

Economics 120B
Econometrics, Winter 2020
Prof. Dahl, UC San Diego

Description: This course aims to prepare students for empirical analysis in an academic or business setting. It covers the fundamentals of regression, including estimation and hypothesis testing in a univariate and multivariate framework. It presents ideas using the “potential outcomes” framework and makes the important distinction between prediction and causality. The course discusses reasons why estimators may be biased or inconsistent, and how both randomized experiments and natural experiments can be used to obtain causal estimates.

The material can be difficult and the workload substantial, particularly for those who find math courses challenging. However, your payoff for all this work is a set of skills, analytical tools, and ways of thinking about data that are extremely useful and in high demand in the marketplace.

Important Dates and Times:

Class: Tuesdays and Thursdays, 11:00 – 12:20 pm, CENTR 217B (before January 20)
CENTR 217A (January 20 onwards)

Review Session: Fridays 11:00 – 11:50 am, CENTR 217B (before Jan. 20)
CENTR 217A (Jan. 20 onwards)

Midterm: Monday, February 10, 8:00 – 9:20 pm, SOLIS 104/107

Final: Saturday, March 21, 3:00 – 6:00 pm, location to be determined

Class: Tuesdays and Thursdays, 2:00 – 3:20 pm, LEDDN AUD

Review Session: Wednesdays 7:00 – 7:50 pm, CSB 002

Review Session: Wednesdays 8:00 – 8:50 pm, CSB 002

Midterm: Monday, February 10, 8:00 – 9:20 pm, SOLIS 104/107

Final: Saturday, March 21, 3:00 – 6:00 pm, location to be determined

Instructor: Gordon Dahl
office hours: Tuesdays, 12:30 – 1:30 pm
location: ECON 324
email: eco120b@gmail.com

Teaching Assistants: Jinhyeon Han, Tanner Eastmond, and Xiao (Martin) Ma

The graduate TAs are a valuable resource, and I encourage you to take advantage of their help in the PSET lab. If you have a general question about the class, rather than a specific question about content or homework (which you should ask about in the PSET lab), please use the class email eco120b@gmail.com.

Problem Solving and Economics Tutoring (PSET) Lab: Teaching assistant office hours for the class will be held in the Problem Solving and Economics Tutoring (PSET) lab, which is located in Econ 300. Graduate and undergraduate TAs will be available to help you understand the course material and learn to tackle problems successfully. In Econ 300 there is room for you to work on your homework and readily available help if you get stuck. The PSET lab will start in week 2 and end on Thursday of week 10. Please check the web page for lab hours, which may vary right before and after exams: <https://economics.ucsd.edu/undergraduate-program/courses/pset-lab.html>

Review Sessions: Review sessions will normally focus on helping students get started on the homework, but will also occasionally review topics covered in class and help prepare for exams. Attendance is not required, but strongly encouraged.

Class Web Site: <https://triton.ucsd.edu/>

The class web site contains the syllabus, lecture notes, homework assignments, and occasional class announcements. You should check it regularly as you are responsible for any information posted there in addition to any announcements made in class.

Text and Online Videos: For this course we will be using both a textbook and online \videos. The two are not always substitutes for each other. For some class topics the videos are the better resource, while for others the textbook is better. I will make sure to point students to the most appropriate resource during class lectures.

Text: The textbook is the Pearson eBook *Introduction to Econometrics* by Stock and Watson. The eBook access for the course is being delivered through RedShelf on the class webpage. Here is information, provided by the UCSD Bookstore for how this works:

*Your digital course materials are provided by the UC San Diego Bookstore through Canvas and are free for the first two weeks of classes. After two weeks, your student account will be charged a special reduced price unless you opt out. If you decide to opt out you must complete the process by **Saturday, January 18th 2020** and you will be responsible for sourcing the materials elsewhere.*

For any questions about billing please contact textbooks@ucsd.edu.

For any questions about using your eBook please reference [RedShelf Solve](#).

To opt-out:

- Click the RedShelf link in Canvas
- Click View Course Materials
- Scroll down to the grey opt-out button and follow the prompts

*You will have until **Saturday, January 18th 2020** to complete this process and you will be responsible for getting access to the materials elsewhere.*

EVH Videos: We will also be using the Econometrics Video Handbook (EVH), a series of videos developed and maintained by by Professors Brendan Beare, Eli Berman, Graham Elliot, Gordon Dahl, Yixiao Sun, Kaspar Wuthrich, Joel Watson, and Melissa Famulari of the University of California San Diego, in conjunction with IT Services Educational Technology at UC San Diego and funded by an Innovative Learning Technology Initiative grant from the Office of the President of the University of California (Melissa Famulari and Joel Watson, Co-Principal Investigators).

You can access the EVH as a module on the class web page. There is no charge to access these videos as part of this course.

Software: Part of the course involves learning to use a software package called *Stata*. *Stata* is essential for problem sets, so you need to be able to access *Stata* in a physical lab, a virtual lab, or purchase your own copy. Students have physical access to *Stata* in ECON 100. You can set up remote virtual access following the directions at:

<http://acms.ucsd.edu/students/govirtual/index.html>

Individual copies of *Intercooled Stata* (i.e., *Stata/IC*), which can be installed on your own computer, can be leased for six months for \$48 from:

<http://www.stata.com/order/new/edu/gradplans/student-pricing/>

If you would like a book to help you learn *Stata*, a good suggestion is *A Gentle Introduction to Stata, Sixth Edition*, by Acock. However, this book is not required for the course. There are also many online sites devoted to helping individuals learn *Stata*. For a list, see:

<https://www.stata.com/links/resources-for-learning-stata/>

Homework: Homework is an integral part of this course, because the best way to learn econometrics is to do it. I will periodically assign problem sets throughout the semester. These assignments will be posted on the web, and it is your responsibility to check the class web page regularly. Homework assignments will generally be due one week later. For example, if a homework assignment is posted on a Tuesday (any time before midnight), it will be due the following Tuesday unless otherwise specified. You will always have at least one week to complete the assignment.

Your homework needs to be turned in at the *beginning* of class on the due date and late problem sets will not be accepted for any reason. If you cannot attend class, you can either have a classmate turn in your homework for you, or you can turn it in to any of the 120B TAs *before* class begins. Emailed homework will not be accepted.

You are allowed to miss one homework without penalty, as I will drop the lowest score before calculating the homework portion of your grade. The tradeoff for this benefit is that I will be strict about not accepting late homework.

Homework will be graded on a two-point scale. A score of 1 will be given to homework which has made substantial progress, but is incomplete. A score of 2 will be given to homework which attempts to answer all of the assigned problems, including any *Stata* questions.

Students can work together on problem sets, although solutions must be written up and handed in separately (including any *Stata* output). It is a good idea to attempt the problems on your own before meeting with a group. While you can collaborate with others, any homework you turn in must represent your own work.

Solution keys to the homework will be posted on the class web page. As these solutions will be comprehensive and the homework is only graded for completeness, homework will not be returned. If you want a copy of your homework, please make a copy before you turn it in.

Tests: There will be a midterm and a final exam. You must take both the midterm and the final exam at the scheduled time listed earlier in the syllabus. There will be no make-up exams, and any conflicts or emergencies should be approved by me in advance of the exams. In case of illness or accident at the time of the midterm – with proper documentation from a doctor or the police – the final will be weighted 90%.

Grades: The following weights will be used to determine your course grade:

Homework: 10%

Midterm exam: 40%

Final exam: 50%

Grading Policy: You should check to make sure that you have received credit for your homework; scores will be recorded online no later than one week after the due date. If you turned in an assignment, but don't see a score, let us know within 10 days of the due date. After that point, we will throw out the homework assignments and have no way of verifying that you did the assignment so that we can give you credit.

If you think a mistake was made in grading your exam, you may ask for a regrade. You must write out your reason for a regrade and turn it and your exam in within 10 days of when the exam is first returned to the class. Include an email address with your written explanation so we can let you know the result of the regrade. Note that unless your answer is fully correct, the assignment of partial credit is a matter of judgment, and we are unlikely to change your grade since we want to treat all class members fairly.

Cheating: Cheating will not be tolerated in this class. If you are caught cheating, helping someone else cheat, or plagiarizing on an exam or homework, you will be penalized. Having notes (electronic or paper) on your person during the exam constitutes cheating, as do other forms of cheating. One possible penalty is a failing grade in my class.

Miscellaneous: Disabilities will be accommodated; contact the office of undergraduate student affairs in Sequoyah Hall 245. For all matters regarding dropping or adding the course, waitlists, etc., please contact the office of student affairs or use the online resources provided by the university.

If you have any further questions please feel welcome to email eco120b@gmail.com or come talk during office hours.