







# Syllabus



## Instructor

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## Course details

-  Mon/Wed
-  Sept-Dec 2023
-  1:00 - 2:20 PM
- P118

## Office Hours

-  Thur 2:30 PM - 4:30 PM
-  [Schedule an appointment](#)

## Course Description

This first course in econometrics at the graduate level will build on the knowledge you gained in your undergraduate econometrics classes. Some of the topics we cover will be advanced versions of things you already know, while others will be completely new. The goal is to build a foundation in economic statistics for those who want pursue a career in data analysis and also those who will continue to study economics at the PhD level. While the course will cover both theoretical and empirical aspects of econometrics, it will have an applied focus. What this means operationally is that assignments and exams are geared towards applying your knowledge to real world economic situations, estimating models using data, and discussing model intuition.

## Lectures

The scheduling details of the course are as follows

Section	Time	Location
A	MW 1:00-2:20pm	P118

## Course Material

### Textbook

**There is no required textbook** for this course, but many supplemental readings will be drawn from the following list:

- (AP1) Angrist, Joshua D. and Jörn-Steffen Pischke, *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton: Princeton University Press, 2009.
- (AP2) Angrist, Joshua D. and Jörn-Steffen Pischke, *Mastering Metrics: The Path From Cause to Effect*. Princeton: Princeton University Press, 2015.
- (CT) Cameron, A. Colin and Pravin K. Trivedi, *Microeconometrics*. New York: Cambridge University Press, 2005.
- (C) Cunningham, Scott, Causal Inference: The Mixtape. Available at: <https://mixtape.scunning.com>, 2021.
- (HA) Hansen, Bruce E., *Econometrics*. Princeton: Princeton University Press, 2022.
- (HK) Huntington-Klein, Nick, The Effect. Available at <https://theeffectbook.net>, 2021.
- (K) Kennedy, Peter, *A Guide to Econometrics* 6E. Malden: Blackwell Publishing, 2008.
- (SW) Stock, James H., and Mark M. Watson (2015). *Introduction to Econometrics*, 4<sup>th</sup> Edition. Pearson Education.
- (W1) Wooldridge, Jeffrey M., *Econometric Analysis of Cross-Section and Panel Data*, Second Edition. Cambridge: MIT Press, 2010.
- (W2) Wooldridge, Jeffrey M., *Introductory Econometrics: A Modern Approach Analysis of Cross-Section and Panel Data*, Seventh Edition. Mason: South-Western, Cengage, 2019.

## Software

All assignments require you to manipulate data using the statistical software R alongside a user interface called R Studio. The assignments are also required to be written in Quarto, which is integrated with R Studio. All of these programs are free, and available on all computer platforms. You can use R without R Studio, but I would only recommend this if you have prior experience with the program or have a computer programming background. I will give instructions on how to access these materials in class.

## Evaluation

You will be evaluated on three equally weighted assignments, one midterm, and one final exam. The weights and due dates for each assessment are as follows:

Assessment	Due Date	Weight
Assignment 1	Friday, October 6, 2023 at 9:00pm	16.67%
Assignment 2	Friday, November 3, 2023 at 9:00pm	16.67%
Midterm	Wednesday, November 8, 2023, in class	20%
Assignment 3	Friday December 1, 2023 at 12:00pm	16.67%
Final Exam	TBA	30%

Assignments will ask you to manipulate and interpret data using the statistical software R. Instructions will be posted to MLS at least one week prior to the due date.

Both the midterm and final exam will be in person. The midterm will take place in the classroom where the lectures take place at the scheduled lecture time. The final exam schedule is posted roughly half way through the term.

## Topics

Below is a list of tentative topics covered in the course. I may add or remove items depending on how quickly the course proceeds. A reading list for each topic is available at the end of this syllabus.

1. Introduction to R
2. Review of Matrix Algebra for Econometrics
3. Conditional Expectations, Linear Regression, and OLS
4. Causal Inference
5. Panel Data Methods

6. Qualitative Dependent Variable Models
7. Additional Topics

## Missed Midterms

Students who miss a midterm will be given reasonable accommodation for the following reasons:

- 1) Religious conflict: If you have a religious commitment that interferes with the midterm exam, university policy is that **you must alert me within the first two weeks of the start of the term** and fill out the [Student Request for Accommodation for Religious Observances form](#). If those conditions are met, we will work together to provide a reasonable accommodation.
- 2) Course conflict: If your midterm overlaps with another scheduled course, please inform me as soon as you know about the conflict and we will work out a reasonable accommodation.
- 3) Varsity Sports: If a varsity sporting event interferes with the midterm, you must contact your coach, who will arrange for an alternative time to write the test. Note that this policy applies only to *varsity* sports; students who have non-varsity sports conflicts are not eligible for a deferred midterm

Students who miss a midterm and have an acceptable medical or compassionate reason will have the weight of the midterm transferred to the final exam. In the case of medical reasons, I require that students complete the [Absence for Medical Reasons Self-Declaration Form](#).

In all other circumstances, students who miss a midterm will receive a grade of zero on the test.

## Late Assignments

Late assignments and quizzes for religious conflicts, course conflicts, or medical/compassionate reasons as defined above will be given reasonable accommodation. In all other circumstances, students who submit late assignments or quizzes will receive a grade of zero.

## **Deferred Final Examinations**

Students who miss a final examination can submit a petition to the Faculty of Graduate and Postdoctoral Studies for a deferred exam. Students who miss the exam due to illness must submit the petition no later than 5 days after the missed exam with original supporting documentation. Students requesting a deferred exam for reasons other than personal illness or bereavement must submit a petition at the time of the exam schedule posting to allow the committee to reach a decision before the scheduled date.

Students are strongly urged not to make any commitments (e.g., vacation) during the examination period. Students are required to be available for examinations during the examination periods of all terms in which they register. Refer to the Handbook on Undergraduate Course Management for more information.

## **Academic Integrity**

You are reminded that the University will levy sanctions on students who are found to have committed, or have attempted to commit, acts of academic or research misconduct. You are expected to know what constitutes an academic offense, to avoid committing such offenses, and to take responsibility for your academic actions. For information on categories of offenses and types of penalty, please consult the relevant section of the Undergraduate Academic Calendar. If you need clarification of aspects of University policy on Academic and Research Misconduct, please consult your instructor.

Wilfrid Laurier University uses software that can check for plagiarism. Students may be required to submit their written work in electronic form and have it checked for plagiarism.

## **Accessible Learning**

Students with disabilities or special needs are advised to contact Laurier's Accessible Learning Centre for information regarding its services and resources. Students should review the Calendar for information regarding all services available on campus.

## **Student Privacy**

Wilfrid Laurier University uses a range of technologies to facilitate in-person and remote instruction. Zoom is currently used for remote course delivery, including lectures, seminars, and group office hours, which may be recorded, stored and shared through MyLearningSpace for access by students in the course. For these course activities, students are permitted to turn off their cameras or use an alternative name to maintain their privacy after they have confirmed this with their instructor. Student personal information is collected and used in the

course in accordance with University policies and the [Notice of Collection, Use or Disclosure of Personal Information](#).

Some synchronous (live) class sessions will be delivered in this course through a video conferencing platform supported by the university [Zoom, Teams, Virtual Classroom]. Steps have been taken to protect the security of the information shared. For more information about Zoom and Office365 (including Teams), please visit ICT's Tech Support and Services page. Class sessions will be recorded with the video and audio (and in some cases transcription) made available to students in the course in MyLearningSpace for the duration of the term. The recordings may capture your name, image or voice through the video and audio recordings. By attending in these live classes, you are consenting to the collection of this information for the purposes of administering the class and associated course work. If you are concerned about the use or collection of your name and other personal information in the class, please contact the course instructor to identify possible alternatives. To learn more about how your personal information is collected, used and disclosed by the University, please see Laurier's Notice of Collection, Use and Disclosure of Personal Information.

## **Intellectual Property**

The educational materials developed for this course, including, but not limited to, lecture notes and slides, handout materials, examinations and assignments, and any materials posted to MyLearningSpace, are the intellectual property of the course instructor. These materials have been developed for student use only and they are not intended for wider dissemination and/or communication outside of a given course. Posting or providing unauthorized audio, video, or textual material of lecture content to third-party websites violates an instructor's intellectual property rights, and the Canadian Copyright Act. Recording lectures in any way is prohibited in this course unless specific permission has been granted by the instructor. Failure to follow these instructions may be in contravention of the university's Student Non-Academic Code of Conduct and/or Code of Academic Conduct, and will result in appropriate penalties. Participation in this course constitutes an agreement by all parties to abide by the relevant University Policies, and to respect the intellectual property of others during and after their association with Wilfrid Laurier University.

## **Foot Patrol, the Wellness Centre, and the Student Food Bank**

The University approved the inclusion of information about select wellness and safety services and supports on campus in the course information provided to students. (Approved by Senate November 28, 2011.) Specific language (by campus) is provided below.

- Multi-campus Resource:

- Good2Talk is a postsecondary school helpline that provides free, professional and confidential counselling support for students in Ontario. Call 1-866-925-5454 or through 2-1-1. Available 24-7.
- Kitchener/Waterloo Resources:
  - [Waterloo Student Food Bank](#): All students are eligible to use this service to ensure they're eating healthy when overwhelmed, stressed or financially strained. Anonymously request a package online 24-7. All dietary restrictions accommodated.
  - [Waterloo Foot Patrol](#): 519.886.FOOT (3668). A volunteer operated safe-walk program, available Fall and Winter daily from 6:30 pm to 3 am. Teams of two are assigned to escort students to and from campus by foot or by van.
  - [Waterloo Student Wellness Centre](#): 519-884-0710, x3146. The Centre supports the physical, emotional, and mental health needs of students. Located on the 2<sup>nd</sup> floor of the Student Services Building, booked and same-day appointments are available Mondays and Wednesdays from 8:30 am to 7:30 pm, and Tuesdays, Thursdays and Fridays from 8:30 am to 4:15 pm. Contact the Centre at x3146, [wellness@wlu.ca](mailto:wellness@wlu.ca) or @LaurierWellness. After hours crisis support available 24/7. Call 1-844-437-3247 (HERE247).
- Brantford Resources:
  - [Brantford Student Food Bank](#): All students are eligible to use this service to ensure they're eating healthy when overwhelmed, stressed or financially strained. Anonymously request a package online 24-7. All dietary restrictions accommodated.
  - [Brantford Foot Patrol](#): 519-751-PTRL (7875). A volunteer operated safe-walk program, available Fall and Winter, Monday through Thursday from 6:30 pm to 1 am; Friday through Sunday 6:30 pm to 11 pm. Teams of two are assigned to escort students to and from campus by foot or by van.
  - [Brantford Wellness Centre](#): 519-756-8228, x5803. Students have access to support for all their physical, emotional, and mental health needs at the Wellness Centre. Location: Student Centre, 2nd floor. Hours: 8:30 am to 4:15 pm Monday through Friday. After hours crisis support available 24/7. Call 1-884-437-3247 (HERE247).