ECON 662 D: Graduate Econometrics

Instructor: Saraswata Chaudhuri

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Lecture Time: M & W: 2:35-3:55

Lecture Location: LEA 429

Office Hours: M & W: 4:00-5:00

Office Location: LEA 532

Course Overview:

A broad treatment of econometric methods, with particular reference to time series processes. Estimation of linear and non-linear models, GLS, IV, Maximum Likelihood, parametric specification testing for linear and non-linear hypotheses, diagnostic testing (autocorrelation, heteroskedasticity, normality, parameter constancy, etc.), modelling technique, non-stationary data processes.

Description:

ECON 662D is the first year sequence in graduate Econometrics at McGill. The objective of this course is to introduce you to the foundational concepts behind the econometric tools/methods that are commonly used in applied research. We will develop these methods; learn the relevant statistical theory that will allow us to use these methods judiciously; learn basic programming using statistical software like **Matlab** and **STATA** that will help us to implement these methods in practice and also verify some the underlying statistical theories with the help of Monte Carlo simulations. And very importantly, we will learn how to interpret the results that we will obtain using these methods.

Textbook:

``A Guide to Modern Econometrics" by Marno Verbeek is the required textbook. Please try to obtain the fourth (latest) edition. The book covers a wide range of topics, but is not encyclopedic or intimidating. Our goal is to cover this book Chapters 2-10 during the entire academic year.

However, the textbook is not enough for a year-long course in econometrics. Also, there are a couple of important topics such as nonparametric and semiparametric methods that are not covered in this book.

We will cover these topics in class, and I will refer to additional reading materials beyond my lecture notes as and when necessary.

The tentative plan is to cover Chapters 2-7 in the fall semester, and then Chapters 8-10 along with the aforementioned topics in the winter semester.

Learning Outcomes:

By the end of the academic year, I would expect each student to be completely comfortable with the materials at the level of this textbook.

Instructional Method: Lectures

Evaluation:

Percentages refer to the entire year's grade.

- Homework: 20% (6 in the fall semester and 8 in the winter semester)
- Class tests: 12 + 12 + 12 + 12 + 12 = 60% (3 in the fall semester and 2 in the winter semester)
- Term paper: 20% (due by the last class in April)

We will talk more about the term paper in my first lecture. I would expect some preliminary work by the end of the fall semester, whereas more in-depth work will be expected in the winter semester.

McGill Policy Statements:

Academic Integrity:

> **"McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures" (see www.mcgill.ca/students/srr/honest/ for more information).** *(Approved by Senate on 29 January 2003)*

Language of Submission :

> **"In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded."** *(Approved by Senate on 21 January 2009)*