ECO 374 H1S: Applied Econometrics (for Commerce)

Winter 2017, L0101

Department of Economics, University of Toronto

Instructor: Prof. Martin Burda
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Lectures: Wednesday 10:00 am – 12:00 pm, Sidney Smith Hall 2105
Office hours: Thursday 12:00 pm – 2:00 pm
TA: Hang Zheng
Contact: hang.zheng@mail.utoronto.ca
Tutorials: Friday 10:00 – 11:00 pm (same location)
Office hours: Thursday, 1:00 pm – 3:00 pm, GE040

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 and time series analysis. Key examples will be drawn from business and financial economics. Students will gain practical experience working with economic and financial data, making extensive use of statistical software.

Previous Training

Prerequisites: (i) ECO200Y1 or ECO204Y1 or ECO206Y1
(ii) ECO220Y1 (70%) or ECO227Y1 or STA257H1+STA261H1
Recommended: MAT223H1 or MAT240H1
Exclusion: ECO375H1, STA302H1

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

"Forecasting, Time Series, and Regression" by Bowerman, O'Connell, and Koehler, 2005, 4th edition, Brooks / Cole (Cengage Learning). ISBN-13: 9780534409777 ISBN-10: 0534409776
The book will be available at the University of Toronto Textbook Store, or can be purchased from various online bookstores. Make sure that the book you buy contains a CD with software and data.

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 every week (I will aim for Sunday night before the Tuesday lecture). Please print these out and bring them with you to class or have them with you on a laptop. The Blackboard site will also be used to distribute problem sets, the accompanying data, manage class communications, etc. Check the announcements posted there regularly.
A **front-cover page** containing basic course information and link to the Blackboard course website is at http://www.economics.utoronto.ca/mburda/teaching/ECO374/

Software

We will make regular use of statistical functions and add-ins of Excel throughout the course. Excel can perform the same operations as alternative expensive software packages for the material covered in the course and should be generally accessible anywhere.

Evaluation

The final grade is based on the following:

Task	Weight	Due date
Midterm	30 %	March 3, 2017
Short Written Assignment	10 %	April 5, 2017
Final Exam	60 %	Final Exam Period

The **midterm** will be held during the Friday tutorial time, at specific locations to be announced.

- It will be a short test, of 50 minutes duration, short-answer or multiple-choice questions.
- A grade of zero will be given to students who do not write the test, unless an appropriate and convincing note is received 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 clearly state that on the date of the test, the student was too sick to write the test.
  - Only original notes will be accepted (no photocopies or emailed certificates).
  - All students who miss a test for medical reasons must complete the Absence Declaration on ROSI to record your absence and bring it to the instructor with the medical certificate.
  - 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 March 9, at 12:00 pm in GE 234.
  - 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. No medical excuses will be accepted, and 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.

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 problems sets will not be graded, but serve to prepare students for the graded components of the course (midterm and final exam).

The **Short Written Assignment** (SWA) will have a similar format as the problem sets, but will give students the opportunity to work on a graded computer-based set of exercises. The SWA will be handed out approximately two weeks prior to the completion deadline. There is a 10% late penalty of the SWA's worth for each day overdue.

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

Tentative Outline

The following is a list of the topics we will aim to cover, with the associated Chapter readings (Ch) from the course textbook. Chapter parts (a and b) refer to a generic chapter division (i.e. part one, part two) and not specific sections.

Week	Date		Topic	Material
1	Jan	11	Intro; Statistics review	Ch 1; 2a
2		18	Statistics review II	Ch 2b
3		25	Simple regression	Ch 3
4	Feb	1	Multiple regression	Ch 4
5		8	Model building	Ch 5
6		15	Time Series regression	Ch 6
		22	*Reading week*	
7	Mar	1	Decomposition methods	Ch 7
8		8	Exponential Smoothing	Ch 8
9		15	Box-Jenkins – Identification	Ch 9
10		22	Box-Jenkins – Estimation and Forecasting	Ch 10
11		29	Quantitative Financial Risk Management	slides
12	Apr	5	(G)ARCH Models for Finance	slides
	Exam period		*Final exam*	