DEPARTMENT OF ECONOMICS AND FINANCE
COLLEGE OF MANAGEMENT AND ECONOMICS
UNIVERSITY OF GUELPH

ECON 4640/6050: Introduction to Econometrics Methods Fall 2012

Instructor: Prof. Yiguo Sun

Office : 709 MacKinnon, Ext. 58948
Classes: T/TH 4:00pm-5:20pm at MacK308
Labs : MacK318; computer labs hosted by a TA to help students to learn STATA
Office Hours: M/W 3:00pm-5:00 pm or email me any time or after-class discussion

It is your responsibility as a student to be aware of and to abide by the University's policies regarding academic misconduct, e-mail communication, maintaining copies of out-of class assignments, what to do when you cannot meet a course requirement and the drop date for a semester. To better understand these policies, please visit:

www.uoguelph.ca/economics/node/1115

COURSE OUTLINE

This is the first graduate course in econometrics, and is also open to undergraduates who have completed ECON3740. Students are expected to know some basic econometrics concepts; e.g., mean, variance, sampling distribution of mean, central limit theory, t statistic, F statistic, chi-squared statistic, linear regression models, OLS estimator. Matrix algebra and multivariate calculus are also required. (I will go through some of the concepts in the first two or three weeks of the semester.)

Marking scheme:

15% Assignments (tentatively THREE, each worth 5%)
15% Term paper (team work; given topic; details to be revealed later)
10% Three in-class presentations (brief presentation of each group's research results)
20% Midterm exam (in class; October 18)
40% Final exam (TBA)

Software: STATA is the choice of this course.

Textbook:
Wooldridge, J.M., 2008. Introductory Econometrics: a Modern Approach, 4th Edition. Thomson: South-Western. *(This book is available at the Reservation Desk of Guelph McLaughlin Library for a two-hour loan.)*

Supplementary book:
Baltagi, B.H., 2008. Econometrics. Fourth Edition. Springer Verlag; ISBN 978-3-540-76515-8 (*A free pdf copy can be downloaded from Guelph McLaughlin Library.*)

Tentative course plan:

A. **Part I**: Reviews

   a. Review of basic mathematical tools, probability and statistics, and statistical inferences. (Appendix A, B and C in Wooldridge; Chapter 2 in Baltagi)

   b. Review of simple linear regression when classical linear model assumptions (MLR.1-MLR.6) hold. (Chapters 1-5 in Wooldridge; Chapters 3 and 4 in Baltagi)

B. **Part II**: Multivariate regression analysis when some of the classical linear model assumptions are violated. (Chapters 6-8 and 12 in Wooldridge; Chapter 5 in Baltagi)

C. **Part III**: Seemingly unrelated models; Instrumental variables estimation; Simultaneous equations models. (Chapters 15 and 16 in Wooldridge; Chapters 10 and 11 in Baltagi)

Note:

A. Important date: November 1st is the fortieth class day and the last day to drop one-semester courses.

B. I will assign a term project to each team, and details will be distributed in class. The team is expected to work on the project in several steps, and gives three 5-minute in-class presentations of the team's research results at assigned time (details are to be revealed later). At the end of the semester, the team is required to wrap up all the reported results into a formal paper, which is due on **December 10, 2012**. It is preferable that the paper has a 1.5-sentence space to balance between easy reading and paper saving.

C. A general format of the term paper is given as follows, which can be slightly changed with personal discretion:
   - A title followed by your name and the date of submission
   - Abstract: to summarize the paper
   - Introduction: to motivate and explain what the paper is about
   - Data: to give the source of the data and basic summary statistics of the data
   - *One in-class presentation is assigned to reporting summary statistics.*
   - Model and estimation results: to explain which econometric model is used to analyze the data and what are the empirical findings.
   - *One in-class presentation for reporting preliminary results.*
   - Conclusion: to conclude the main results of the paper and summarize the potential pitfalls of the econometric methods used in the paper.

- *One in-class presentation for reporting further results and potential issues with your analysis.*
- Tables and Figures: you can choose to either list all the tables and figures at the end of the paper or insert them in the context where it is required.
- References: to list relevant articles cited in the paper.
- Program Code: to insert your computer programming code used to produce all the tables and figures reported in the paper.
- **Effort distribution sheet**: to list percentage effort contribution from each team member. Each team member is expected to contribute equally in terms of time and effort. Penalty will be laid down for team members with significantly less contribution.

Please email your data and program code to yisun@uoguelph.ca when submitting your term paper (a hardcopy or a pdf file). If the data file itself is not clear enough to explain what the data are, please also write a Readme.txt file to describe the name of the data variables, etc.

D. I will post relevant class information to CourseLink to either clarify questions about course content or announce news, so please sign in the course listed at CourseLink **at least once per week**. Also, you are free to use "DISCUSSIONs" to reach me or your fellow students about this course.

E. You will be asked to complete an evaluation of this course at sometime during the last two weeks of the semester. **The course evaluation will be done in class**. The Department of Economics policy regarding the conduct and use of these evaluations will be found at:
http://www.uoguelph.ca/economics/academics/courses/course-evaluation