ECO 375 H1S: Applied Econometrics I
Winter 2018, L0101
Department of Economics, University of Toronto

Instructor: Prof. Martin Burda
Contact: Dpt of Economics, 234; Phone: 416-978-4479; E-mail: martin.burda@utoronto.ca
Lectures: Thursday 10:00 am – 12:00 pm, location UC161
Office hours: Thursday 1:00 pm – 3:00 pm

TA: Dongyu Mao
Contact: dongyu.mao@mail.utoronto.ca
Tutorials: Friday 11:00 am – 12:00 pm, location UC161
Office hours: Monday, 4:00 pm – 6:00 pm, GE313

Course Description

Econometrics combines elements of Economic Theory, Statistics, Probability Theory, and Mathematics. The primary objective of the course is to provide students with a solid theoretical and practical foundation for the interpretation of empirical evidence in economics. The course is built around the statistical foundations, and economic application, of the multiple regression model. Students will gain practical experience working with economic data using statistical software. The course uses matrix algebra.

Previous Training

*Prerequisite*s: (i) ECO200Y1 or ECO204Y1 or ECO206Y1
                   (ii) ECO220Y1 (70%) or ECO227Y1 or STA257H1+STA261H1
Recommended: MAT221H1 or MAT223H1 or MAT240H1
Exclusion: ECO374H1, ECO327Y5

The prerequisites are checked by the administration of the Department of Economics and students will be removed from the course list if the prerequisites are not met.

Textbook

"Introductory Econometrics" by J. M. Wooldridge, 5th or 6th edition, South-Western Cengage Learning. The book will be available at the University of Toronto Textbook Store, or can be purchased from various online bookstores.

Course Website

The course website on Blackboard is accessible through: https://portal.utoronto.ca
Lecture outlines will be posted up in the Blackboard Course Materials. Please bring them with you to class, either printed or on a tablet / laptop. The Blackboard site will also be used to distribute problem sets, the accompanying data, manage class communications, etc.

Software
Stata IC, or R (latest version available at https://www.r-project.org/).

Evaluation
The final grade is based on the following:

Task	Weight	Due date
Midterm	40 %	February 16, 2018
Two graded problem sets	10 % (each 5%)	February 2, 2018 March 23, 2018
Final Exam	50 %	Final Exam Period

The **midterm** will be held during the tutorial time.
- The midterm will have 50 minutes duration, short-answer questions.
- Zero grade will be given to students who miss the test, unless a medical note is received by the instructor within one week of the missed test explaining why the test was missed.
  - The note must be provided using the University of Toronto medical certificate;
  - The note must state that on the date of the test, the student was too sick to write the test.
  - It is an academic offence to feign illness to avoid a test.
- If a student has been excused from a test on medical grounds, he or she will be permitted to write a make-up test.
  - The make-up test will be worth the value of the midterm.
  - Consistent with university policy, there is no "make-up" test for the make-up test. Grade of zero will be applied if the make-up test is requested but missed.
- If students wish to appeal a grade, they must provide a written explanation of why they believe their grade is mistaken, and submit it to the instructor within one week of the midterm being returned to the class.

Problem sets will be distributed throughout the semester, and form the basis of the tutorials. They will consist of both theoretical and computer- (data-) based problems. The additional problems sets will not be graded, but serve to prepare students for the graded exams and graded problem sets.

There will be two **graded problem sets.**
- Graded problem sets must be submitted through the Blackboard in a Portable Document Format (PDF). Neither paper submission nor email submission will be counted. Problem sets are due at 11:59 pm on their due date.
- Both text and STATA log files need to be submitted.
- Students who fail to submit problem sets on time for medical reasons may seek special consideration by submitting a medical note within a week after the problem set is due.

For accessibility accommodation see http://studentlife.utoronto.ca/accessibility.

Tentative Course Schedule

Session	Date		Topic	Material
1	Jan	4	1.Syllabus; 2. Overview of Econometrics; 3. Statistics Review	Ch 1, App A, B, C.1, C.2, C.5, C.6
2		11	4. Simple and Multiple Regression – Estimation	Ch 2, 3
3		18	5. Matrix Algebra for Regression Analysis 6. Multiple Regression in Matrix Algebra	Appendix D.1-D.6 Appendix E.1
4		25	7. Multiple Regression – Properties 8. Multiple Regression – Inference	Appendix E.2, Ch 3 Ch 4
5	Feb	1	9. Multiple Regression – Further Issues 10. Multiple Regression – Qualitative Information	Ch 6 Ch 7
		2	*Graded Problem Set 1 due*	
6		8	11. Heteroskedasticity 12. Specification and Data Problems	Ch 8 Ch 9
7		15	13. Introduction to Time Series Review	Ch 10, 11
		16	*Midterm Exam*	
		22	*Reading Week, U of T closed*	
8	Mar	1	14. Instrumental Variables	Ch 15
9		8	15. 2SLS	Ch 15
10		15	16. Simultaneous Equations 17. Endogeneity in Applications	Ch 16 References in slides
11		22	18. Asymptotic Analysis	Ch 5, Appendix C.3, E.4
			Graded Problem Set 2 due	
12		29	18. Asymptotic Analysis (cont.) Review	
Exam period			*Final Exam*	

Note: April 5 is a make-up tutorial for March 30 (Good Friday = University closed)