: Thursdays 10:00am – 11:00am
   b. Office Hours: Thursdays 8:00am – 10:00am
2. Yuchao Li (yli852@ucsc.edu)
   a. Sections: Fridays 11:00am – 12:00pm
   b. Office Hours: Fridays 9:00am – 11:00pm

Course Description
Practical methods for organizing and analyzing economic data, testing economic hypotheses, and measuring economic relationships. Regression analysis is the main empirical method, and basic statistical and probability theory is included. Students gain hands-on computer experience with an econometric software package. Students cannot receive credit for this course and Applied Mathematics and Statistics 113.

Prerequisite(s)
ECON 1 and ECON 2; STAT 5 or 7; and one of the following: ECON 11B, AM 11B, MATH 22, or MATH 23A. ECON 100A or ECON 100B strongly recommended as preparation.

Credit Hours: 5

Text(s)
Wooldridge, Jeffrey M. *Introductory Econometrics: A Modern Approach.* I will primarily be referring to the 6th edition, but any version is okay, although you may need adjust the pages accordingly.

Software

Note: This syllabus is subject to change. If there are any changes, I will notify the class via Canvas within a reasonable time frame.

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Stata BE is sufficient for this class. Please purchase Stata BE as soon as possible here: https://www.stata.com/order/new/edu/profplus/student-pricing/. You only need the 6/month plan (This costs $48). You can split this license (up to three computers, I believe).

Assignment Grade Distribution: There are 4 categories of assignments for this course:

- **Section Attendance (10%):** You must **attend the section every week**. Sections will review the concepts and do a lot of the heavy lifting on teaching the programming.
- **Problem Sets (30%)**: There will be **weekly problem sets** on Canvas. These problem sets will include both a programming and theory element. You can work together but submit your own work. You will have a maximum of three attempts per assignment, with the highest score being your final score. **No problem sets will be dropped.**
- **Quizzes (5%)**: There will be weekly quizzes on Canvas. You can work together but submit your own work.
- **Midterm (25%):** There will be a **take-home midterm exam**.
- **Final (30%):** The final is cumulative and is **scheduled for the last day of class**. The exam will be administered via Canvas and Zoom during normal lecture hours – you will have the entire lecture time to complete it.

Student Learning Objectives: At the completion of this course, students will be able to:

1. Learn about hypothesis testing and its applications.
2. Learn about linear regression models and how to apply the model to a wide range of applications in economics.
3. Interpret linear regression model coefficients.
4. Use a statistical package to estimate linear regression models.

Course Policies:

1. **Lecture Policy**
   - This is a synchronous course – you will attend over Zoom.
   - Please be aware of your netiquette – treat your classmates and the teaching staff with respect. Comments in the chat box should be professional and appropriate for the setting.
   - There will be an approximately 15-minute break every 1.5 hours or so.
   - Anyone violating the basic standards of netiquette will be booted off the lecture.
2. **Grading Policy**
   - I reserve the right to curve (or not curve) the final grades
   - Grades are final unless a documented mistake has been made. If you believe there to be a grading error, please schedule an appointment and we will discuss it.
   - **Do not ask me about extra credit.**
   - If you believe there to be a mistake, you have 3 days after assignment grades are posted to appeal the grade.
3. **Make Up Policy**

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- No late work is accepted.
- If you miss a problem set due date due to a **legitimate and verifiable excuse**, at my discretion, I will offer an alternative assignment or grading scheme. You **must** contact me within a week of the due date.

4. **Accessing Canvas and Tech Support**
   - Go to https://canvas.ucsc.edu/
   - Login using your normal UCSC credentials.
   - If there are issues, contact me first.
   - You will need either a Windows PC or a Mac PC to complete the course requirements as well as a modern web browser (Chrome or Firefox).
   - Do NOT use Safari or any mobile browser, equations and graphs do not show up properly in them.

5. **Regular and Effective Contact**
   - I will be available to you in a few different ways. The primary method of contact will be through Canvas announcements. I will also be available during scheduled office hours (and by appointment).
   - I will try to answer emails at least once a day, during normal working hours. After hours responses will depend, but generally I will be available. There may be some delay during weekends, but generally expect a response within 1 – 2 business days. If I do not respond within that time frame, send a follow-up.

6. **General Policies**
   - You will need a calculator. A phone calculator is acceptable.
   - Generally, for problem sets and exams, additional time requests will not be honored, unless there is a valid request made through Disability Services and Accommodations office

7. **Academic Honesty Policy**
   - I encourage you to collaborate and work with your classmates. However, the work you submit must be your own.
   - I take academic honestly extremely seriously. Your classmates work hard to earn the grades they receive, so do not breach their (or my) trust by committing academic fraud. My policy on this is very simple – any instances of cheating, which include, but is not limited to, using Chegg and other "homework helper" sites, Reddit, payment of third-party services/individuals to complete assignments/exams, plagiarizing codes, or solutions, etc. will be treated as academic misconduct and will be dealt with accordingly. **You potentially will be subject to not only in-class sanctions (0 on the assignment in question, etc.) but may also face disciplinary action from your college provost.**
   - Facilitation of academic misconduct (failure to report instances of observed cheating, coordinating/conspiring with classmates to cheat over communications platforms such as WeChat, WhatsApp, Discord, Slack, FB Messenger, iMessage, LINE, Snapchat, Instagram DMs, etc.) will be treated as and is considered academic misconduct.
   - Posting of any copyrighted material (in this case, any course material) without my direct approval will also constitute an academic integrity violation. Quizzes, problem sets, exams, and even lecture slides are my intellectual property and copyrighted material. Violators may also be subject to disciplinary sanctions.
   - For more, please see: https://ue.ucsc.edu/academic-misconduct.html

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8. **Title IX and CARE**
   - UC Santa Cruz is committed to providing a safe learning environment that is free of all forms of gender discrimination and sexual harassment, which are explicitly prohibited under Title IX. If you have experienced any form of sexual harassment, sexual assault, domestic violence, dating violence, or stalking, know that you are not alone. The Title IX Office, the Campus Advocacy, Resources & Education (CARE) office, and Counseling & Psychological Services (CAPS) are all resources that you can rely on for support.
   - Please be aware that if you tell me about a situation involving Title IX misconduct, I am required to share this information with the Title IX Coordinator. This reporting responsibility also applies to course TAs and tutors (as well to all UCSC employees who are not designated as "confidential" employees, which is a special designation granted to counselors and CARE advocates). Although I have to make that notification, you will control how your case will be handled, including whether or not you wish to pursue a formal complaint. The goal is to make sure that you are aware of the range of options available to you and that you have access to the resources you need.
   - Confidential resources are available through CARE. Confidentiality means CARE advocates will not share any information with Title IX, the police, parents, or anyone else without explicit permission. CARE advocates are trained to support you in understanding your rights and options, accessing health and counseling services, providing academic and housing accommodations, helping with legal protective orders, and more. You can contact CARE at (831) 502-2273 or care@ucsc.edu.
   - In addition to CARE, these resources are available to you:
   - If you need help figuring out what resources you or someone else might need, visit the Sexual Violence Prevention & Response (SAFE) website, which provides information and resources for different situations.
   - Counseling & Psychological Services (CAPS) can provide confidential counseling support. Call them at (831) 459-2628.
   - You can also report gender discrimination and sexual harassment and violence directly to the University's Title IX Office, by calling (831) 459-2462 or by using their online reporting tool.
   - Reports to law enforcement can be made to the UC Police Department, (831) 459-2231 ext. 1.
   - For emergencies, call 911.

9. **Disability Services and Accommodations**
   - If any students need disability support or specific accommodations, please feel free to contact me and we can arrange accommodations. Please also contact the DRC team for more assistance since I will need an accommodations authorization letter from the DRC Office. You can reach them at: 831-459-2089 or drc@ucsc.edu

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Tentative Course Outline (Subject to change; this schedule is a projection):

Week	Content	Due Dates
1	**Lecture 1 (Monday)** Introduction to Econometrics Types of Data and Sampling	
	Lecture 2 (Wednesday) Probability Review Statistics Review	**HW1 due Sun. 7/2 at 11:59pm**
2	**Lecture 3 (Monday)** Statistics Review: Estimation	
	Lecture 4 (Wednesday) Simple Linear Regression Model: Theory and Derivation	**HW2 due Sun. 7/9 at 11:59pm**
3	**Lecture 5 (Monday)** Simple Linear Regression Model: Theory and Derivation	**Take-home Midterm**
	Lecture 6 (Wednesday) Simple Linear Regression Model: Units of Measurement	**HW3 due Sun. 7/16 at 11:59pm**
4	**Lecture 7 (Monday)** Statistical Inference (Hypothesis Test)	
	Lecture 8 (Wednesday) Multivariate Regression Model: Estimation and Specification	**HW4 due Sun. 7/23 at 11:59pm**
5	**Lecture 9 (Monday)** Multivariate Regression Model: Omitted Variable Bias Interactions	
	Lecture 10 (Wednesday) **Final Exam**	

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