ECO375H1F, Applied Econometrics I, 2019

Prof. Eduardo Souza-Rodrigues

Course Description

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.

Lectures:	Thursday, 12:00pm-2:00pm
Location:	RW 110
Tutorial:	Friday, 10am-12pm, *Location* RW 110

Instructor

Instructor:	Eduardo Souza-Rodrigues	
Office:	UTSG: 150 St George Street, Room 324	
	UTM: IMI 3256	
Email:	e.souzarodrigues@utoronto.ca	
Instructor Office Hours:	Thursday, 2:00pm-3:00pm	
Teaching Assistants:	Connor Campbell	cjames.campbell@mail.utoronto.ca
	Thomas Stringham	tom.stringham@mail.utoronto.ca
	Quinlan Tsun-Hei Lee	qt.lee@mail.utoronto.ca

OBS: Classes will start on September 12th (and tutorials, on Sep 13th). The makeup class will be on December 5th.

References

- **Textbook**: *Introductory Econometrics: A Modern Approach*, Jeffrey Wooldridge, South Western Cengage Learning, 4th/5th/6th/7th Editions.
- Lecture Notes. Notes will be posted on Portal. It is accessible through: https://q.utoronto.ca
- Other reference books:
    - *Mastering 'Metrics: The Path from Cause to Effect*, J. Angrist and J-S. Pischke, Princeton University, 2014.
    - *Introduction to Econometrics*, J. H. Stock and M. W. Watson, 3rd Edition, Pearson, 2010.
    - *An Introduction to Modern Econometrics Using Stata*, Christopher F. Baum, Stata Press, 2006.

Prerequisites:

Microeconomics:	ECO200Y/204Y/206Y
Statistics:	ECO220Y1(70%) or ECO227Y1 or STA237H1(70%)+STA238H1(70%) or STA257H1+STA261H1
Recommended Prep.:	MAT221H/MAT223H/MAT240H
Exclusion:	ECO327/375H5

Prerequisites are strictly checked and enforced and must be completed before taking a course. By taking this course you acknowledge that you will be removed from the course at any time if you do not meet all requirements set by the Department of Economics. For further information you can consult the 2019-20 Academic Course Calendar which is available from the Registrar's Office or online at https://fas.calendar.utoronto.ca/sessional-dates

Software

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 TA. It is a powerful statistical package and a popular choice among economists in these days. Older versions of STATA are likely to suffice. The TA will give tutorials on how to implement the exercises using this software.

Personal version of STATA can be purchased and installed on your own computer. Students can purchase STATA at discounted prices. There are several different types of STATA licenses for students. You may consider buying a six-month or an annual license of STATA/IC. Perpetual licenses are also available. "Small Stata," on the other hand, is unlikely to suffice. For details, see https://onesearch.library.utoronto.ca/node/39537

While it is ***NOT supported*** by the instructor or TA, students interested in a more cumbersome, but otherwise excellent low-cost (i.e., "free") alternative to STATA may consider R (details can be obtained from http://cran.rproject.org/).

Course 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. Delayed assignment will receive zero grades.

All problem sets **must be typed** except figures and equations. In the front page, put your registered name and student number. When problem sets involve the use of STATA, you need to submit both a log file and texts. You will be instructed how to generate a log file during a tutorial session.

Your assignment should contain a write-up that interprets and explains your computer output. Without a proper write-up of results you will receive a mark of 0.

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

Exam (40%)

We have one exam that consists of 40% of the final evaluation.

Course Policy

Course Communication

The Portal site will also be used to manage class communications. Check the announcements posted there regularly.

University Attendance Policy

Attendance in all lectures is expected and strongly recommended of all students. Lecture notes serve as lecture outlines and are not substitutions of the lecture themselves.

Grade Dispute

Requests for re-grading homework and/or exams must be submitted to instructor in writing within one week that the exam and/or homework are returned. The instructor will re-grade the whole problem set and/or exam instead of a single question to ensure the consistency.

Academic Misconduct Policy

"Students should note that copying, plagiarizing, or other forms of academic misconduct will not be tolerated. As a student it is your responsibility to ensure the integrity of your work and to understand what constitutes an academic offence. If you have any concerns that you may be crossing the line, always ask your instructor. Your instructor can explain, for example, the nuances of plagiarism and how to use secondary sources appropriately; he or she will also tell you what kinds of aids -- calculators, dictionaries, etc. -- are permitted in a test or exam. Ignorance of the rules does not excuse cheating or plagiarism. Any student caught engaging in such activities will be subject to academic discipline ranging from a mark of zero on the term paper, test or examination to dismissal from the university as outlined in the academic calendar. Any student abetting or otherwise assisting in such misconduct will also be subject to academic penalties."
For more information regarding the Code of Behaviour on Academic Matters please visit http://www.governingcouncil.utoronto.ca/policies/behaveac.htm.

Email Policy

Emails should be considered as a way to send some feedback about the course (e.g., typos in lecture slides, vagueness in problem sets etc.). If you have questions that require individual feedback, please come to office hours or talk to the instructor after the lecture. Each email should contain name, student number and course number and **be sent from utoronto address**. The TAs are NOT expected to reply to emails from students.

Off-class Meetings

I will hold an office hour every week. It is reserved for one-to-one discussion of course materials. Students are welcomed (and even encouraged) to drop by my office during the office hours.

Accessibility Needs

The University of Toronto is committed to accessibility. If you require accommodations for a disability, or have any accessibility concerns about the course, the classroom or course materials, please contact Accessibility Services as soon as possible: http://studentlife.utoronto.ca/accessibility

Course Outline

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

ECO 375 – Timeline

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	Endogenity: instrumental variables (simple)	Ch 15.1, 2, 3, 5, 6
10	Endogenity: instrumental variables (general)	Ch 15.1, 2, 3, 5, 6
11	Endogenity: instrumental variables (general)	Ch 15.1, 2, 3, 5, 6
12	Review	