

**Department of Economics
Carleton University**

ECON 6714 W – Advanced Topics in Econometrics

2014 Winter

Instructor: Marcel Voia

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Lecture Time and Location: Tuesdays, 14:35 – 17:25, in room 2400 of Canal Building

Office Hours: 13:00 – 15:00 on a day of the week TBA

Course Requirements

The course is designed to introduce the student to topics at the frontier of econometric research, topics that are relevant for advanced empirical research. Computer programming experience is helpful but not required at the beginning of the class. However, the students are expected over the course of the term to get very familiar with at least one widely used package. The most common packages available on the market are R (free to download and use for academic purposes) Ox (free to download), STATA, GAUSS, Limdep, Matlab.

The students are expected to be familiar with material from the following books:

W. H. Greene (2003), *Econometric Analysis*, 5th ed. Prentice Hall;

R. Davidson and J. G. MacKinnon (2003), *Econometric Theory and Methods*, Oxford University Press (New York).

Accommodation

Students requiring academic accommodation due to a disability should feel free to come and discuss their concerns with the instructor. In addition, such students are strongly encouraged to contact a coordinator at the Paul Menton Center for Students with Disabilities to complete the necessary letters of accommodation as soon as possible. Students requiring academic accommodation due to a religious obligation should also feel free to come and discuss their concerns with the instructor.

Finally, students who are pregnant or who become pregnant should feel free to come and discuss their concerns with the instructor. They are also strongly encouraged to contact Equity Services to obtain the necessary letters of accommodation as soon as possible.

Relevant Textbooks for this Course

There are some excellent advanced textbooks covering different aspects of the course in detail, and more general textbooks covering broader areas at a less specialized level:

Baltagi, B.H. (2008), *Econometric Analysis of Panel Data*, 4th Edition, New York: Wiley;

Wooldridge, Jeffrey M. (2010), *Econometric Analysis of Cross Section and Panel Data*, 2nd Edition, The MIT Press;

A. Colin Cameron and Pravin K. Trivedi (2005), *Microeconometrics: Methods and Applications*, Cambridge University Press, New York.

The preceding book can be combined with:

A. Colin Cameron and Pravin K. Trivedi (2009), *Microeconometrics Using Stata*, Published by: Stata Press;

A. Colin Cameron and Pravin K. Trivedi (1998), *Regression Analysis of Count Data*, Cambridge University Press.

Grading: There will be a project and a take home midterm exam. The final grade scheme is given below:

- Project + Presentation 70%
- Midterm Exam 30%

While student cooperation and discussion is encouraged, the project must be the work of the student whose name appears on the project (i.e., your own). In this connection, the following plagiarism advisory issued by the Department of Economics should be carefully heeded:

Please be aware that plagiarism is serious offence at Carleton and should be recognized and avoided. For further information on how to do so, please see "Pammett on Plagiarism and Paraphrasing" at www.carleton.ca/economics/courses/writing-preliminaries.

On the homework assignments with empirical contents, groups of three might be allowed (hand in one copy per group with all the names on it). Each homework assignment is due at the beginning of class at the due date. Please turn homework in on time as late homework will not be accepted and assigned the grade of zero.

Exams: The midterm exam will be on the 6th week of classes. Except in the case of a family emergency or medical absence confirmed by a dean, no makeup or early exams will be given. Any other requests for special circumstances regarding homework or exams must be presented in writing within the first two weeks of the semester.

Description of the Course

A. Course Content

1. Heteroskedastic Autocorrelation Consistent (HAC) Standard Errors. Bootstrap Methods for Standard Errors, Testing and Regression Models.
2. Efficient method of moments (EMM) and Indirect Inference
3. Applications of GMM: Panel Data (Dynamic Panel Data)
4. Application of Nonparametric Analysis: Program Evaluation Models.
5. Applications of MLE: Censored Regression Models for Panel Data, Spatial Panels
6. Distribution Analysis: Quantile Regression, Quantile Treatment Effects, Testing of Distributions.

B. Project

During the course of the term you are expected to complete a project that uses a specific data that is of interest to the student and applies one of the methods presented in class. There are four deliverables for the project:

1. Week 4: The student is required to present the data and the question of interest. A 10-minute presentation of the two is expected (20 percent of the project grade).
2. Week 8: Poster session with all the papers, where each student is presenting his preliminary work and findings. This session is viewed as a way to get feedback on the progress of the paper (20 percent of the project grade).
3. Week 12: Final presentation of the paper. During the presentation questions from the floor are expected. These questions can generate additional comments that can be incorporated in the paper (30 percent of the project grade).
4. Week 15: The final paper should be handed in (30 percent of the project grade).

If you have any problems with this course please contact me!