ECON 113: Introduction to Econometrics

Instructor
Prateek Arora  
(prateek@ucsc.edu)  
Office Hours: W (3-4 pm)/by appointment  
Zoom meeting ID: 849-256-8038 (Passcode: 054964)

Lectures
Mon/Wed 09:00 AM – 10:35 AM.  
Zoom Meeting ID: 959 8103 9395

Make sure to sign in to Zoom and register to the Lecture with your full first and last name.

Teaching Assistants

<table>
<thead>
<tr>
<th>Name</th>
<th>Zoom Meeting ID</th>
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<tbody>
<tr>
<td>Yilin Li</td>
<td><a href="https://ucsc.zoom.us/j/92743820885?pwd=QmhlbFlhcmJoc1NTQidSVFJycW1oQT09">https://ucsc.zoom.us/j/92743820885?pwd=QmhlbFlhcmJoc1NTQidSVFJycW1oQT09</a></td>
</tr>
<tr>
<td>Aiden Rho</td>
<td><a href="https://ucsc.zoom.us/j/98634037249?pwd=ZXVqdnBFtXZ2ZFNVL1fHVWtoUm5kQT09">https://ucsc.zoom.us/j/98634037249?pwd=ZXVqdnBFtXZ2ZFNVL1fHVWtoUm5kQT09</a></td>
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Office Hours
- Yilin Li: Th 10 am – 12 noon
- Aiden Rho: F 4 pm – 6 pm

Sections

- Th: 8 am – 10 am  
  TA: Yilin Li – yilinli@ucsc.edu  
  Zoom Link: https://ucsc.zoom.us/j/96313835763?pwd=T1h4SUdnUnMwblF6eVpvaWVoU0Uvdz09

- F: 10 am – 12 noon  
  TA: Aiden Rho – harho@ucsc.edu  
  Zoom Link: https://ucsc.zoom.us/j/9614141952?pwd=cERZSVFBNEx2TvdcmRTmgzWJiDUT09

Discussion sections will not be substitute to the lectures. Rather they would provide additional practice for applications as well as getting you comfortable with STATA. You are encouraged to attend sections to score well.

Nectir:
Nectir is a multiplatform communication tool designed to help teachers and students build communities in their classes. By connecting entire schools in one messaging workspace, students can have all their classes in one place. Students can use Nectir to create their own discussions and channels. A synchronous chat room for every class. One of the most valuable parts of a college education is the connections you make on campus and the network you build over time. Nectir allows you to amplify that value and make it more readily available to every student at your school.

Join Econ 113-02 channel
Course Description
This course covers 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 intuition behind commonly used methods in econometric analysis as well as hands-on computer experience with Stata.

Learning Objectives
Students will:
1. have a deeper understanding of economic statistics, econometrics, and have greater confidence in its application.
2. learn the basics of ordinary least squares (OLS) model estimation and interpretation, with its advantages and disadvantages.
3. learn about OLS model specification and estimation, with applications in a wide range of economic topics (labor, health, crime, monetary policy, etc.)
4. learn about using OLS to make predictions, and the caveats in doing so.
5. Understand the assumptions underlying the classical linear regression model, and strategies to overcome its limitations.

Enrollment Requirements
Prerequisite(s): Courses 1 and 2; Statistics 5 or 7; and one of the following: course 11B, Applied Mathematics 11B, Mathematics 22, or Mathematics 23A. Courses 100A or 100B strongly recommended as preparation.

Recommended Textbook

UCSC Library Research Services has provided following access to the textbook through The Internet Archive:

Currently, The Internet Archive is offering two digitized copies. These titles have been contributed by the community of users, so please note that these could potentially be removed at any time. The URL for accessing these is:
Link for accessing the textbook

Software
This quarter, UC Santa Cruz has provided the facility of Remote Lab OR you can buy license for Stata.

Follow the steps below to access stata through remote lab.
1. https://remotelab.ucsc.edu/
2. Click ‘Login to the Remote Lab’
3. Sign in using your id and BLUE password
4. ALL CONNECTIONS → Social Sciences 1 – Macs (Click on + sign on the left to see a drop down
5. Click on any of the link from the drop down (e.g., Social Sciences 1 – Mac #203)
6. A new window opens up. Sign in using your CruzID and BLUE password
7. Once signed in, Go to Finder → Applications → Stata → StataIC.app

Stata BE is sufficient for this class ($45 for 6 months license, installed on 3 computers)
Stata GradPlan: http://www.stata.com/order/new/edu/gradplans/student-pricing/

Grades
Assignments: 25%, Classroom activities: 75%. (NO midterms and finals!!!)

Assignments (25%): There will be 5 assignments during the course. Each assignment is worth 5% of your total grade.

Assignments provide an opportunity to practice econometric methods and understand the underlying intuition. Working on the assignments will also help you prepare for classroom activities. They are vital to understanding the course material. All assignments will also include a section that requires analyzing real world data using STATA.

Assignments must be turned in online, via Canvas, in a readable format. Assignments are graded based on completed work and effort only. This is an opportunity for you to practice the type of questions you will see in the classroom activities, so no penalty on getting questions wrong. After uploading your work, make sure that the file can be downloaded and is legible.

Each assignment is due on Saturdays at 8 pm. Following are the due dates for turning in HWs

| Assignment 1 | July 3 |
| Assignment 2 | July 17 |
| Assignment 3 | July 31 |
| Assignment 4 | August 14 |
| Assignment 5 | August 28 |

Late submissions will not be accepted

Classroom activities (75%): During lecture, we will have two graded classroom activities - quizzes (25%) and tests (50%). Some will be in teams and others will be individual work. These activities will cover material from the current and/or previous class.

Quizzes: Quizzes will be shorter (5 minutes or less) covering material from current week’s classes. They may be given at the beginning, middle, or end of the class. The goal is to engage students in the lecture and ensure that students are following the material being taught. There will be 3-4 quizzes every week. In total, 30 quizzes will be conducted. The lowest score on 5 quizzes will be dropped. (25 X 1 = 25 points)
Tests: Tests would be longer (10 minutes or more) covering cumulative material. Every week one test would be conducted. Total 10 tests. (10 X 5 = 50 points)

Attending real time lectures is mandatory to participate in classroom activities. However, each student has the liberty to miss two lecture days. Students would be responsible for watching the recorded lectures and attempting the make-ups for those two days.

Make-up will be provided on each class day at 9 pm on Canvas. The objective is to help students in the following two scenarios:
   a) The student missed a class day due to any reason. Maximum two such make-ups will be entertained.
   b) The student scored low in “in-class activities” and wants a second chance. Everyone, who attended the real time lecture, is eligible for make-up quizzes and tests. Best of the score will be considered for grading.

Extra Credit
   * Extra credit of 0.5 per quiz for in class quizzes and 1 credit for in class tests would be provided (video participation only).
   * Extra credit of up to 5 points could be earned through in-class participation.

Regrading:
Requests must be submitted within the same day of the grade release. With the exception of cases of simple arithmetic mistakes (points added incorrectly), the requested test/quiz is regraded from scratch and the regraded score may be higher or lower than the original. In practice, regrades rarely result in changes in the grade.

Important Summer Session Remote 2021 Deadlines:

Session 1:
Add: Thursday, July 1
Drop: Monday, June 5 (Tuition Reversed)
No classes are held in observance of Independence Day - Monday, July 5
Request for “W”: Friday, July 23 (No tuition reversal)
Change Grade Option: Friday, August 13
Grades Due: Thursday, September 2

Summer is unique. You will not be dropped for non-attendance or non-payment. You must drop yourself. Dropping before the deadline results in a full-tuition reversal/refund. Withdraw posts a W for the grade and full tuition is charged (no refund).

For all dates and deadlines, including ‘change of grade option’ (P/NP) and grades due, here is the summer academic calendar: https://summer.ucsc.edu/studentlife/index.html

For questions about dropping, requesting a W grade for a course, or withdrawing from the summer quarter, email summer@ucsc.edu.
**DRC Remote Accommodations:**

The Disability Resources Center reduces barriers to inclusion and full participation for students with disabilities by providing support to individually determine reasonable academic accommodations. Operations continue via remote appointments. If you have questions or concerns about exam accommodations or any other disability-related matter, email the DRC Schedulers at drc@ucsc.edu for an appointment.

**Academic Dishonesty**

Academic integrity is the cornerstone of a university education. Academic dishonesty diminishes the university as an institution and all members of the university community. It tarnishes the value of a UCSC degree. All members of the UCSC community have an explicit responsibility to foster an environment of trust, honesty, fairness, respect, and responsibility. All members of the university community are expected to present as their original work only that which is truly their own. All members of the community are expected to report observed instances of cheating, plagiarism, and other forms of academic dishonesty in order to ensure that the integrity of scholarship is valued and preserved at UCSC. In the event a student is found in violation of the UCSC Academic Integrity policy, he or she may face both academic sanctions imposed by the instructor of record and disciplinary sanctions imposed either by the provost of his or her college or the Academic Tribunal convened to hear the case. Violations of the Academic Integrity policy can result in dismissal from the university and a permanent notation on a student’s transcript. For the full policy and disciplinary procedures on academic dishonesty, students and instructors should refer to the [Academic Integrity page](#) at the Division of Undergraduate Education.

**Title IX:**

The university cherishes the free and open exchange of ideas and enlargement of knowledge. To maintain this freedom and openness requires objectivity, mutual trust, and confidence; it requires the absence of coercion, intimidation, or exploitation. The principal responsibility for maintaining these conditions must rest upon those members of the university community who exercise most authority and leadership: faculty, managers, and supervisors. The university has therefore instituted a number of measures designed to protect its community from sex discrimination, sexual harassment, sexual violence, and other related prohibited conduct. [Information about the Title IX Office](#), the [online reporting link](#), applicable campus resources, reporting responsibilities, the [UC Policy on Sexual Violence and Sexual Harassment](#), and the UC Santa Cruz Procedures for Reporting and Responding to Reports of Sexual Violence and Sexual Harassment can be found at [titleix.ucsc.edu](http://titleix.ucsc.edu). The Title IX Office is actively responding to reports and requests for consultation. If you are not currently working with someone in the office and want to make a report/request a consult, you can expect the fastest response by using our [online reporting link](#). For more information please visit the [Title IX Operations under Covid-19](#) page.
Course Outline and Reading

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<td>Wooldridge 1.1-1.2</td>
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<tr>
<td>Types of data and Sampling</td>
<td>Wooldridge 1.3, B1, C1</td>
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<tr>
<td>Descriptive Statistics and Probability Functions</td>
<td>B1, B3, C4</td>
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<tr>
<td>Simple Linear Regression (units, logs, RTO)</td>
<td>2.1- 2.6</td>
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<td>Multivariate Regression</td>
<td>3.1 - 3.3</td>
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<td>Estimation</td>
<td>C1, C2, C3, C4</td>
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<td>Hypothesis Testing</td>
<td>4.1 – 4.3</td>
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<td>Binary Variables</td>
<td>7.1 – 7.7</td>
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<td>Causality, Endogeneity, Unobserved Variables</td>
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<td>Spurious Correlation and Reverse Causation</td>
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<td>Measurement Error, Heteroskedasticity</td>
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<td>Single Diff/ Diff-in-Diff</td>
<td>13.2 – 13.4</td>
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<td>Fixed Effects</td>
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<td>Regression Discontinuity</td>
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Canvas
Announcements, lecture slides and recordings, and assignments will be available through Canvas. The slides will be available for download before each lecture. I will also provide a link to a recording of the lecture (under Module Tab). You are expected to join the lecture real-time. Classroom activities are only available for students joining the lecture and will not be accepted afterwards.

Zoom
Netiquette during lectures
To ensure that all students can benefit from online class sessions in an environment that is courteous, non-disruptive and conducive to learning, please observe the following:

- Arrive on camera fully clothed and alert (NO rolling out of bed last minute).
- Sit upright in a chair (NO lounging in bed or on the sofa).
- Choose a quiet, private space.
- Be ready to join Zoom at the very start of the class time or even a few minutes early.
- Allow a few minutes to connect to Zoom before the actual start of the class.
- Use a computer to connect to Zoom (NO cell phones).
- Wear a headset.
- Come with specific questions from the online work you have been doing during the previous week.
- Stay as attentive to the instructor’s communications as you would for a traditional face-to-face class and contribute to all class activities.
You can find additional resources on remote learning here: KeepLearning.ucsc.edu

OFFICE HOURS
Office hours will also be via Zoom. I (and the TAs) will connect during the scheduled office hours and you can call in at any point during these times. Be aware that if you connect minutes before the end of office hours, we may not be able to fully address your questions. When you connect, please initially turn your mic off as other students might have already joined. Unless a student specifically requests a private meeting, anyone can join office hours and listen in. If you want a private meeting with me or a TA, please email me or the TA in advance. If you connect during a time when a different student has requested a private meeting, you will be placed in a Zoom “waiting room.” I will let you join once the private meeting is over and will text if it is expected to be long (more than 15 minutes).

Course Evaluation
Students’ input is very important for courses’ development and improvement. This feedback is taken into account when making decisions about course work. Professors and TAs do not have access to individual student surveys, and reports are only provided to instructors after grades are submitted. Students will be able to fill out the Student Experience of Teaching Surveys (SETS) in class during the last week of the quarter.