

# Course Syllabus

## ECO375H5 – Applied Econometrics I

Department of Economics  
University of Toronto Mississauga  
LEC0101 and LEC0102, Fall 2022

### Contact Information

---

Instructor: Eduardo Souza-Rodrigues  
Email: e.souzarodrigues@utoronto.ca  
Office: KN 3256  
Phone number: 416-978-4349  
Office hours: Wednesdays, 2 PM – 4 PM (in-person, unless otherwise noted)  
Course website: Quercus (<https://q.utoronto.ca>)

### Contact Hours

---

Lectures: LEC0101: Wednesdays, 9 AM – 11 AM, at MN 2190  
LEC0102: Wednesdays, 11 AM – 1 PM, at MN 2190

Teaching Assistant: Alexandre Lehoux, alexandre.lehoux@mail.utoronto.ca  
Adrian Schroeder, adrian.schroeder@mail.utoronto.ca  
Peter Wu, petertwo.wu@mail.utoronto.ca  
Malek Hassouneh, malek.hassouneh@mail.utoronto.ca

Tutorials: PRA 0101: Thursdays, 5 PM – 7 PM, Location CC 1160  
PRA 0102: Fridays, 9 AM – 11 AM, Location CC 2140  
PRA 0103: Fridays, 11 AM – 1 PM, Location CC 2140

Office hours: TBD

Unless otherwise noted on Quercus, lectures, tutorials, and office hours will take place in person. See the UTM timetable for up-to-date location information.

Tutorials will start on September 22<sup>nd</sup>, 2022.

### Course Objectives and Learning Outcomes

---

We will discuss various econometrics methods from both theoretical and practical aspects. The objective is to provide students with a solid theoretical and practical foundation for the interpretation of empirical evidence in economics. As such, there is a dual focus on econometric theory and “hands-on” experience working with economic data. The centerpiece of the course is the multiple regression model. Statistical assumptions, theory, and results are developed, as are

the necessary conditions for the valid application of regression analysis to economic data. Students are required to finish computer-based assignments.

## Course Materials

---

### Required:

*Introductory Econometrics: A Modern Approach*, Jeffrey Wooldridge, South Western Cengage Learning, 7<sup>th</sup> Edition, 2019.

### Suggested:

- *Mastering 'Metrics: The Path from Cause to Effect*, J. Angrist and J.-S. Pischke, Princeton University, 2014.
- *Causal Inference: The Mixtape*, Scott Cunningham, Yale University Press, 2021. (Available at <https://mixtape.scunning.com/>)
- *Microeconometrics Using Stata, Volume I: Cross-Sectional and Panel Regression Methods*, A. Colin Cameron and Pravin K. Trivedi, Second Edition Stata Press, 2022.

## Course Outline

---

The following is the planned course outline (subject to minor changes). Students are recommended to preview the corresponding chapters before lectures.

| Week | Lecture                                       | Chapters            |
|------|---|---------------------|
| 1    | What is econometrics?                         | Ch 1                |
| 2    | Review of Statistics                          | Appendix A-D        |
| 3    | Simple Regression                             | Ch 2                |
| 4    | Multiple Regression: Introduction             | Ch 3                |
| 5    | Multiple Regression: Finite Sample            | Ch 4 (& Appendix E) |
| 6    | Multiple Regression: Asymptotics              | Ch 5                |
| 7    | Further Issues and Dummy Variables            | Ch 6.1-6.2, 7.1-7.4 |
| 8    | Heteroskedasticity,                           | Ch 8                |
| 9    | Endogeneity: instrumental variables (simple)  | Ch 15.1, 2, 3, 5, 6 |
| 10   | Endogeneity: instrumental variables (general) | Ch 15.1, 2, 3, 5, 6 |
| 11   | Endogeneity: instrumental variables (general) | Ch 15.1, 2, 3, 5, 6 |
| 12   | Review  |                     |

---

## Evaluation

---

The final score is based on two parts: graded homework and one exam. The weights are shown below.

## **Homework (60%)**

There are three graded assignments. Each of them accounts for 20% of course evaluation. Assignments will contain both theoretic and computer-based questions. Please submit assignments well before the deadline to avoid technical problems.

All problem sets must be legible; if the grader cannot read your submission, you will receive no credit. In the front page, put your registered name and student number. When problem sets involve the use of Stata, you need to submit a log file, code, and a write-up that interprets and explains your computer output. (You will be instructed how to generate a log file during a tutorial session.) **Without all three components, you will receive a mark of zero.**

Recommended exercises will be distributed throughout the semester. They will consist of both theoretical and computer-based problems. Together with the problem sets, they will serve to prepare students for the exam.

*Dates:* Homework 1 is due on October 15<sup>th</sup>. Homework 2 is due on November 12<sup>th</sup>. And Homework 3 is due on December 3<sup>th</sup>. The deadline for submissions is 5pm on the given date.

## **Exam (40%)**

We will have one exam scheduled during the final exam period worth 40% of the final grade.

## **Submission of Course Work**

---

It is every student's responsibility to ensure that their online submission is submitted successfully by the due date. Accommodations will not be made for unsuccessful submissions due to, but not limited to, i) the system timing out, ii) submitting the incorrect document(s), iii) poor internet connection / no internet connection etc.

Late homework assignments—including assignments submitted late on the day of the deadline—will be subject to a late penalty of 20% per calendar day (including weekends) of the total marks for the assignment. Assignments submitted more than 2 calendar days (48 hours) beyond the due date will be assigned a grade of zero. Homework assignments handed in AFTER the work has been returned to the class or sample solutions have been released cannot be marked for credit. Accommodations due to late registration into the course will NOT be approved.

Late exams will be subject to a late penalty of 1% per minute of the total marks for the test or exam.

## **Missed Term Work**

---

Students who miss a test / due date because of circumstances beyond their control (e.g. illness or an accident) can request that the Department grant them special consideration. The following steps must be completed in order to be considered for academic accommodation for any missed quiz/test/assignment.

1. Your absence must be declared on ACORN on the day of the missed test / due date, or by the day after, at the latest.
2. You must notify your professor by e-mail within one week of the missed test / deadline.
3. Complete an online [Special Consideration Request](#) within one week of the missed test / due date. The University is temporarily suspending the need for a doctor's note or medical certificate for any absence from academic participation. However, this policy may change at any point during the course.
4. Consult the Office of the Registrar should your absence be lengthy or affect multiple courses.

The request that you submit represents an appeal from you, requesting the opportunity to account for that portion of your grade in some other manner. If the request is not received, or if the request is deemed unacceptable, you will receive a grade of zero for the item you missed. If the request is granted – that is, your reason for missing the item is considered acceptable by the professor – then the following will happen. For an assignment, the professor will set a new date or due date for the item. If, in the professor's opinion, it is not possible to complete the assignment, the item's grade will be equal to the grade on the final exam.

Note that it is your responsibility to ensure that your email account is working. Claims that a Departmental decision was not received will NOT be considered as a reason for further consideration.

Note that holidays and pre-purchased plane tickets, family plans, your friend's wedding, lack of preparation, or too many other tests/assignments are not acceptable excuses for missing a quiz, a test or an item of term work.

Students who cannot complete their final examination due to illness or other serious causes must file an [online petition](#) within 72 hours of the missed examination. Late petitions will NOT be considered. Students must also record their absence on ACORN on the day of the missed exam or by the day after at the latest. Upon approval of a deferred exam request, a non-refundable fee of \$70 is required for each examination approved.

Students **CANNOT** petition to re-write a test once it has begun. If you are feeling ill, please do not start the test, seek medical attention immediately, and the policy on Missed Term Work will apply.

## **Regrade Request**

---

Requests for re-grading homework, tests, and/or exams must be submitted to instructor by email within one month of when the piece of work is returned.

## **Privacy and Use of Course Materials**

---

This course, including your participation, will be recorded on video and will be available to students in the course for viewing remotely and after each session. Course videos and materials belong to your instructor, the University, and/or other sources depending on the specific facts of each situation, and are protected by copyright. Do not download, copy, or share any

course or student materials or videos without the explicit permission of the instructor. For questions about recording and use of videos in which you appear please contact your instructor.

Note: notwithstanding the above paragraph, it is up to the discretion of the instructor whether to save or post any individual lecture or tutorial; some, or all, lectures or tutorials might not be saved or recorded. Students may not save or post any recording of any lecture or tutorial.

## Technology

---

### Stata:

The course involves a considerable amount of computing, and students must learn and use a sophisticated statistical software package. Stata is the only package that is supported by the instructor and the TAs. It is a powerful statistical package and a popular choice among economists. Older versions of Stata are likely to suffice. The TAs will give tutorials on how to implement the exercises using this software.

You must have access to Stata in order to take this course. You must be able to access it during tutorials, as well as at other times to do your homework. There are three options for accessing Stata:

- You can purchase Stata; Stata IC or Stata BE for 6 months or 1 year is all you need. See <https://onesearch.library.utoronto.ca/node/39537>
- You can use Stata for free online through Citrix, a service the university provides. See:
  - [https://uoft.service-now.com/kb\\_view.do?sysparm\\_article=KB0011866](https://uoft.service-now.com/kb_view.do?sysparm_article=KB0011866)
  - [https://uoft.service-now.com/kb\\_view.do?sysparm\\_article=KB0012105](https://uoft.service-now.com/kb_view.do?sysparm_article=KB0012105)
- Not recommended: You may be able to access Stata in the library or computer labs. However, as you know, access to the library is complicated this year, and it may be difficult to have access during tutorials.

You must have Stata running before class begins; if you have trouble, you should contact I&ITS:

<https://www.utm.utoronto.ca/iits/information-instructional-technology-services-iits>

### Zoom:

Some lectures, tutorials, and office hours may be delivered via Zoom or other similar software. If this happens, links will be provided on the Quercus course website. Unless otherwise noted, office hours will take place on Zoom or other similar software.

Students must create an official UTM Zoom account using their UTORid and password at <https://utoronto.zoom.us>. Logging in with an unofficial account will leave you stranded in the waiting room and unable to attend lectures / tutorials / office hours.

## Supplement

---

The [Supplement to Course Syllabi \(dated August 9, 2022\)](#) of UTM's Department of Economics should be understood to be an integral part of this syllabus. It describes

- time zone information;

- information regarding prerequisites and exclusions;
- your responsibility to adhere to the [Code of Student Conduct](#);
- your responsibility to adhere to the [Code of Behaviour on Academic Matters](#);
- expectations regarding academic integrity, including examples of violations;
- technology requirements for online learning;
- your responsibility to avoid course conflicts;
- your responsibility to honour the copyright of course materials;
- your right to receive accommodations for religious observances;
- the equity statement for this course;
- your academic rights;
- some resources that are available to students, including [Accessibility Services](#).