

ECONOMICS 1620: Introduction to Econometrics

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Mr. Daniel Prinz
Office Hours: Wednesday 9:00-10:30, basement of Robinson Hall
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Weekly Schedule:

Chalkboard Lectures:

Location: BARHOL (Barus and Holley Building) 166

Tuesday	02:30-03:50 PM
Thursday	02:30-03:50 PM

Computer Lectures:

Location: Watson (CIT) Center 265

C01	Tuesday	12:00 - 12:50 PM	Mongoljin Batsaikhan
C02	Tuesday	11:00 - 11:50 AM	Mongoljin Batsaikhan
C03	Thursday	12:00 - 12:50 PM	Daniel Prinz
C04	Monday	11:00 - 11:50 AM	Daeho Kim
C05	Friday	12:00 - 12:50 PM	Daeho Kim
C06	Friday	3:00 - 3:50 PM	Daniel Prinz

Course Description

Econometrics is the application of statistical methods to the study of economic data and problems. It is used by economists to measure economic phenomena, estimate economic relationships, test the validity of competing economic theories, forecast economic variables, and evaluate government and business policies. Similar methods are used in other social sciences, business, engineering, medicine, etc.

Economics 1620 is the basic introductory course in statistics and econometrics in the Economics Department at Brown. The course covers topics in descriptive statistics, probability theory, point and interval estimation, hypothesis testing, and regression analysis.

The goal of the course is to provide students with the theoretical background and practical skills needed for understanding the existing empirical studies as well as for carrying out their own empirical work in economics. The students will learn how to apply the methods presented in class to real datasets. Furthermore, students will have a greater understanding of the use of statistics that they will encounter in non-classroom contexts.

Tentative schedule

1st week: Introduction

2nd week: Descriptive analysis

3rd week: Probability

4th week: Discrete random variables

5th week: Continuous random variables

6th week: Sampling distributions

7th week: Midterm exam

8th week Estimation

9th week: Confidence intervals

10th week: Hypothesis testing

11th week: Simple linear regression

12th and 13th weeks: Multiple linear regression

Requirements

The prerequisites for this course are Economics 110 and Mathematics 6, 7 or 9. No background in statistics is necessary. It is recommended to students to take this course as early as possible, as it is a prerequisite for some electives in the Economics Department as well as it may be helpful as a tool for understanding the material in various advanced courses.

Send an email to [Blaise Melly@brown.edu](mailto:Blaise_Melly@brown.edu) if you need an override for this course. State briefly the reason why you would like to receive the override and give your banner ID in this email.

Economics 1620 is to be distinguished from Economics 1630. Either Econ 1620 or Econ 1630 satisfies the econometrics requirement for the standard economics or business economics concentration. **If you are a Mathematical Economics or an Applied Math Economics concentrator, you must take Economics 163, not this course.**

There has been an important change in the structure of the econometric courses at Brown. ECON1630 can now be taken as a successor to ECON1620, and we are urging students wishing to take some of the more advanced empirical classes or to write an empirical thesis to take both ECON1620 and ECON1630, although only ECON1620 is required of regular economics concentrators. Some examples of advanced empirical classes are Labor Economics, Health Economics, Urban Economics, and Economic Development. We will try to offer ECON 1630 every semester, so that students can take it as soon as they are ready for it.

Course Structure

The course has two components: chalkboard lectures and computer lectures.

Chalkboard lectures cover the theoretical material that forms the basis of the course. They will be on Tuesdays and Thursdays between 02:30 and 03:50 PM. The chalkboard classes will be held at BARHOL 166.

Additional to the chalkboard courses, we will have computer lectures, which will cover the application of econometrics to real-life data sets and problems. Please note that the computer sections are not optional sections. The content of these lectures is part of the homework assignments and the exams. The times and the locations of the computer lectures are given above.

Grading

Grading will be based on a set of six homework assignments (10%), three empirical projects (20%), a midterm exam (30%) and a final exam (40%).

Homework will be due electronically one week after they have been assigned. Answers will be posted on the web immediately. Therefore, no late homework will be accepted. The lowest homework score will be dropped when calculating the overall grade in the course.

Three empirical projects are part of this course. We will learn how to analyze data with Stata in the computer sections and you will apply this knowledge to real data sets. The projects will be due electronically one week after they have been assigned. No late project will be accepted.

Exams (tentative schedule):

1. The midterm will be held on Tuesday October 18th during the normal class time.
2. The final will be held during the reading period.

No makeup or early exams will be given, except in the case of a family emergency or medical absence confirmed by a dean within one week of the scheduled date of the exam. The makeup exam will be an oral exam.

Course website

Students will be able to access the course website through mycourses.brown.edu. Homework assignments and answers, practice exams, computer lecture notes and data, and important announcements will appear on the website. Students are advised to check the course website regularly. Before sending an email, students are expected to check that the response is not already posted at mycourses (especially on the forum).

Reading

The textbook for the course is:

Statistics for Business and Economics, 7th Edition, by Newbold, Carlson and Thorne.

Note that other books are very similar and can be used as textbook as well. For example, if you already own *Statistics for business and economics* by McClave, Benson and Sincich or *Statistics for business and economics* by Anderson, Williams and Sweeney, then there is no real need for buying the main textbook.