

ECON 120B
XINWEI MA
DEPARTMENT OF ECONOMICS
UNIVERSITY OF CALIFORNIA SAN DIEGO
SPRING 2020

TEAM

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1. It can be very difficult to answer questions related to the course material via email, especially when equations/derivations are involved. Please only email us on course policies.
2. We are available for questions during my office hours, TAs' office hours, and discussion sessions.
3. There is an online discussion board on Canvas where you can post all your questions. We will check the discussion board regularly and answer your questions.
4. Please include ECON120B in the subject line of your email.

ORGANIZATION

Lectures, discussion sessions, office hours and quizzes will be delivered remotely. The information below reflects the current schedule. Please check the syllabus and Canvas announcements regularly for updates.

Lectures

Video lectures will be posted on Canvas. We will send announcements every week about which lectures you should watch.

Discussion sessions

Video discussions will be posted on Canvas. We will send announcements every week about which discussions you should watch.

Instructor's office hours

I will hold office hours via Zoom. Invitation links will be posted on Canvas.
Wednesday/Friday 10:00am - 12:00pm

TAs' office hours

TAs will hold office hours via Zoom. Invitation links will be posted on Canvas.
Thursday 5:00pm - 9:00pm

COURSE DESCRIPTION

ECON 120B is the second course in the core econometrics sequence. We will focus on the linear regression model, which is widely applied in business, finance, public policy, and other areas. Three major ideas will be introduced: quantifying uncertainty using confidence intervals, using regression to infer causal relationships, and using regression for prediction.

Prerequisites: ECON 120A or ECE 109 or MAE 108 or MATH 180A or MATH 183 or MATH 186.

Introduction

Economic models and econometric models · Prediction and causal inference · Experimental and nonexperimental data · Cross-sectional, time-series and panel data

Review of probability and statistics

Random variables · The normal distribution · The law of large numbers and the central limit theorem · Asymptotics of the sample mean · Hypothesis testing

Introduction to Stata

Stata interface · Basic data manipulations · The do-file · Summary statistics · Plotting · Hypothesis testing

Linear regression with one regressor

Deriving the estimators · Goodness of fit R^2 · Units of measurement · Potential outcomes and causal inference · Unbiasedness · Consistency · Asymptotic distribution · Hypothesis testing · Measurement error · Omitted variable bias

Linear regression with multiple regressors

Causal inference · Interpreting coefficients · Goodness of fit R^2 · Unbiasedness · Consistency · Asymptotic distribution · Testing a single hypothesis · Joint testing of multiple hypotheses · Model selection · Reporting regression results

Additional topics

Using nonlinear transformations · Binary regressors · Binary outcome variables

TEXTBOOK

The required textbook for this class is [*Introduction to Econometrics*, by James Stock and Mark Watson](#). The book will be available as an eBook through Canvas. Note that the lectures will also cover additional material not found in the textbook.

Your digital course materials are provided by the UC San Diego Bookstore through Canvas and are free for the first three weeks of classes. After three 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, April 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 ([link](#)).

To opt out: (1) Click the RedShelf link in Canvas; (2) Click View Course Materials; (3) Scroll down to the grey opt-out button and follow the prompts.

ECONOMETRICS VIDEO HANDBOOK

In addition to my video lectures and the textbook, you will have access to the Econometrics Video Handbook (EVH) through Canvas. The EVH contains a set of videos on key concepts that we discuss in 120B, and also allows you to review the material discussed in 120A.

SOFTWARE

You will have to use the statistical software package Stata to solve assignments. Download and license information is available on Canvas.

ASSESSMENT

The following is my prediction of how I will assess you in this course. While I will do what I can to keep to the predicted assessments for this course, the evolving situation may make it necessary for me to make a change.

Two Stata assignments (10% each)

- To be announced in class and on Canvas
- The Stata assignments will be graded on five scales: 0%, 25%, 50%, 75%, and 100%. If your do-file does not run, we will subtract 25%. No late submission will be accepted.
- In addition to the two Stata assignments, we will also give problem sets for you to practice. Problem sets will not be graded.

Ten one-hour quizzes (8% each)

- Schedule

April 6	Monday	available from 10:00am - 12:01pm
April 13	Monday	available from 10:00am - 12:01pm
April 20	Monday	available from 10:00am - 12:01pm
April 27	Monday	available from 10:00am - 12:01pm
May 4	Monday	available from 10:00am - 12:01pm
May 11	Monday	available from 10:00am - 12:01pm
May 18	Monday	available from 10:00am - 12:01pm
May 27	Wednesday	available from 10:00am - 12:01pm
June 1	Monday	available from 10:00am - 12:01pm
June 6	Saturday	available from 11:30am - 1:31pm
- All quizzes will be on Canvas. Please make sure you have good and stable internet connection.
- You will have one hour to finish each quiz. Once the quiz is opened, you must complete it at that time. You may not start the quiz, save your answers, leave the quiz for an extended period of time, and then come back later to finish. If you start the quiz too late, you may not have the full one hour to complete the quiz. For example, if you start the quiz at 11:30 on April 6, then you will only have 31 minutes. The system will automatically submit the quiz at 12:01pm.
- The quizzes will be open book/note. You will need a calculator (just a simple one will do, no need for scientific or business calculators). You are not supposed to get assistance from others during a quiz.

- There will be no make-up quiz. You can miss two of the quizzes for any reason. I will drop the lowest two quiz grades from your final grade calculation. If you miss more than two of the quizzes for a verifiable medical/legal/sports reason, I will increase the contribution of the remaining quizzes proportionally. Failure to notify me promptly that you must miss more than two quizzes will result in a zero grade.
- There is a sample quiz on Canvas, which you can use for practice.
- We are currently using Zoom to proctor quizzes. You are required to show your student ID card, record your computer desktop and surroundings using Zoom, and share the recording with us. Failure to provide a proper recording will result in a zero grade for a quiz.

OTHER

If you have a documented disability, please email me your documentation as soon as possible so that I can make suitable accommodations for you. If you believe that you have a disability and desire accommodation, please register with the Office for Students with Disabilities ([link](#)).

Students who violate UCSD's academic integrity ([link](#)) policy will earn a failing grade for the course. In addition, the Council of Deans of Student Affairs will impose a disciplinary penalty.