Carleton University | Department of Economics

Fall 2023

ECON 2220 E Introductory Econometrics

Course Outline

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Brightspace Course Page: https://brightspace.carleton.ca/d2l/home/208423

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Welcome to Introductory Econometrics!



Prerequisites

The prerequisites for this course are ECON 2210 (or equivalent) with a grade of C- or higher, and ECON 1402 (or equivalent) with a grade of C- or higher, as outlined in the 2023-2024 Undergraduate Calendar. Students who believe that they have taken a similar background course or courses from another university must provide appropriate documentation to the Department of Economics Undergraduate Administrator, Renee Lortie renee.lortie@carleton.ca

Please note that a grade of C+ or higher in this course is required to qualify for ECON 3900, ECON 3920, ECON 4002, and ECON 4706. Also, DEF(erred final grade) status at the end of this course precludes (continued) registration in any other course for which the former is a prerequisite.

Also, please note that this course precludes additional credit for ECON 2200 (no longer offered), ECON 2202 (no longer offered), STAT 2509, STAT 2602, and STAT 2607 (no longer offered).

Introduction

This course builds on the material covered in ECON 2210. Topics include correlation, simple and multiple linear regression, and an introduction to statistical computing using an econometrics package. The emphasis is on understanding appropriate methods and their properties, as distinct from their formal theoretical development. Empirical applications.

Learning Outcomes

By the end of this course, students will:

1) be conversant with and be able to define basic econometric terminology
2) be familiar with the setup and assumptions of the classical normal linear regression model
3) have a good understanding of and be able to implement the basic principles of estimation and hypothesis testing within the context of the regression model
4) be able to interpret and assess the quality of an estimated regression model
5) understand the basic principles of regression model specification
6) be aware of common issues associated with the regression model, how to test for these issues, and how to respond to these issues appropriately
7) understand the basic elements of modern econometric software and have had experience in using this software and interpreting the relevant output
8) be familiar with the basic steps involved in the implementation of a regression project

Organization

This is an in-person course and is NOT suitable for online students. The class will meet once a week at 2:35 p.m. on Mondays for a 2 hour and 50 minute session with a short intermission. Note that there is no class on Monday, October 9 (Thanksgiving Day) and that the university has scheduled a make-up class on Friday, December 8. In addition, an 80-minute tutorial session will be held at 8:35 a.m. on Thursdays. Note that there is no tutorial session on Thursday, October 11 (the week of Thanksgiving Day). The tutorial sessions will be used for additional coverage of important course material, together with assignment-related activities.

There will be three (3) required assignments and an in-person final exam.

Please note that Brightspace and the Carleton email system will be used extensively as a means of communication with students. Therefore, students are strongly advised to access Brightspace and to check their Carleton email at regular intervals in order to check for new information. To access Brightspace and the Carleton email system, students require a MyCarletonOne account.

For questions about MyCarletonOne accounts, students should access carleton.ca/its/get-started/ (and then click on either New Students or New Grad Students, as appropriate) or contact the ITS Service Desk.

Attendance

If you plan to succeed in this course, then I cannot overstress the critical importance of regular class and tutorial attendance, together with the allocation of regular and consistent study time outside the classroom. Due to the nature of the course material, many students find that it is very difficult to catch up, should they fall behind.

Academic Integrity and Plagiarism

Please ensure that you are familiar with and comply with the Academic Integrity Policy

And, more specifically, with regard to the written work required for this course, please be sure to avoid any form of plagiarism:

The Academic Integrity Policy defines plagiarism as "*presenting, whether intentionally or not, the ideas, expression of ideas or work of others as one's own."* This includes reproducing or paraphrasing portions of someone else's published or unpublished material, regardless of the source, and presenting these as one's own without proper citation or reference to the original source. Examples of sources from which the ideas, expressions of ideas or works of others may be drawn include but are not limited to: books, articles, papers, literary compositions and phrases, performance compositions, chemical compounds, artworks, laboratory reports, research results, calculations and the results of calculations, diagrams, constructions, computer reports, computer code/software, material on the internet and/or conversations.

Examples of plagiarism include, but are not limited to:

- any submission prepared in whole or in part, by someone else, including the unauthorized use of generative AI tools (e.g., ChatGPT);
- using ideas or direct, verbatim quotations, paraphrased material, algorithms, formulae, scientific or mathematical concepts, or ideas without appropriate acknowledgment in any academic assignment;
- using another's data or research findings without appropriate acknowledgement;
- submitting a computer program developed in whole or in part by someone else, with or without modifications, as one's own; and
- failing to acknowledge sources through the use of proper citations when using another's work and/or failing to use quotation marks.

Plagiarism is a serious offence that cannot be resolved directly by the course's instructor. The Associate Dean of the Faculty conducts a rigorous investigation, including an interview with the student, when an instructor suspects a piece of work has been plagiarized. Penalties are not trivial. They can include a final grade of "F" for the course.

Assignments

Assignments will be posted on Brightspace and will be submitted through Brightspace according to the following schedule:

| | Posted | Due |
|---|---|---|
| Assignment 1 | September 25 | October 16 |
| Assignment 2 | November 6 | November 20 |
| Assignment 3 | November 27 | December 8 |

Final Exam

The final exam will be in-person and comprehensive, and will be scheduled by Examination Services during the regular final examination period (December 10-22). Note that students should not make travel plans during this final examination period as this would not be a valid reason for missing a final exam.

Evaluation

The final % grade for this course will be calculated as follows:

| | | |
|---|---|---|
| Assignments | 40% | (3 assignments, equally weighted) |
| Final Examination | 60% | |

This % grade will then be converted into the alphabetical grade system using the standard equivalences, as outlined in Section 5.4 of the Academic Regulations of the University in the 2023-2024 Undergraduate Calendar.

In the event that one or more components of the term work are not completed, the weight of the incomplete component(s) will not be transferred to the final examination without a documented and compelling reason. In place of a doctor's note or medical certificate, students are advised to complete the self-declaration form, which is available on the Registrar's Office website https://carleton.ca/registrar/wp-content/uploads/self-declaration.pdf

Students who do not write the final examination because of illness or other circumstances beyond their control may apply to write a deferred final examination. In order to write a deferred final examination, students must contact the Registrar's Office. (For further details, see Section 4.3 of the Academic Regulations of the University in the 2023-2024 Undergraduate Calendar.) In the event that a student writes a deferred examination, the deferred examination will carry the same weight as the final examination in determining the course grade. Needless to say, any deferred examination will not be identical to the original final examination.

Finally, please note that: "Standing in a course is determined by the course instructor subject to the approval of the Faculty Dean. This means that grades submitted by an instructor may be subject to revision. No grades are final until they have been approved by the Dean."

Required Textbook

Studenmund, A.H. (2017), Using Econometrics (7th Edition). Boston, MA: Pearson.

Please note that one fairly inexpensive option for obtaining access to an electronic version of the textbook is to purchase it directly from the publisher at:
https://www.pearson.com/en-ca/subject-catalog/p/using-econometrics-a-practical-guide/P200000006422/9780137506323

The textbook can also be obtained through the Carleton University bookstore
https://www.bkstr.com/carletonstore/shop/textbooks-and-course-materials

Computer Package
The use of the STATA econometrics computer package will be an integral part of this course.

Personal copies of STATA will be available for download under Carleton's STATA site-licence. Details will be provided in due course. STATA can also be accessed through the Carleton student computer networks.

Course Content

1. Introduction and Overview, Studenmund - Ch. 1.
2. Ordinary Least Squares, Studenmund - Ch. 2.
3. Learning to Use Regression Analysis, Studenmund - Ch. 3.
4. The Classical Model, Studenmund - Ch. 4.
5. Hypothesis Testing and Statistical Inference, Studenmund - Ch. 5.
6. Specification: Choosing the Independent Variables, Studenmund - Ch. 6.
7. Specification: Choosing a Functional Form, Studenmund - Ch. 7.
8. Multicollinearity, Studenmund - Ch. 8.
9. Serial Correlation, Studenmund - Ch. 9.
10. Heteroskedasticity, Studenmund - Ch. 10.
11. Running Your Own Regression Project, Studenmund - Ch. 11.

Mental Health Resources and Academic Accommodations
Please note that you are responsible for reading and being aware of the information relating to Carleton University and other resources for mental health and academic support, as well as academic accommodations, found HERE

IF YOU HAVE PROBLEMS WITH THIS COURSE, PLEASE LET ME KNOW!

IF I DON'T KNOW THAT YOU HAVE PROBLEMS, I CAN'T FIX THEM!