

CARLETON UNIVERSITY
Department of Economics

ECON 4707 A Econometrics II

Course Outline

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Welcome to Econometrics II!

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Prerequisite

The prerequisite for this course is ECON 4706 with a grade of C+ or higher, or STAT 3503 with a grade of C+ or higher, as outlined in the 2022-2023 Undergraduate Calendar. Students who believe they have taken a similar background course or courses from another university must provide appropriate documentation to the Department of Economics Undergraduate Administrator, Renée Lortie renee.lortie@carleton.ca

Introduction

An extension of ECON 4706. Topics include model specification, diagnostic checks, qualitative and limited dependent variables, panel data, and simultaneous equations models.

Organization

This is an in-person course and is not suitable for online students. Regular attendance is expected. The class will meet once a week in UC 279 at 11:35 a.m. on Tuesdays for a 2 hour and 50 minute lecture, with a short intermission.

There will be two (2) required assignments and an in-person final exam. The final exam will be scheduled by Examination Services during the regular final examination period (April 15-27).

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 <https://carleton.ca/its/contact/>

Learning Outcomes

By the end of this course, students will:

- 1) be conversant with and be able to define key econometric terminology beyond the scope of the classical normal linear regression model
- 2) understand the limitations of the classical normal linear regression model for applied econometric research
- 3) have been exposed to the idea of stochastic regressors and the basics of asymptotic theory
- 4) have studied a broad range of more advanced econometric models, including the simultaneous equations model, binary choice and limited dependent variable models, and the panel data model
- 5) have a clear understanding of the principles of estimation, including maximum likelihood estimation, and hypothesis-testing in statistical models
- 6) have gained further experience and confidence in the use of modern econometric software and in the interpretation and assessment of the relevant output
- 7) be increasingly familiar with the value and fundamentals of applied econometric research

Academic Integrity

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

<https://carleton.ca/secretariat/wp-content/uploads/Academic-Integrity-Policy-2021.pdf>

And, more specifically, with regard to 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

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 2022-2023 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 2022-2023 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."

Student Mental Health

As a university student you may experience a range of mental health challenges that significantly impact your academic success and overall well-being. If you need help, please speak to someone. There are numerous resources available both on- and off-campus to support you. Here is a list that may be helpful:

Emergency Resources (on and off campus): <https://carleton.ca/health/emergencies-and-crisis/emergency-numbers/>

Carleton Resources:

- Mental Health and Wellbeing: <https://carleton.ca/wellness/>
- Health & Counselling Services: <https://carleton.ca/health/>
- Paul Menton Centre: <https://carleton.ca/pmc/>
- Academic Advising Centre (AAC): <https://carleton.ca/academicadvising/>
- Centre for Student Academic Support (CSAS): <https://carleton.ca/csas/>
- Equity & Inclusivity Communities: <https://carleton.ca/equity/>

Off Campus Resources:

- Distress Centre of Ottawa and Region: (613) 238-3311 or TEXT: 343-306-5550, <https://www.dcottawa.on.ca/>
- Mental Health Crisis Service: (613) 722-6914, 1-866-996-0991, <http://www.crisisline.ca/>

- Empower Me: 1-844-741-6389, <https://students.carleton.ca/services/empower-me-counselling-services/>
- Good2Talk: 1-866-925-5454, <https://good2talk.ca/>
- The Walk-In Counselling Clinic: <https://walkincounselling.com>

Pandemic Measures

It is important to remember that COVID is still present in Ottawa. The situation can change at any time and the risks of new variants and outbreaks are very real. There are [a number of actions you can take](#) to lower your risk and the risk you pose to those around you including being vaccinated, wearing a mask, staying home when you're sick, washing your hands and maintaining proper respiratory and cough etiquette.

Feeling sick? Remaining vigilant and not attending work or school when sick or with symptoms is critically important. If you feel ill or exhibit COVID-19 symptoms do not come to class or campus. If you feel ill or exhibit symptoms while on campus or in class, please leave campus immediately. In all situations, you should follow Carleton's [symptom reporting protocols](#).

Masks: Masks are no longer mandatory in university buildings and facilities. However, we continue to recommend masking when indoors, particularly if physical distancing cannot be maintained. We are aware that personal preferences regarding optional mask use will vary greatly, and we ask that we all show consideration and care for each other during this transition.

Vaccines: While proof of vaccination is no longer required to access campus or participate in in-person Carleton activities, it may become necessary for the University to bring back proof of vaccination requirements on short notice if the situation and public health advice changes. Students are strongly encouraged to get a full course of vaccination, including booster doses as soon as they are eligible and submit their booster dose information in [cuScreen](#) as soon as possible. Please note that Carleton cannot guarantee that it will be able to offer virtual or hybrid learning options for those who are unable to attend the campus. All members of the Carleton community are required to follow requirements and guidelines regarding health and safety which may change from time to time. For the most recent information about Carleton's COVID-19 response and health and safety requirements please see the [University's COVID-19 website](#) and review the [Frequently Asked Questions \(FAQs\)](#). Should you have additional questions after reviewing, please contact covidinfo@carleton.ca.

Academic Accommodation

You may need special arrangements to meet your academic obligations during the term. For an accommodation request the processes are as follows:

Pregnancy obligation: write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For accommodation regarding a formally-scheduled final exam, you must complete the Pregnancy Accommodation Form ([click here](#)).

Religious obligation: write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details [click here](#).

Academic Accommodations for Students with Disabilities: The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (if applicable).

Survivors of Sexual Violence

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and where survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: <https://carleton.ca/equity/sexual-assault-support-services>

Accommodation for Student Activities

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation will be provided to students who compete or perform at the national or international level. Write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

Academic Assistance

Students should be aware of and feel free to take advantage of the various services offered through the Centre for Student Academic Support (CSAS) <https://carleton.ca/csas/>

Textbook

The required textbook for this course is:

Dougherty, C. (2016), Introduction to Econometrics (5th Edition). Oxford: Oxford University Press. ISBN-10: 0199676828, ISBN-13: 9780199676828 (paperback)

An additional textbook that students may find useful is:

Kennedy, P. (2008), A Guide to Econometrics (6th Edition). Malden, MA: Blackwell Publishing. ISBN 978-1-4051-8257-7, (paperback)

The Kennedy book is really a “companion” to the study of econometrics rather than an econometrics textbook *per se*. It provides alternative and/or complementary discussions of all the topics treated in the course as well as a bridge to the econometrics literature. It would be particularly useful for students intending to continue on to graduate study in economics.

Computer Package

Use of the STATA software 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 class.

Course Content

1. Introduction and Statistical Review, Dougherty – Introduction and Review.
2. Stochastic Regressors and Measurement Errors, Dougherty – Ch. 8.
3. Simultaneous Equations Estimation, Dougherty – Ch. 9 and Section 11.6.
4. Binary Choice and Limited Dependent Variable Models, Dougherty – Sections 10.1-10.5.
5. Maximum Likelihood Estimation, Dougherty – Section 10.6.
6. Panel Data Models, Dougherty – Ch. 14.

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!