ECO 2408 F1H (L0101): Econometrics (MA)

Department of Economics, University of Toronto

Fall 2013

Instructor: Prof. Martin Burda
Office: Department of Economics, room 234
Contact: martin.burda@utoronto.ca; phone 416-978-4479
Office hours: Tuesday 3:30 – 5:30 pm

TA: Mathieu Marcoux
Office: Department of Economics
Contact: mathieu.marcoux@mail.utoronto.ca
Office hours: TBD

STATA TA: Hidenori Takahashi
Office: Department of Economics, room 78
Contact: hidenori.takahashi@utoronto.ca
Office hours: TBD

Lectures: Tuesday 1:00 pm – 3:00 pm, VC 323
Thursday 2:00 pm – 3:00 pm, ES B142
Tutorials: Thursday 3:00 pm – 4:00 pm, ES B142

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. As such there is a dual focus on econometric theory and "hands-on" experience working with economic data. The centerpiece of the course is an empirical term paper on a topic of the student's choice. At the end of the course, students should be able to conduct their own empirical investigations, and critically evaluate econometric and other statistical evidence.

Textbooks

1. Jeffrey M. Wooldridge, Introductory Econometrics: A Modern Approach, Fourth Edition, 2006, Thomson / South-Western Press. ISBN-10: 0324581629 ISBN-13: 9780324581621
2. Kenneth Train, Discrete Choice Methods with Simulation, Second Edition, 2009, Cambridge University Press, available at http://elsa.berkeley.edu/books/choice2.html
3. Ruey S. Tsay, Analysis of Financial Time Series, Second Edition, 2005, Wiley, available at http://onlinelibrary.wiley.com.myaccess.library.utoronto.ca/book/10.1002/0471746193

Software

The course involves a considerable amount of computing, and students must learn and use a sophisticated statistical software package. STATA is highly recommended, and is the only package that will be supported by the instructor and TAs. Students should purchase **Intercooled Stata 13.0**, available online at: http://www.utoronto.ca/ic/software/detail/stata.html.

Course Website

The course website on Blackboard is accessible through: https://portal.utoronto.ca

We will be using Blackboard to manage class communications, distributing problem sets, the accompanying data, outlines of the lectures, etc. It is important that you regularly check the announcements posted there.

A front-cover page containing basic course information and link to the Blackboard course website is at: http://www.economics.utoronto.ca/mburda/teaching/ECO2408-13/

Email Policy

Email is not the appropriate forum for discussing the details of econometrics – the office hours have been scheduled for this purpose. Email can be helpful on occasion, and within limits. Accordingly, I will endeavor to reply to email within 24 hours, except weekends, with the following provisions:

- The question should require a one (or two) sentence response (maximum). If it takes more, office hours are the more appropriate venue;
- I will not answer questions concerning STATA or computing. Such questions should be directed towards the STATA TA;
- It is strongly preferable that you use a utoronto email address: my spam filter is set to maximum;
- Please do not send attachments of any kind;
- The TA and STATA TA has allocated weekly time to respond to emails.

Evaluation

The final grade is based on the following:

Task	Weight	Due date
Midterm exam	25%	October 17, 2013
Term Paper	35%	December 3, 2013
Final Exam	40%	Final Exam Period (Dec 5-20)

The **midterm** will take 1 hour, short-answer format.

- A grade of zero will be given to students who do not write the test, unless an appropriate note is received within one week of the missed test explaining why the test was missed. The note must state that on the date of the test, the student was too sick to write the test. Only original notes will be accepted. 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** to be held on Tuesday, October 22, at 3:30 pm in GE 234. Consistent with university policy, there is no "make-up" test for the make-up test. A 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 me within one week of the midterm being returned to the class.

The **final exam** will take 2 hours, short answer format. The applicable rules and regulations of the Graduate School and the Department of Economics govern its conduct.

Problem sets will be distributed throughout the semester, and form the basis of the tutorials. They will consist of both theoretical and computer- based problems. The problems sets will not be graded, but serve to prepare students for the graded components of the course (midterm and final exam).

Term Paper will be assigned in more detail during the semester. It will entail an empirical investigation of a question in economics and a critical reading of relevant articles related to the question. It must be no longer than 15 pages in length (double-spaced). An outline (statement of

topic) is due on October 24. I strongly encourage students to work in pairs. If you wish instead, you can work alone. The maximum group-size is two.

Disclaimer concerning Turnitin.com:
In ECO2408 we will be using turnitin.com. Normally, students will be required to submit their course essays to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site.

Accessibility Needs: 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: disability.services@utoronto.ca or http://studentlife.utoronto.ca/accessibility.

Planned Coverage

week	Day	Date		Topic	Material
1	Tue	Sep	10	Introduction; Review of statistics	syllabus; App B, C
	Thu	Sep	12	Review of statistics	App C5, C6
2	Tue	Sep	17	Matrix algebra; Term paper discussion	App D; guidelines
	Thu	Sep	19	SR	Ch 2
3	Tue	Sep	24	MR: estimation	Ch 3
	Thu	Sep	26	MR: inference	Ch 4
4	Tue	Oct	1	MR: asymptotics, bootstrap	Ch 5
	Thu	Oct	3	MR: further issues	Ch 6
5	Tue	Oct	8	MR: qualitative info, heterosked	Ch 7, 8
	Thu	Oct	10	Instrumental variables and 2SLS	Ch 15
6	Tue	Oct	12	Instrumental variables and 2SLS	Ch 15
	Thu	*Oct*	*17*	*midterm exam*	
7	Tue	Oct	22	MLE	slides
	Thu	Oct	24	Discrete choice	slides
8	Tue	Oct	29	Individual heterogeneity	slides
	Thu	Oct	31	Endogeneity	slides
9	Tue	Nov	5	Time series	Ch 10
	Thu	Nov	7	Time series	Ch 11
	Tue	Nov	12	no classes - Fall break	
10	Thu	Nov	14	Time series	Ch 12
	Tue	Nov	19	Panel data	Ch 13
11	Thu	Nov	21	Panel data	Ch 14
	Tue	Nov	26	Panel data	slides
12	Thu	Nov	28	Advanced time series (ARMA, GARCH)	slides
	Tue	Dec	3	Advanced time series (ARMA, GARCH)	slides
	Final exam period			*final exam*	

Note: "Material" refers to Wooldridge. Sections of the Train and Tsay texts will be assigned in due course. SR = simple regression, MR = multiple regression.